

Curriculum Vitae (updated March 2020)

W. Tecumseh Fitch, Ph.D.

Born Boston, Massachusetts, USA (1963) – US Citizen

Department of Behavioral and Cognitive Biology,
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Teaching/Professional Experience

Current Position: (2009 - present) Professor of Cognitive Biology, University of Vienna
Head of Department of Behavioral and Cognitive Biology
2003-2009: Senior Lecturer and Reader, School of Psychology, University of St. Andrews
Dec 2005- Mar 2006: Leibniz Professor, & Visiting Scholar, Max Planck Institute EVA, Leipzig.
2002-2003: Fellow, European Institute for Advanced Study, Berlin, Germany.
1999-2002: Lecturer, Harvard University: Dept of Biology & Dept. of Psychology
Graduate Teaching Assistant & Lecturer, Brown University (1989-1994)

Education:

Postdoctoral Fellow, Harvard/MIT Speech & Hearing Science Program, (1996-1999)
Ph.D., Cognitive and Linguistic Sciences, Brown University, (1989-1994)
B.A. with honors, Biology, Brown University, (1981 -1986)

Selected Academic Honors and Service

Honors/Prizes:

Best Article Award 2017: Psychonomic Society: Clifford T. Morgan Best Article Award.
Fellow of the Association for Psychological Science (elected Dec 2018)
ERC Advanced Grant Awardee: Sept 2009-2014 (European Research Council)
Honorary Professor, University of St Andrews Psychology Dept (2009-2013)
Leibniz Professorship (Visiting Professorship, University of Leipzig) - Oct 2005- Mar 2006
Invited Fellow, European Advanced Studies Institute, Berlin, Germany (2002-2003)
James F. Kidwell Prize in Population Biology, Brown University. May 1986.

Invited Presentations (small selection)

The Kanizsa Lecture: "The Biology of Speech" (Trieste Nov 2016)
Keynote Address: "Animal cognition" International Convention of Psychological Science/American Psychological Society (Vienna; 23 March 2017)
Distinguished Lecturer 2106: "BioMusicology..." (McGill University, Montreal Dec 2016)
Plenary Lecture: ASAB (Assoc. Study Animal Behaviour) Annual Meeting (**Prague** July 2014)
Keynote Presentation: International Conference on Linguistics (**Geneva** July 2013)
Keynote Address: Voice Foundation 40th Symposium (**Philadelphia** 2 June 2011)
Opening Plenary: German Primatological Society Meeting (**Hannover**; 24 Feb 2009)
Inaugural Lecture: Congress of the Confederation of the European ORL-HNS **Barcelona** 2011
The Kennedy Lecture: "The evolution of language" (**Ohio University**, US, Jan, 2004)
Keynote Address: Intl. Conference on Spoken Language Processing **Denver**, Colorado 2002

Peer Review (selection)

Editorial Board Member: Current: Psychonomic Bulletin & Review, Biolinguistics; Journal of Language Evolution, Music and Science; Previous: Philosophical Transactions of the Royal Society; Journal of Experimental Psychology, General.
Special Issue Editor: Philosophical Transactions of the Royal Society (2012), Current Opinion in Neurobiology (2014), Psychonomic Bulletin & Review (2016)
ERC Panel Member (SH4: Advanced Grants: 2009-2013; Consolidator: 2015-2017)
Jury Member: Volkswagen Stiftung "Freigeist" Fellowships (2014 - 2018)

Advisory Board Member: Oxford Studies in Biolinguistics

Funding Profile (top five grants)

Austrian FWF DK “Cognition & Communication 2” 2017-2021 €2.4 million (PI)
ERC Advanced Grant “SOMACCA”: 2009-2014, €2 million (PI, European Research Council)
Austrian Govt.: Research Station Haidlhof: “Cognition” (2014-2017) €1.2 million (Austrian Ministry of Science/HRSM)
EU Grant “CHLASC” (2005-2008) €1.5 million (co-applicant; European Union FP7)
NIH Post-doctoral Fellowship (1996-1999) \$130K (US National Institutes of Health)

Other Activities

Fitch has **lectured to popular audiences** on animal communication and on the evolution of music and language in many different venues (e.g. Museum lectures, Utah primary school students: invited lecturer on Evolution of Language to The Waterford School (Grade and High-School, Salt Lake City, Utah USA - April 9 2008). He has **debated Creationists** about evolution in several venues (most recently in a British Parliamentary style debate at the University of St Andrews Debating Society).

