



Search (Economist.com)

Welcome
My account [Manage my newsletters](#)
Log out

Subscribe today
and get 4 FREE trial issues

[Site feedback](#)

Monday December 28th 2009

- [Home](#)
- [This week's print edition](#)
- [Daily news analysis](#)
- [Opinion](#)
 - [All opinion](#)
 - [Leaders](#)
 - [Letters to the Editor](#)
 - [Blogs](#)
 - [Columns](#)
 - [KAL's cartoons](#)
 - [Correspondent's diary](#)
 - [Economist debates](#)

- [World politics](#)
 - [All world politics](#)
 - [Politics this week](#)
 - [United States](#)
 - [The Americas](#)
 - [Asia](#)
 - [Middle East and Africa](#)
 - [Europe](#)
 - [Britain](#)

- [Special reports](#)
- [Business and finance](#)
 - [All business and finance](#)
 - [Business this week](#)
 - [Economics focus](#)
 - [Management](#)
 - [Economics A-Z](#)

- [Business education](#)
 - [All business education](#)
 - [Which MBA?](#)

- [Markets and data](#)
 - [All markets and data](#)
 - [Daily chart](#)
 - [Weekly indicators](#)
 - [World markets](#)
 - [Currencies](#)
 - [Rankings](#)
 - [Big Mac index](#)

- [Science and technology](#)
 - [All science and technology](#)
 - [Technology Quarterly](#)
 - [Technology Monitor](#)

- [Books and arts](#)
 - [All books and arts](#)
 - [Style guide](#)

- [People](#)
 - [People](#)
 - [Obituaries](#)

- [Diversions](#)

- [Audio and video](#)
 - [Audio and video library](#)
 - [Audio edition](#)

- [The World In](#)
 - [The World in 2010](#)
 - [The World in 2009](#)
 - [The World in 2008](#)
 - [The World in 2007](#)
 - [The World in 2006](#)
 - [The World in 2005](#)
 - [The World in 2004](#)

- [Research tools](#)
 - [All research tools](#)

Clear, easy-to-understand products.
Just what you asked for.

[Learn more](#)

Science & Technology

Gut bacteria and obesity

Holy shit!

Nov 12th 2009
From *The Economist* print edition

A new way of finding out how diet affects gut microbes

Science Photo Library



AS THE world's fatties clock up the kilos, their excuses for being that way have piled up, too. Big bones, junk foods, genes or poor parenting —there are plenty of directions in which to point a chubby finger. In the past few years, a new potential culprit has emerged: gut bacteria. Human guts are full of bugs that help digestion and also stop their disease-causing counterparts from invading. In this age-old symbiosis,

some bacteria are better than others at providing food to their human hosts—and also seem, by mechanisms yet unknown, to encourage those hosts' bodies to store that energy as fat and to keep the fat on.

In the past, when food was in limited supply, these bacteria would have been valuable allies. In an era of plenty, though, they are problematic. In particular, work on mice suggests obesity is associated with having a high proportion of bacteria called Firmicutes, whereas the lean favour another group, the Bacteroidetes. Such work has also raised the suggestion that transplanting "lean mouse" microbes to fat mice can make them thinner—for a while.

What is true in the mouse, though, might not be true in the man, so more research is clearly needed. But finding volunteers willing to have someone else's bacteria transplanted into their own intestines is tricky. So, in a paper in this week's *Science Translational Medicine*, Peter Turnbaugh of the Washington University School of Medicine, in St Louis, and his colleagues, describe a halfway house. They have created a mouse with a humanised gut flora.

They did it by taking ten-week-old mice that had been bred to be free of germs and colonising their guts by feeding them with human faeces. (Note to the squeamish: the article adds that mice are coprophagic.) After this, the mice could be tested on various kinds of diets to see how the bacteria responded. These studies show similar sorts of outcomes to those previously seen with native mouse bacteria, including the increased obesity associated with

Rollover

The home of whisky and wave-powered energy.

- [Comment \(20\)](#)
- [Recommend \(55\)](#)
- [E-mail](#)
- [Share](#)
- [Print](#)
- [Reprints & permissions](#)

Related Items

More articles about...

[Food and drink](#)
[Health](#)

Websites

Peter Turnbaugh and his colleagues published their paper in this week's *Science Translational Medicine*.

Advertisement

The Economist Debate Series

Do Europeans take too many holidays?

December 22nd - 31st 2009

[JOIN THIS LIVE DEBATE](#)




- Articles by subject
 - Economics A-Z
 - Special reports
 - Style guide
-
- Country briefings
 - All country briefings
 - China
 - India
 - Brazil
 - United States
 - Russia

Firmicutes.

The point of it all is to allow more precise investigation of how human gut bacteria work. Such studies will also, no doubt, give rise to an industry testing new classes of "probiotics" that can be added to food in order to ameliorate its obesity-inducing effects. In other words, to sell special drinks that may make fat people less likely to pile on the pounds after eating a hamburger and fries.

[Back to top ^^](#)

- My account home
- Newsletters and alerts
- Manage my newsletters
- Manage my e-mail alerts
- Manage my RSS feeds
- Manage special-offer alerts
- More »



Want more? Subscribe to [The Economist](#) and get the week's most relevant news and analysis.

- Print subscriptions
- Subscribe to *The Economist*
- Renew my subscription
- Change my print subscription delivery, billing or e-mail address
- Pay my bill
- Activate premium online access
- Report a missing copy
- Suspend my subscription
- More »

Advertisement

- Digital subscriptions
- Subscribe to Economist.com
- Manage my subscription
- Mobile edition
- Audio edition
- Download screensaver
- More »

- Classifieds and jobs
- The Economist Group
- About the Economist Group
- Economist Intelligence Unit
- Economist Conferences
- Intelligent Life
- CFO
- Roll Call
- European Voice
- EuroFinance
- Reprints and permissions

- EIU online store**
- Economist shop**

Advertisement