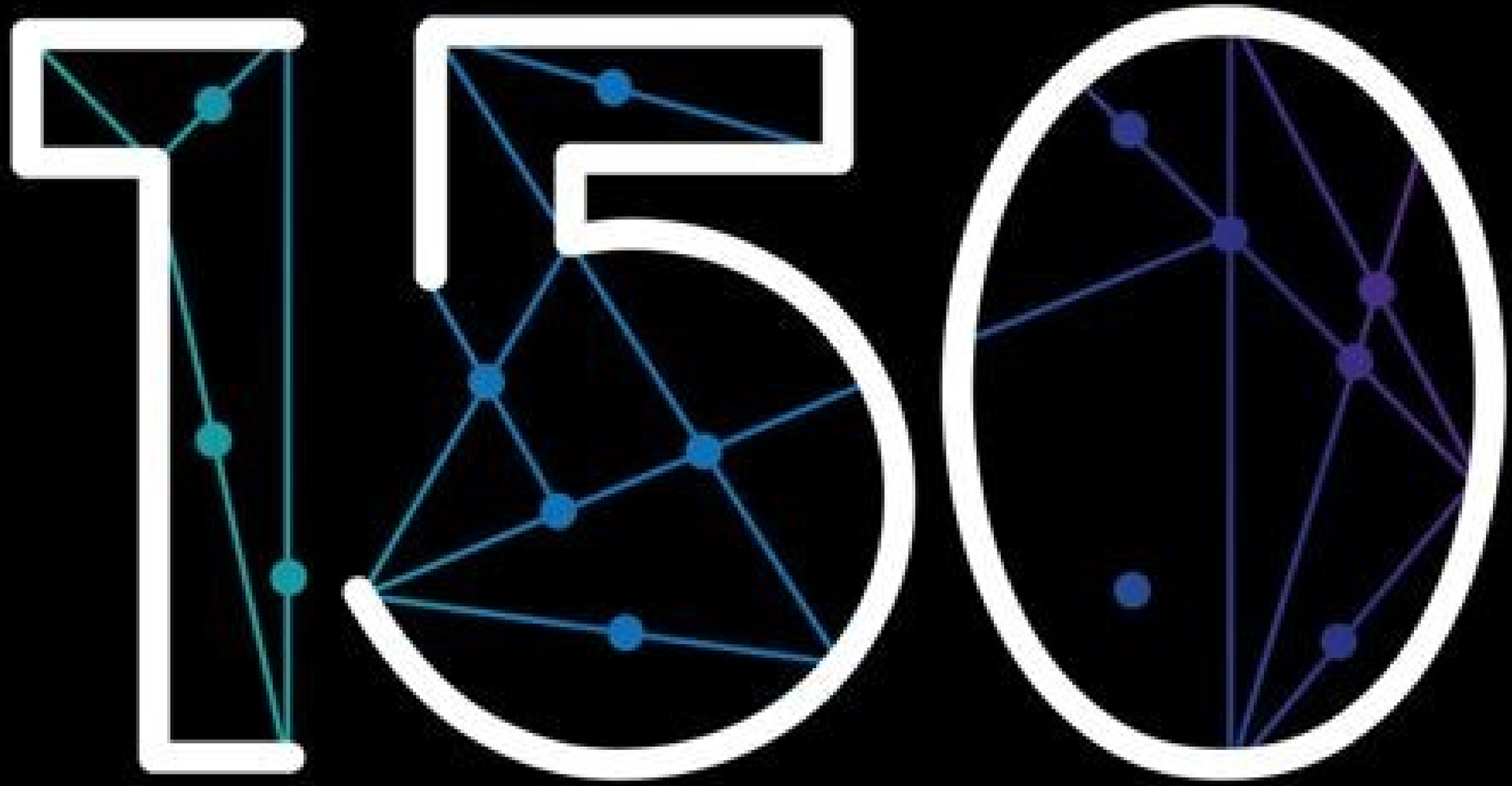

150

Nature in 150 years

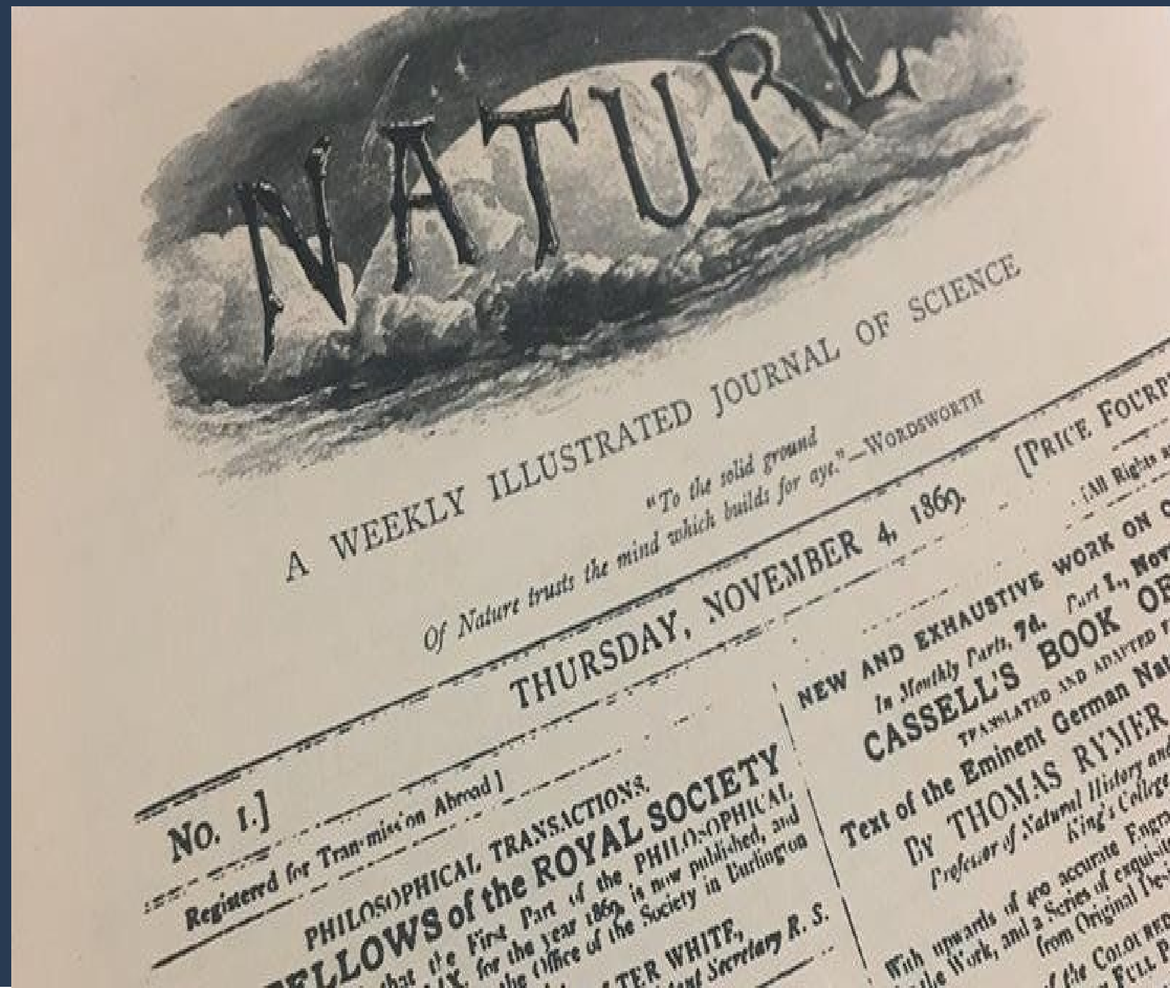
10 extraordinary Nature papers and other stories

Shieber 2019.11.04

First issue published on Thu, Nov 4th ,1869

In 1869, the US state of Wyoming passed the world’s first law that enshrined women’s right to vote. Leo Tolstoy published the final volumes of his epic novel War and Peace and the Suez Canal in Egypt was opened. Mahatma Gandhi was born. And the University of Oxford competed against Harvard University in the first international boat race, held on London’s River Thames. The first issue of Nature, on 4 November 1869, opened with an extract from Goethe as part of an article by Thomas Henry Huxley. The second article, by Alfred W. Bennett, described some recent work by Charles Darwin on the fertilization of winter-flowering plants, and Darwin himself wrote in two issues later to respond. Nature’s origins were very much bound up in the early intellectual excitement caused by the theory of evolution. This is, therefore, a welcome opportunity for the editors of Nature Ecology & Evolution to indulge in their own retrospective on Nature’s record in ecology and evolution.