He has also written **popular articles on science** accessible to the wider public, e.g. New Scientist article: "How Language Evolved: Putting it to the test," New Scientist 2010

He has served as **scientific advisor** for two major museum exhibitions: Human Origins Museum Exhibition (American Museum of Natural History, New York, NY, USA) and BioMusic Museum Exhibition Funded by NSF, \$5.5 million US

Fitch’s work has been featured in many newspapers and magazines including the New York Times, the Guardian, Science News, New Scientists, Der Spiegel, Le Monde, The New Yorker, Discover, Natural History and on international broadcast media including the BBC nightly news, National Public Radio, Radio 3 Italia, and the Norwegian Broadcast Company.

Two full-length documentaries featuring his research have appeared on Danish and German television, and his research has been featured in many other documentaries, e.g. a full episode of the recent **BBC Documentary “Why We Talk”**.

Publications

> 220 Publications total; h-index = 62; citations > 23,362; i10 index = 154 (Google Scholar)

Top ten publications:

1. Fitch, W. T. (2010). The Evolution of Language. (Book) Cambridge University Press.
2. Fitch, W. T., Huber, L., & Bugnyar, T. (2010). Social Cognition and the Evolution of Language: Constructing Cognitive Phylogenies. *Neuron*, 65, 795-814.
3. Herbst, C ... Fitch, W T (2012) How Low Can you Go: Physical Production Mechanism of Elephant Infrasonic Vocalizations. *Science* 337: 595-599
4. Fitch, W. T., & Hauser, M. D. (2004). Computational constraints on syntactic processing in a nonhuman primate. *Science*, 303, 377-380.
5. Hauser, M., Chomsky, N. & Fitch, W. T. (2002). The Language Faculty: What is it, who has it, and how did it evolve? *Science*, 298, 1569-1579.
6. Fitch, W.T. and D. Reby (2001), The descended larynx is not uniquely human. *Proceedings of the Royal Society, B*, 268(1477): 1669-1675.
7. Fitch, W. T. (2000). "The evolution of speech: a comparative review," *Trends in Cognitive Sciences* 4(7): 258-267.
8. Fitch, W. T. (1997). "Vocal tract length and formant frequency dispersion correlate with body size in rhesus macaques," *J. Acoustic. Soc. Am.* 102, 1213-1222.
9. Fitch, W. T. (2006). "The biology and evolution of music: A comparative perspective," *Cognition* 100, 173-215.
10. Fitch, W. T., Neubauer, J., and Herzel, H. (2002). "Calls out of chaos: The adaptive significance of nonlinear phenomena in mammalian vocal production," *Anim. Behav.* 63, 407-418.

All 228 publications 1990-2019:

1. Fitch, W. T., and Shapiro, D. Y. (1990). "Spatial dispersion and nonmigratory spawning in the bluehead wrasse (*Thalassoma bifasciatum*)," *Ethology* **85**, 199-211.
2. Fitch, W. T. (1994). "Vocal tract length perception and the evolution of language," (Brown University).
3. Fitch, W. T., and Kramer, G. (1994). "Sonifying the Body Electric: Superiority of an auditory over a visual display in a complex, multivariate system," in *Auditory Display*, edited by G. Kramer (Addison-Wesley, Reading, MA).
4. Norcross, J. L., Newman, J. D., and Fitch, W. T. (1994). "Responses to natural and synthetic phee calls by common marmosets (*Callithrix jacchus*)," *American Journal of Primatology* **33**, 15-29.
5. Fitch, W. T., and Hauser, M. D. (1995). "Vocal production in nonhuman primates: Acoustics, physiology, and functional constraints on "honest" advertisement," *American Journal of Primatology* **37**, 191-219.
6. Fitch, W. T. (1997). "Innate mechanisms and the evolution of language," *Mother Tongue* **3**, 123-134.
7. Fitch, W. T. (1997). "Vocal tract length and formant frequency dispersion correlate with body size in rhesus macaques," *J. Acoustic. Soc. Am.* **102**, 1213-1222.
8. Fitch, W. T. (1998). "Vocal tract dynamics during calling in nonhuman animals," *J. Acoustic. Soc. Am.* **104**, 1811.
9. Fitch, W. T. (1998). "Sonification system using synthesized realistic sounds modified by other medically-important variables for physiological monitoring," in *U. S. Patent 5730140* (Scott Laboratories, Lubbock, Texas, U S A).
10. Fitch, W. T. (1998). "Modules, Minds and Mutant Monkeys: A Review of 'The Symbolic Species' by Terrence W. Deacon," *Boston Review of Books* **March**, 24-27.
11. Fitch, W. T., and Hauser, M. D. (1998). "Differences that make a difference: Do locus equations result from physical principles that characterize all mammalian vocal tracts?," *Behavioral & Brain Sciences* **21**, 264-265.
12. Hauser, M. D., and Fitch, W. T. (1998). "Reidentification and redescription," *Behavioral & Brain Sciences* **21**.
13. Fitch, W. T. (1999). "Acoustic exaggeration of size in birds by tracheal elongation: comparative and theoretical analyses," *J. Zool.* **248**, 31-49.
14. Fitch, W. T. (1999). "Review of 'The Origin and Diversification of Language'," *American Anthropologist* **101**, 864-865.
15. Fitch, W. T., and Giedd, J. (1999). "Morphology and development of the human vocal tract: a study using magnetic resonance imaging," *J. Acoustic. Soc. Am.* **106**, 1511-1522.
16. Kramer, G., Walker, B., Bonebright, T., Cook, P. R., Flower, J., Bargar, S., Barrass, S., Berger, J., Evereinov, G., Fitch, W. T., Handel, S., Lodha, S., Shinn-Cunningham, B., Simoni, M., and Tipei, S. (1999). "The Sonification Report: Status of the Field and Research Agenda," NSF White Paper.
17. Mergell, P., Fitch, W. T., and Herzog, H. (1999). "Modeling the role of non-human vocal membranes in phonation," *J. Acoustic. Soc. Am.* **105**, 2020-2028.
18. Riede, T., and Fitch, W. T. (1999). "Vocal tract length and acoustics of vocalization in the domestic dog *Canis familiaris*," *Journal of Experimental Biology* **202**, 2859-2867.
19. Fitch, W. T. (2000). "Skull dimensions in relation to body size in nonhuman mammals: The causal bases for acoustic allometry," *Zoology* **103**, 40-58.
20. Fitch, W. T. (2000). "The phonetic potential of nonhuman vocal tracts: Comparative cineradiographic observations of vocalizing animals," *Phonetica* **57**, 205-218.
