



nature publishing group



► **COVER:** 'School of thought' by Patrick Morgan, inspired by the Review on p623.



LOUISA FLINTOFT



TANITA CASCI



MARY MUERS



MEERA SWAMI

What were the evolutionary changes that gave humans our unique characteristics? Are humans still evolving, and if so what are the driving forces? Geneticists and evolutionary biologists are now getting the tools to address these fascinating questions, but crucial challenges lie ahead.

Comparative genomics now allows us to pinpoint sequences that have evolved specifically in the human lineage. But how did these sequences contribute to changes that differentiate humans from other primates? An enlightening approach would be to express these sequences in transgenic non-human primates and look at the phenotypic outcome. But such a strategy would be fraught with ethical difficulties — the topic of a Science and Society article on p658. Because of great apes' evolutionary closeness to humans, studies in these animals are the most likely to give informative results in this scenario. But, the authors argue, the very features that would make transgenic apes so useful in this context would also expose them to unacceptable harm.

The study of ongoing human selection also has its controversies; perhaps the most fundamental one being whether modern humans are evolving at all. However, thanks to long-term studies of multiple generations, we now have good evidence that humans continue to evolve, as discussed in the Review on p611. But the study of selection in contemporary humans is a young field with a number of important issues to address. For example, how do we take account of the complex effects that changing environments and strong cultural influences have on selection? And how do we disentangle complex interactions between correlated traits that could all have effects on lifespan or reproductive success? The attention that is being paid to these issues promises exciting advances over the next few years.

EDITORIAL OFFICES**LONDON** NatureReviews@nature.comThe Macmillan Building,
4 Crinan Street,London N1 9XW, UK
Tel: +44 (0)20 7843 3620;

Fax: +44 (0)20 7843 3629

CHIEF EDITOR: Louisa Flintoft**SENIOR EDITORS:** Tanita Casci, Mary Muers**ASSISTANT EDITOR:** Meera Swami**COPY EDITOR/COPY EDITING MANAGER:**

Lewis Packwood

SENIOR COPY EDITOR: Man Tsuey Tse**SENIOR ART EDITOR (NRG):**

Patrick Morgan

ART CONTROLLER: Susanne Harris**SENIOR ART EDITOR:** Vicky Summersby**MANAGING PRODUCTION EDITOR:**

Judith Shadwell

SENIOR PRODUCTION EDITOR:

Simon Fenwick

PRODUCTION CONTROLLER: Natalie Smith**EDITORIAL ASSISTANTS:** Jacques Smit,

Laura Corns

WEB PRODUCTION MANAGER:

Deborah Anthony

MARKETING MANAGERS: Tim Redding,

Leah Rodriguez

MANAGEMENT OFFICES**LONDON** nature@nature.comThe Macmillan Building, 4 Crinan Street,
London N1 9XW, UK

Tel: +44 (0)20 7833 4000;

Fax: +44 (0)20 7843 4596/7

OFFICE MANAGER: Laura Firman**PUBLISHER:** Stephanie Diment**MANAGING DIRECTOR:**

Steven Inchcoombe

EDITOR-IN-CHIEF, NATURE PUBLICATIONS:

Philip Campbell

ASSOCIATE DIRECTORS: Jenny Henderson,

Dominic Pettit

EDITORIAL PRODUCTION DIRECTOR:

James McQuat

PRODUCTION DIRECTOR:

Yvonne Strong

DIRECTOR, WEB PUBLISHING:

Dan Pollock

HEAD OF WEB PRODUCTION:

Alexander Thurrell

NEW YORK nature@natureny.com

Nature Publishing Group,

75 Varick Street, 9th floor, New York,

NY 10013-1917, USA

Tel: +1 212 726 9200;

Fax: +1 212 696 9006

CHIEF TECHNOLOGY OFFICER:

Howard Ratner

HEAD OF INTERNAL SYSTEMS DEVELOPMENT:

Anthony Barrera

HEAD OF SOFTWARE SERVICES:

Luigi Squillante

GLOBAL HEAD OF ADVERTISING AND**SPONSORSHIP:** Dean Sanderson**HEAD OF NATURE RESEARCH & REVIEWS****MARKETING:** Sara Girard**TOKYO** nature@natureasia.com

Chiyoda Building 5F, 2-37-1 Ichigayatamachi,

Shinjuku-ku, Tokyo 162-0843, Japan

Tel: +81 3 3267 8751; Fax: +81 3 3267 8746

ASIA-PACIFIC PUBLISHER: Antoine E Bocquet**MANAGER:** Koichi Nakamura**ASIA-PACIFIC SALES DIRECTOR:**

Kate Yoneyama

SENIOR MARKETING MANAGER:

Peter Yoshihara

MARKETING/PRODUCTION MANAGER:

Takesh Murakami

INDIA SA/12 Ansari Road, Daryaganj,

New Delhi 110 002, India

Tel/Fax: +91 11 2324 4186

SALES AND MARKETING MANAGER, INDIA:

Harpal Singh Gill

Copyright © 2010 Nature Publishing Group

Research Highlight images courtesy of

Getty Images unless otherwise credited.

Printed in Wales by Cambrian Printers

on acid-free paper