1869 年，美国女性刚获得投票权，列夫托尔斯泰的战争与和平才刚完成，苏伊士运河开通，甘地出生。11 月 4 日， Nature 发表第一期，其中报道了达尔文爵士在植物培育和进化论上的进展。


NATURE

A WEEKLY ILLUSTRATED JOURNAL OF SCIENCE

"To the solid ground
Of Nature trusts the mind which builds for aye."—WORDSWORTH

THURSDAY, NOVEMBER 4, 1869. [PRICE FOURP

No. 1.]

Registered for Transmission Abroad]

PHILOSOPHICAL TRANSACTIONS.

FELLOWS of the ROYAL SOCIETY

NEW AND EXHAUSTIVE WORK ON

In Monthly Parts, 7d. Part I., Nov

CASSELL'S BOOK O

TRANSLATED AND ADAPTED

Text of the Eminent German Na

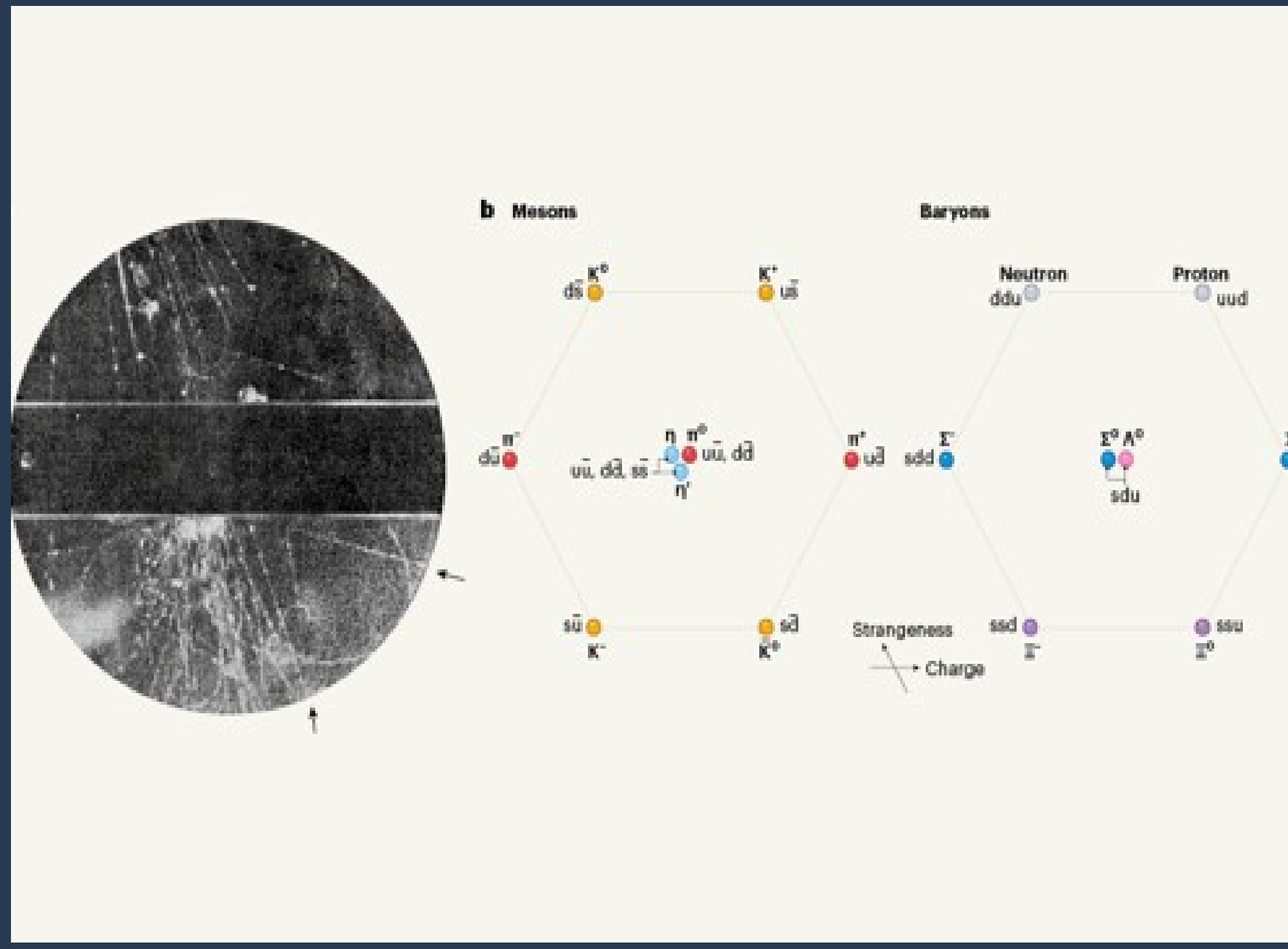
By THOMAS RYMER

Professor of Natural History and
King's College

1. Detection of a strange particle

In 1947, scientists found a previously unseen particle, which is now called aneutral kaon. This work led to the discovery of elementary particles known as quarks, and ultimately to the establishment of the standard model of particle physics.