21. Fitch, W. T. (2000). "The evolution of speech: a comparative review," *Trends Cog. Sci.* **4**, 258-267.
22. Fitch, W. T. (2000). "Reply to Skoyles," *Trends Cog. Sci.* **4**, 405-406.
23. Fitch, W. T. (2000). "Vocal production in nonhuman mammals: Implications for the evolution of speech," in *The Evolution of Language: Proceedings of the 3rd International Conference*, edited by J.-L. Desalles, and L. Ghadakpour (ENST, Paris), pp. 102-103.
24. Fitch, W. T., and Kelley, J. P. (2000). "Perception of vocal tract resonances by whooping cranes, *Grus americana*," *Ethology* **106**, 559-574.
25. Fitch, W. T. (2001). "Review of 'Approaches to the Evolution of Language'," *Anthropological Linguistics* **43**, 236-242.
26. Fitch, W. T., and Reby, D. (2001). "The descended larynx is not uniquely human," *Proc. Roy. Soc. Lond., B* **268**, 1669-1675.
27. Fitch, W. T. (2002). "Comparative Vocal Production and the Evolution of Speech: Reinterpreting the Descent of the Larynx," in *The Transition to Language*, edited by A. Wray (Oxford University Press, Oxford), pp. 21-45.
28. Fitch, W. T. (2002). "Primate vocal production and its implications for auditory research," in *Primate Audition: Ethology and Neurobiology*, edited by A. A. Ghazanfar (CRC Press, Boca Raton, FL), pp. 87-108.
29. Fitch, W. T. (2002). "The evolution of language comes of age," *Trends Cog. Sci.* **6**, 278-279.
30. Fitch, W. T. (2002). "The Evolution of Spoken Language: A Comparative Approach," in *International Conference on Spoken Language Processing*, edited by J. L. Hansen (University of Colorado, Denver, Colorado), pp. 1-8.
31. Fitch, W. T., and Hauser, M. D. (2002). "Unpacking "honesty": Vertebrate vocal production and the evolution of acoustic signals," in *Acoustic Communication*, edited by A. M. Simmons, A. N. Popper, and R. R. Fay (Springer, New York), pp. 65-137.
32. Fitch, W. T., Neubauer, J., and Herzog, H. (2002). "Calls out of chaos: The adaptive significance of nonlinear phenomena in mammalian vocal production," *Anim. Behav.* **63**, 407-418.
33. Gennari, S., Sloman, S., Malt, B., and Fitch, W. T. (2002). "Motion Events in Language and Cognition," *Cognition* **83**, 49-79.
34. Hauser, M., Chomsky, N., and Fitch, W. T. (2002). "The Language Faculty: What is it, who has it, and how did it evolve?," *Science* **298**, 1569-1579.
35. Loeb, R. G., and Fitch, W. T. (2002). "A laboratory evaluation of an auditory display designed to enhance intraoperative monitoring," *Anesth. Analg.* **94**, 362-368.
36. Weissengruber, G. E., Forstenpointner, G., Peters, G., K ubber-Heiss, A., and Fitch, W. T. (2002). "Hyoid apparatus and pharynx in the lion (*Panthera leo*), jaguar (*Panthera onca*), tiger (*Panthera tigris*), cheetah (*Acinonyx jubatus*), and domestic cat (*Felis silvestris f. catus*)," *J. Anat.* **201**, 195-209.
37. Hauser, M. D., and Fitch, W. T. (2003). "What are the uniquely human components of the language faculty?," in *Language Evolution*, edited by M. Christiansen, and S. Kirby (Oxford University Press, Oxford), pp. 158-181.
38. Fitch, W. T. (2004). "Vocal Production System: Evolution," in *MIT Encyclopedia of Communication Sciences and Disorders*, edited by R. D. Kent (MIT Press, Cambridge, MA), pp. 56-59.
39. Fitch, W. T. (2004). "Kin selection and "Mother Tongues": A neglected component in language evolution," in *Evolution of Communication Systems: A Comparative Approach*, edited by D. K. Oller, and U. Griebel (MIT Press, Cambridge, Massachusetts), pp. 275-296.

