

Title	Untangling the biological and cultural foundations of musical scales
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Author	Savage, Patrick Evan
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Abstract	<p>Thanks to the support of the Keio University Academic Development Funds for Individual Research I was able to successfully carry out the proposed research and publish 7 original research papers in Nature and other international journals and conference proceedings. All of these publications acknowledge the financial support of the fund.</p> <p>Specifically, the fund allowed me to purchase CDs and accompanying books to allow my team to use new software, "Tarsos", to automatically analyse the structure of musical scales in hundreds of music recordings from around the world. These analyses showed that scales with small-integer ratios (e.g., 3:2, 4:3) predominate throughout most of the world's music, suggesting a psychoacoustic basis for statistical universals in the world's music. These analyses would not have been possible without the extensive programming consultation we were able to receive from Joren Six, inventor of Tarsos.</p> <p>We also were able to use the fund to invite leading musicians including Rutsuko Yamagishi, Yuta Uozumi, and Mao Ya, to join us for panel discussions and workshops about how scientific analysis of the world's music can help us to create a better future for all the world's music and musicians.</p>
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研究課題 (日本語)						
Untangling the biological and cultural foundations of musical scales						
研究課題 (英訳)						
Untangling the biological and cultural foundations of musical scales						
1. 研究成果実績の概要						
<p>Thanks to the support of the Keio University Academic Development Funds for Individual Research I was able to successfully carry out the proposed research and publish 7 original research papers in Nature and other international journals and conference proceedings. All of these publications acknowledge the financial support of the fund.</p> <p>Specifically, the fund allowed me to purchase CDs and accompanying books to allow my team to use new software, "Tarsos", to automatically analyse the structure of musical scales in hundreds of music recordings from around the world. These analyses showed that scales with small-integer ratios (e.g., 3:2, 4:3) predominate throughout most of the world's music, suggesting a psychoacoustic basis for statistical universals in the world's music. These analyses would not have been possible without the extensive programming consultation we were able to receive from Joren Six, inventor of Tarsos.</p> <p>We also were able to use the fund to invite leading musicians including Rutsuko Yamagishi, Yuta Uozumi, and Mao Ya, to join us for panel discussions and workshops about how scientific analysis of the world's music can help us to create a better future for all the world's music and musicians.</p>						
2. 研究成果実績の概要 (英訳)						
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3. 本研究課題に関する発表						
発表者氏名 (著者・講演者)	発表課題名 (著書名・演題)	発表学術誌名 (著書発行所・講演学会)	学術誌発行年月 (著書発行年月・講演年月)			
Whitehouse, H.*, François, P.*, Savage, P. E.*, Currie, T. E., Feeney, K. C., Cioni, E., Purcell, R., Ross, R. M., Larson, J., Baines, J., ter Haar, B., Covey, A., Turchin, P.	Complex societies precede moralizing gods throughout world history	Nature	March 2019			
Savage, P. E.	Alan Lomax's Cantometrics Project: A comprehensive review	Music & Science	July 2018			
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Sato, S., Fujii, S., & Savage, P. E.	Automated comparison of children's and adult songs supports the vocal mistuning theory of scale origins	19th International Society for Music Information Retrieval Conference (ISMIR 2018)	September 2018			
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