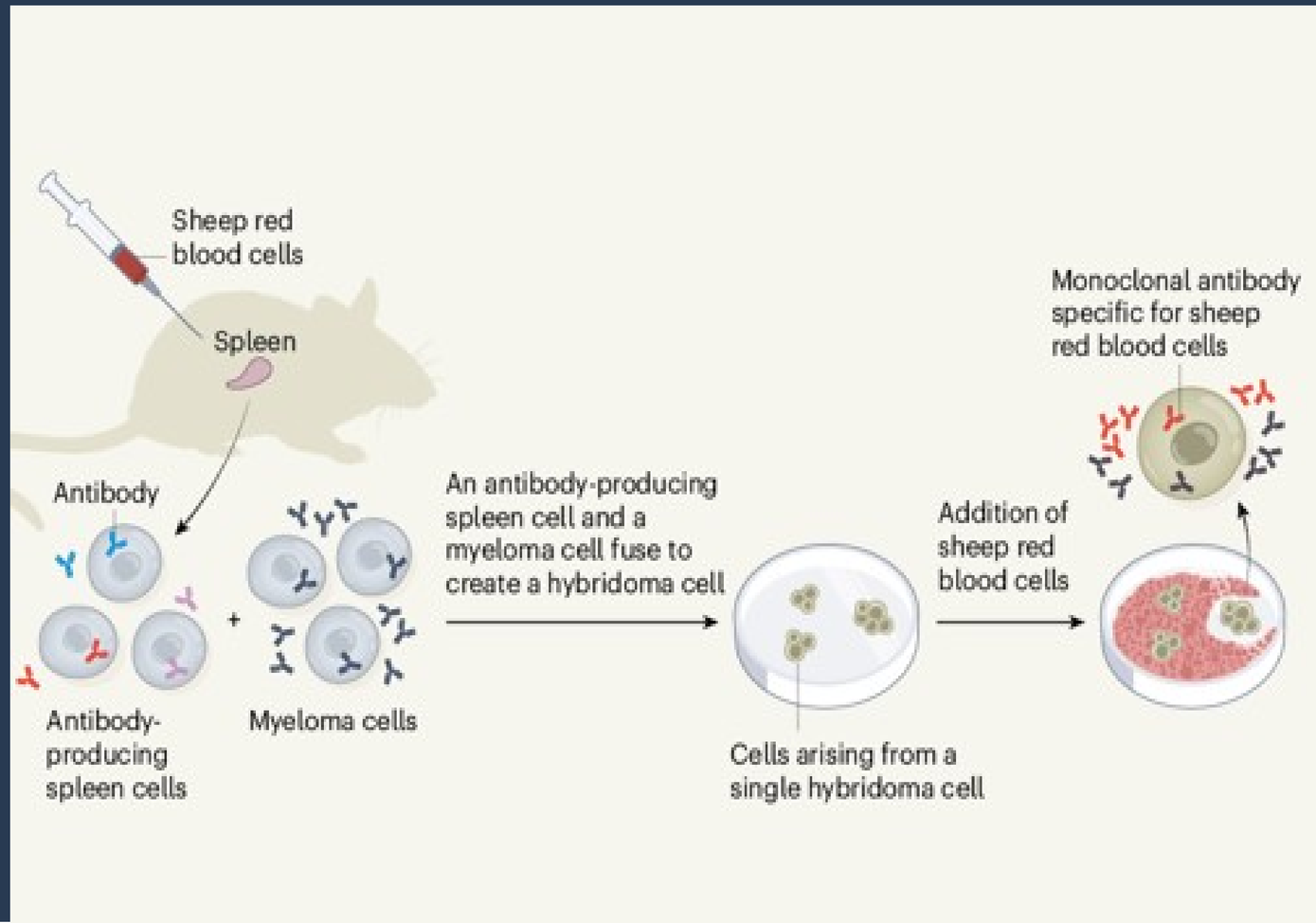
新粒子导致夸克的发现和标准模型的建立。



2. The advent and rise of monoclonal antibodies

A 1975 Nature paper reported how cell lines could be made that produce an antibody of known specificity. This discovery led to major biological insights and clinical successes in treating autoimmunity and cancer.

单克隆抗体的发现。



