### Accepted Manuscript

Title: Brains for birds and babies: Neural parallels between birdsong and speech acquisition

Author: <ce:author id="aut0005" author-id="S0149763416305243-7c6de281c54b38f006bd0986af5f7083"> Jonathan Prather<ce:author id="aut0010" author-id="S0149763416305243-642a059340538436bb3026f8a6b2443e"> Kazuo Okanoya<ce:author id="aut0015" author-id="S0149763416305243-4edcaa543af5a6121deafd7d9a18e918"> Johan J. Bolhuis



PII: S0149-7634(16)30524-3

DOI: http://dx.doi.org/doi:10.1016/j.neubiorev.2016.12.035

Reference: NBR 2712

To appear in:

Received date: 4-9-2016 Revised date: 2-12-2016 Accepted date: 16-12-2016

Please cite this article as: Prather, Bolhuis, Jonathan, Okanoya, Kazuo, Johan **Brains** for birds and babies: Neural parallels between birdsong and speech acquisition. Neuroscience and Biobehavioral Reviews http://dx.doi.org/10.1016/j.neubiorev.2016.12.035

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

### ACCEPTED MANUSCRIPT

#### **Brains for birds and babies:**

## Neural parallels between birdsong learning and speech acquisition

Jonathan Prather<sup>a,\*</sup>, Kazuo Okanoya<sup>b</sup>, Johan J. Bolhuis<sup>c,d</sup>

<sup>a</sup> Department of Zoology and Physiology, Program in Neuroscience, Univ. Wyoming, USA

<sup>b</sup> Department of Life Sciences, The University of Tokyo, Tokyo, Japan

<sup>c</sup> Cognitive Neurobiology and Helmholtz Institute, Departments of Psychology and Biology,

Utrecht University, Utrecht, The Netherlands

<sup>d</sup> Department of Zoology and St. Catharine's College, University of Cambridge, UK

\* Corresponding author at:

Department of Zoology and Physiology, Program in Neuroscience, Univ. of Wyoming, USA

Phone: 307-766-5025

E-mail address: Jonathan.Prather@uwyo.edu (J. Prather)

#### **Highlights**

- There are remarkable parallels between birdsong and human speech
- Neural activity related to both forms of vocal performance is lateralized
- Properties of the underlying neural circuits account for vocal rhythm
- Auditory feedback plays a central role in vocal learning and maintenance
- Auditory-vocal mirror neurons may link sensory and motor information

#### Download English Version:

# https://daneshyari.com/en/article/7302623

Download Persian Version:

https://daneshyari.com/article/7302623

<u>Daneshyari.com</u>