40. Fitch, W. T. (2004). "The evolution of language," in *The Cognitive Neurosciences III*, edited by M. Gazzaniga (MIT Press, Cambridge, MA).
41. Fitch, W. T. (2004). "Die Stimme - aus biologischer Sicht," edited by B. Felderer (Matthes & Seitz, Berlin), pp. 85-102.
42. Fitch, W. T. (2004). "The search for meaning: Review of King 2004," *Nature* **432**, 804-805.
43. Fitch, W. T. (2004). "Acoustic exaggeration of size by tracheal elongation," in *Nature's Music: The Science of Birdsong*, edited by P. Marler, and H. Slabbekoorn (Elsevier, London), p. 326.
44. Fitch, W. T., and Hauser, M. D. (2004). "Computational constraints on syntactic processing in a nonhuman primate," *Science* **303**, 377-380.
45. Fitch, W. T. (2005). "Computation and Cognition: Four distinctions and their implications," in *Twenty-First Century Psycholinguistics: Four Cornerstones*, edited by A. Cutler (Lawrence Erlbaum, Mahwah, New Jersey), pp. 381-400.
46. Fitch, W. T. (2005). "The evolution of language: A comparative review," *Biology and Philosophy* **20**, 193-230.
47. Fitch, W. T. (2005). "Protomusic and protolanguage as alternatives to protosign," *Behavioral & Brain Sciences* **28**, 132-133.
48. Fitch, W. T. (2005). "The Evolution of Music in Comparative Perspective," in *The Neurosciences and Music II: From Perception to Performance*, edited by G. Avanzini, L. Lopez, S. Koelsch, and M. Majno (New York Academy of Sciences, New York), pp. 29-49.
49. Fitch, W. T. (2005). "Dancing to Darwin's Tune: Review of Mithen 2005," *Nature* **438**, 288.
50. Fitch, W. T., Hauser, M. D., and Chomsky, N. (2005). "The Evolution of the Language Faculty: Clarifications and Implications," *Cognition* **97**, 179-210.
51. O'Donnell, T. J., Hauser, M. D., and Fitch, W. T. (2005). "Using mathematical models of language experimentally" *Trends Cog. Sci.* **9**, 284-289.
52. Reby, D., McComb, K., Cargnelutti, B., Darwin, C., Fitch, W. T., and Clutton-Brock, T. (2005). "Red deer stags use formants as assessment cues during intrasexual agonistic interactions," *Proc. Roy. Soc. Lond., B* **272**, 941-947.
53. Fitch, W. T. (2006). "Production of Vocalizations in Mammals," in *Encyclopedia of Language and Linguistics*, edited by K. Brown (Elsevier, Oxford), pp. 115-121.
54. Fitch, W. T. (2006). "The biology and evolution of music: A comparative perspective," *Cognition* **100**, 173-215.
55. Fitch, W. T. (2006). "On the biology and evolution of music" *Music Perception* **24**, 85-88.
56. Fitch, W. T., and Fritz, J. B. (2006). "Rhesus macaques spontaneously perceive formants in conspecific vocalizations," *J. Acoustic. Soc. Am.* **120**, 2132-2141.
57. Harris, T. R., Fitch, W. T., Goldstein, L. M., and Fashing, P. J. (2006). "Black and white colobus monkey (*Colobus guereza*) roars as a source of both honest and exaggerated information about body mass," *Ethology* **112**, 911-920.
58. Hatzikirou, H., Fitch, W. T., and Herzel, H. (2006). "Voice instabilities due to source-tract interactions," *Acta Acustica* **92**, 468-474.
59. Zaccarelli, R., Elemans, C. P. H., Fitch, W. T., and Herzel, H. (2006). "Modelling bird songs: Voice onset, overtones and registers," *Acta Acustica* **92**, 741-748.
60. Fitch, W. T. (2007). "Evolving Meaning: The Roles of Kin Selection, Allomothering and Paternal Care in Language Evolution," in *Emergence of Communication and Language*, edited by C. Lyon, C. Nehaniv, and A. Cangelosi (Springer, New York), pp. 29-51.