3. How *Australopithecus* provided insight into human evolution

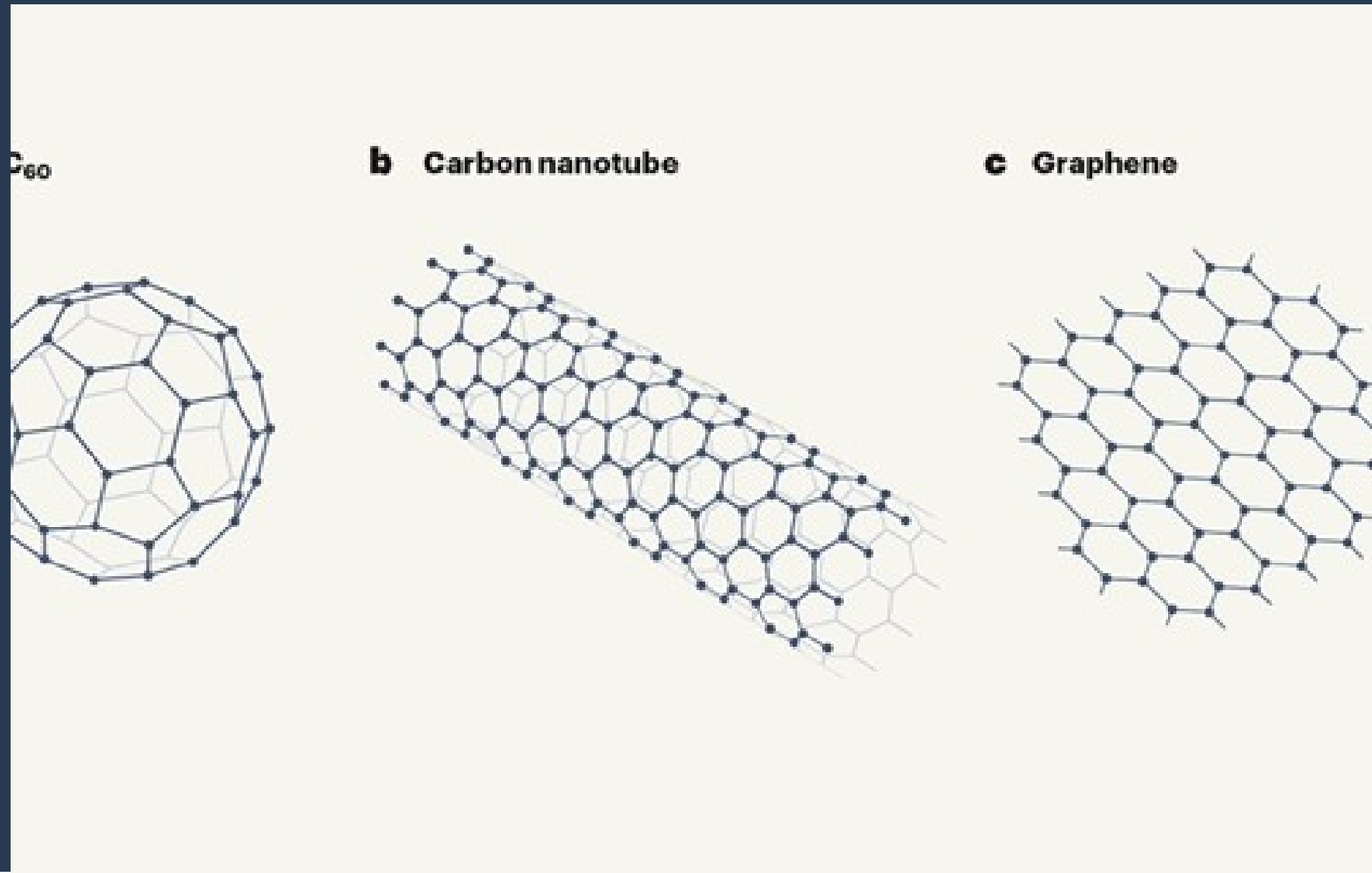
In 1925, a Nature paper reported an African fossil of a previously unknown genus called Australopithecus. This finding revolutionized ideas about early human evolution after human ancestors and apes split on the evolutionary tree

南方古猿的发现厘清人类起源的秘密。

4. The nano-revolution spawned by carbon

In 1985, scientists reported the discovery of the cage-like carbon molecule C60. The finding paved the way for materials such as graphene and carbon nanotubes, and was a landmark in the emergence
of nanotechnology.

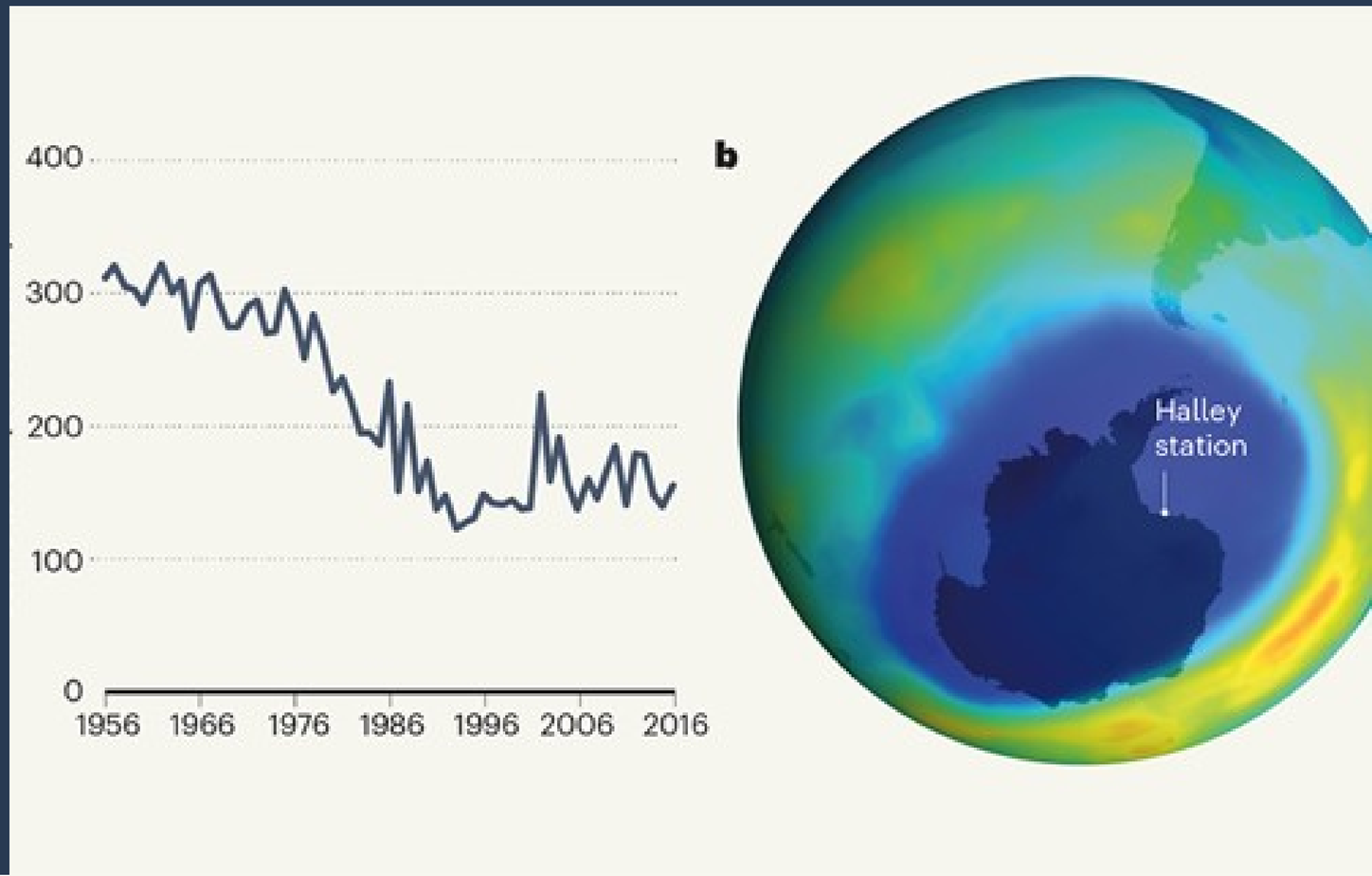
碳 60 的发现为石墨烯和碳纳米管的合成铺平道路。



5. The discovery of the Antarctic ozone hole