61. Fitch, W. T. (2007). "The Evolution of Language: A Comparative Perspective," in *Oxford Handbook of Psycholinguistics*, edited by G. Gaskell (Oxford University Press, Oxford), pp. 787-804.
62. Fitch, W. T. (2007). "Linguistics: An Invisible Hand," *Nature* **449**, 665-667.
63. Fitch, W. T. (2007). "La foca e il pescatore: Sulla fratellanza delle specie," *MicroMega Almanaco di Scienze* **2**, 93-101.
64. Fitch, W. T., and Rosenfeld, A. J. (2007). "Perception and production of syncopated rhythms," *Music Perception* **25**, 43-58.
65. Fitch, W. T. (2008). "Nano-intentionality: A defense of intrinsic intentionality," *Biology and Philosophy* **23**, 157-177.
66. Fitch, W. T. (2008). "Glossogeny and phylogeny: Cultural evolution meets genetic evolution," *Trends in Genetics* **24**, 373-374.
67. Fitch, W. T. (2008). "Co-evolution of phylogeny and glossogeny: There is no "logical problem of language evolution"," *Behavioral & Brain Sciences* **31**, 521-522.
68. Fitch, W. T. (2009). "Prolegomena to a Science of Biolinguistics," in *Learning from Animals? Examining the Nature of Human Uniqueness*, edited by L. S. Röska-Hardy, and E. M. Neumann-Held (Psychology Press, New York), pp. 15-44.
69. Fitch, W. T. (2009). "Animals and the biology of music," in *The New Encyclopedia of Neuroscience*, edited by L. R. Squire (Elsevier, Oxford, UK), pp. 473-478.
70. Fitch, W. T. (2009). "Fossil cues to the evolution of speech," in *The Cradle of Language*, edited by R. P. Botha, and C. Knight (Oxford University Press, Oxford, UK), pp. 112-134.
71. Fitch, W. T. (2009). "The biology & evolution of language: "deep homology" and the evolution of innovation " in *The Cognitive Neurosciences IV*, edited by M. S. Gazzaniga (MIT Press, Cambridge, MA), pp. 873-883.
72. Fitch, W. T. (2009). "Birdsong normalized by culture," *Nature* **459**, 519-520.
73. Fitch, W. T. (2009). "Prolegomena to a future science of biolinguistics," *Biolinguistics* **3**, 283-320.
74. Fitch, W. T., von Graevenitz, A., and Nicolas, E. (2009). "Bio-Aesthetics and the Aesthetic Trajectory: A Dynamic Cognitive and Cultural Perspective," in *Neuroaesthetics*, edited by M. Skov, and O. Vartanian (Baywood, Amityville, NY), pp. 59-102.
75. Braccini, S., Lambeth, S., Schapiro, S. J., and Fitch, W. T. (2010). "Bipedal Tool Use Strengthens Chimpanzee Hand Preferences," *Journal of Human Evolution* **58**, 234-241.
76. de Boer, B., and Fitch, W. T. (2010). "Computer models of vocal tract evolution: An overview and critique," *Adaptive Behavior* **18**, 36-47.
77. Fitch, W. T. (2010). *The Evolution of Language* (Cambridge University Press, Cambridge).
78. Fitch, W. T. (2010). "Three meanings of "recursion": Key distinctions for biolinguistics," in *The Evolution of Human Language: Biolinguistic Perspectives*, edited by R. Larson, V. Déprez, and H. Yamakido (Cambridge University Press, Cambridge, UK), pp. 73-90.
79. Fitch, W. T. (2010). "Bats learn a new tune," in *Nature Research Highlights*, edited by Nature.
80. Fitch, W. T. (2010). "How Language Evolved: Putting it to the test," *New Scientist* **2010**, 58-61.
81. Fitch, W. T., Huber, L., and Bugnyar, T. (2010). "Social cognition and the evolution of language: Constructing cognitive phylogenies" *Neuron* **65**, 795-814.
82. Herbst, C. T., Fitch, W. T., and Svec, J. G. (2010). "Electroglottographic wavegrams: A technique for visualizing vocal fold dynamics noninvasively," *J. Acoustic. Soc. Am.* **128**, 3070-3078.