The unexpected discovery of a hole in the atmospheric ozone layer over the Antarctic revolutionized science and helped to establish one of the most successful global environmental policies of the twentieth century

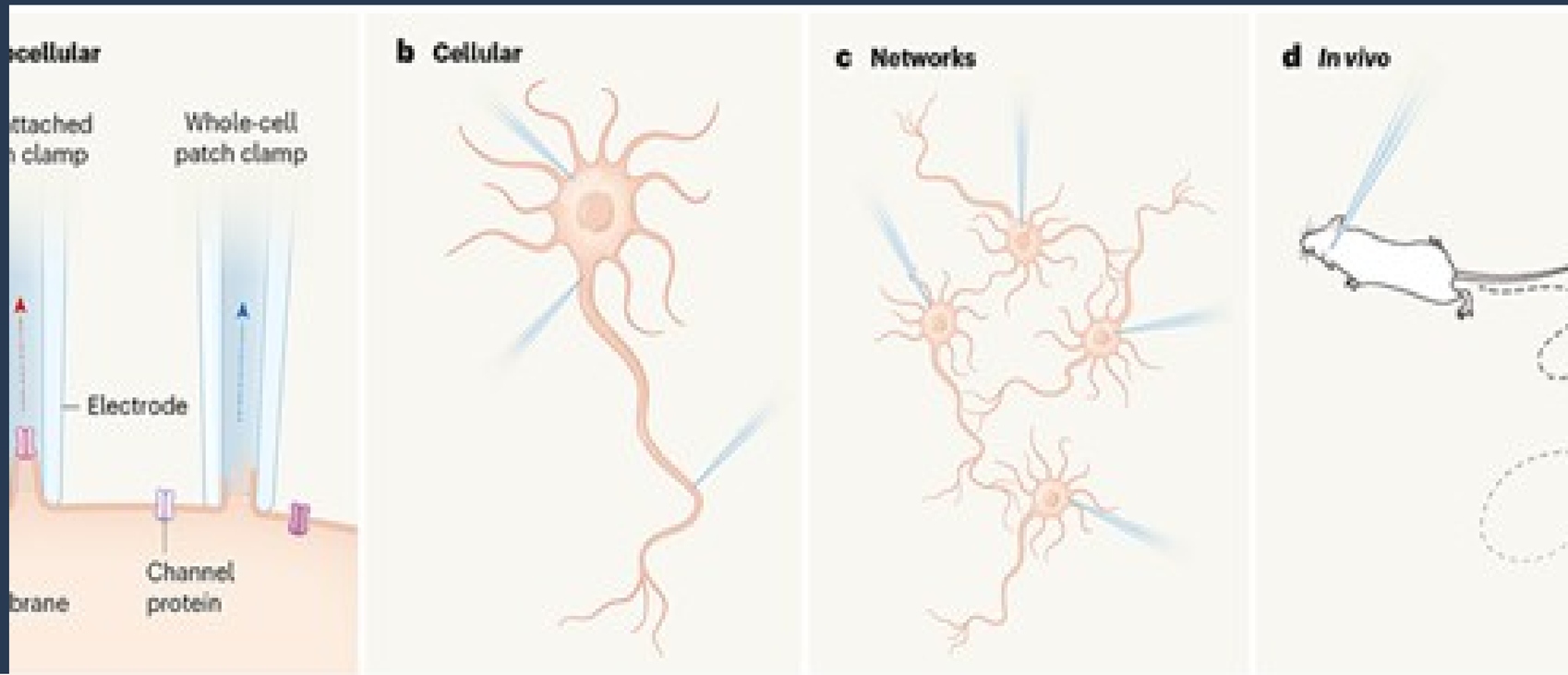
南极臭氧层空洞推动全球环保。



6. A breakthrough method that became vital to neuroscience

Originally developed to record currents of ions flowing through channel proteins in the membranes of cells, the patch-clamp technique has become a true stalwart of the neuroscience toolbox.