83. Titze, I. R., Fitch, W. T., Hunter, E. J., Alipour, F., Montequin, D., Armstrong, D. L., McGee, J., and Walsh, E. J. (2010). "Vocal power and pressure-flow relations in excised tiger larynges," *Journal of Experimental Biology* **213**, 3866-3873.
84. Charlton, B. D., Ellis, W. A. H., McKinnon, A. J., Brumm, J., Nilsson, K., and Fitch, W. T. (2011). "Perception of male caller identity in koalas (*Phascolarctos cinereus*): acoustic analysis and playback experiments," *PLoS ONE* **6**, e20329.
85. Charlton, B. D., Ellis, W. A. H., McKinnon, A. J., Cowin, G. J., Brumm, J., Nilsson, K., and Fitch, W. T. (2011). "Cues to body size in the formant spacing of male koala (*Phascolarctos cinereus*) bellows: honesty in an exaggerated trait " *Journal of Experimental Biology* **214**, 3414-3422.
86. Fitch, W. T. (2011). "Innateness and human language: A biological perspective," in *The Oxford Handbook of Language Evolution*, edited by M. Tallerman, and K. R. Gibson (Oxford University Press, Oxford), pp. 143-156.
87. Fitch, W. T. (2011). "'Deep Homology" in the Biology & Evolution of Language," in *The Biolinguistic Enterprise: New Perspectives on the Evolution and Nature of the Human Language Faculty*, edited by A. M. Di Sciullo, and C. Boeckx (Oxford University Press, Oxford), pp. 135-166.
88. Fitch, W. T. (2011). "Unity and diversity in human language," *Philosophical Transactions of The Royal Society B: Biological Sciences* **366**, 376-388.
89. Fitch, W. T. (2011). "Evolving a global brain," in *Is The Internet Changing the Way You Think?*, edited by J. Brockman (HarperCollins, New York), pp. 184-187.
90. Fitch, W. T. (2011). "Genes, Language, Cognition, and Culture: Towards Productive Inquiry," *Hum. Biol.* **83**, 323-329.
91. Fitch, W. T. (2011). "Speech Perception: A Language-Trained Chimpanzee Weighs In," *Curr. Bio.* **21**, R543-546.
92. Fitch, W. T. (2011). "Biological versus cultural evolution: Beyond a false dichotomy," *Physics of Life Reviews* **8**, 357-358.
93. Fitch, W. T. (2011). "The evolution of syntax: An exaptationist perspective," *Frontiers in Evolutionary Neuroscience* **3**, 1-12.
94. Fitch, W. T., and Gingras, B. (2011). "Multiple varieties of musical meaning," *Physics of Life Reviews* **8**, 108-109.
95. Stoeger, A., Charlton, B. D., Kratochvil, H., and Fitch, W. T. (2011). "Vocal cues indicate level of arousal in infant African elephant roars," *J. Acoustic. Soc. Am.* **130**, 1700-1710.
96. Braccini, S. N., Lambeth, S. P., Schapiro, S. J., and Fitch, W. T. (2012). "Eye preferences in captive chimpanzees " *Anim. Cog* **15**, 971-978.
97. Charlton, B. D., Ellis, W. A. H., Brumm, J., Nilsson, K., and Fitch, W. T. (2012). "Female koalas prefer bellows in which lower formants indicate larger males," *Animal Behaviour* **84**, 1565-1571.
98. Charlton, B. D., Ellis, W. A. H., Larkin, R., and Fitch, W. T. (2012). "Perception of size-related information in male koalas (*Phascolarctos cinereus*)," *Anim. Cog* **15**, 999-1006.
99. Charlton, B. D., Filippi, P., and Fitch, W. T. (2012). "Do women prefer more complex music around ovulation?," *PLoS ONE* **7**, e35626.
100. Charlton, B. D., Reby, D., Ellis, W. A. H., Brumm, J., and Fitch, W. T. (2012). "Estimating the Active Space of Male Koala Bellows: Propagation of Cues to Size and Identity in a *Eucalyptus* Forest," *PLoS ONE* **7**, e45420.
101. Fitch, W. T. (2012). "The Biology and Evolution of Rhythm: Unravelling a Paradox," in *Language and Music as Cognitive Systems*, edited by P. Rebuschat, M. Rohmeier, J. A. Hawkins, and I. Cross (Oxford University Press, Oxford, UK), pp. 73-95.
102. Fitch, W. T. (2012). "Evolutionary developmental biology and human language evolution: Constraints on adaptation," *Evolutionary Biology* **39**, 613-637.
103. Fitch, W. T. (2012). "Reweaving the strands: Welcoming diverse perspectives on the biology of music," in *Language and Music as Cognitive Systems*, edited by P. Rebuschat, M. Rohmeier, J. A. Hawkins, and I. Cross (Oxford University Press, Oxford, UK), pp. 128-136.
104. Fitch, W. T. (2012). "An Instinct to Learn," in *This Will Make You Smarter*, edited by J. Brockman (Harper, New York), pp. 154-156.
105. Fitch, W. T. (2012). "Segmental structure in banded mongoose calls," *BMC Biology* **10**, e98.
106. Fitch, W. T. (2012). "The Evolution of Language," in *Communication: From its origin to internet*, edited by M. d. Moragas (Catalunya Literaria Fundacio Privada, Tarragona, Spain), pp. 27-47.
107. Fitch, W. T. (2012). "La evolución biológica del lenguaje," in *La comunicacion: De los origenes a Internet*, edited by M. d. Moragas (Catalunya Literaria Fundacio Privada, Barcelona, Spain), pp. 27-48.
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