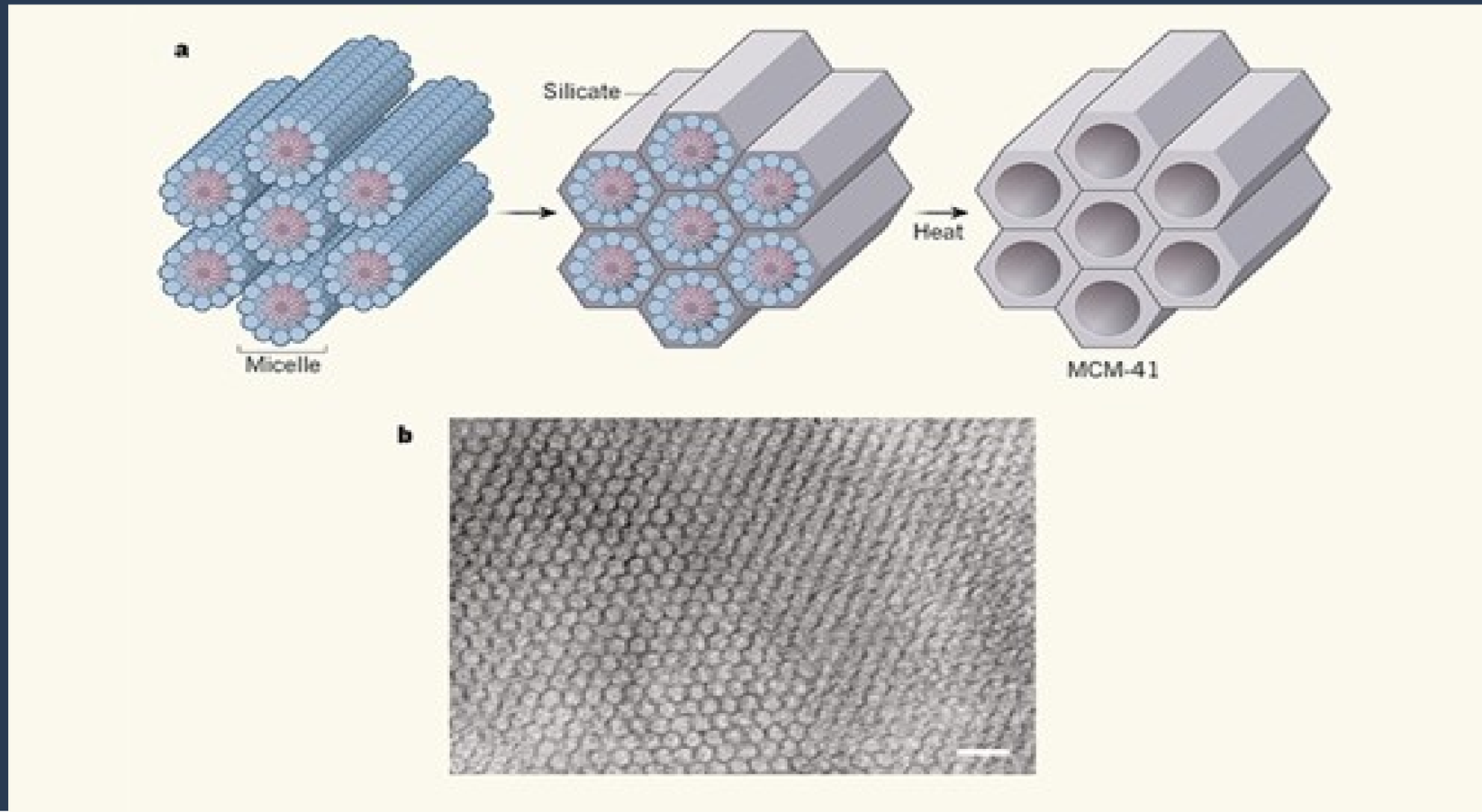
管道蛋白中电流的发现
推动神经科学的发展。



7. Birth of a class of nanomaterial

Nearly 30 years ago, a simple chemical principle was reported that enabled the synthesis of a plethora of porous materials — some of which might enable applications ranging from biomedicine to petrochemical processing.

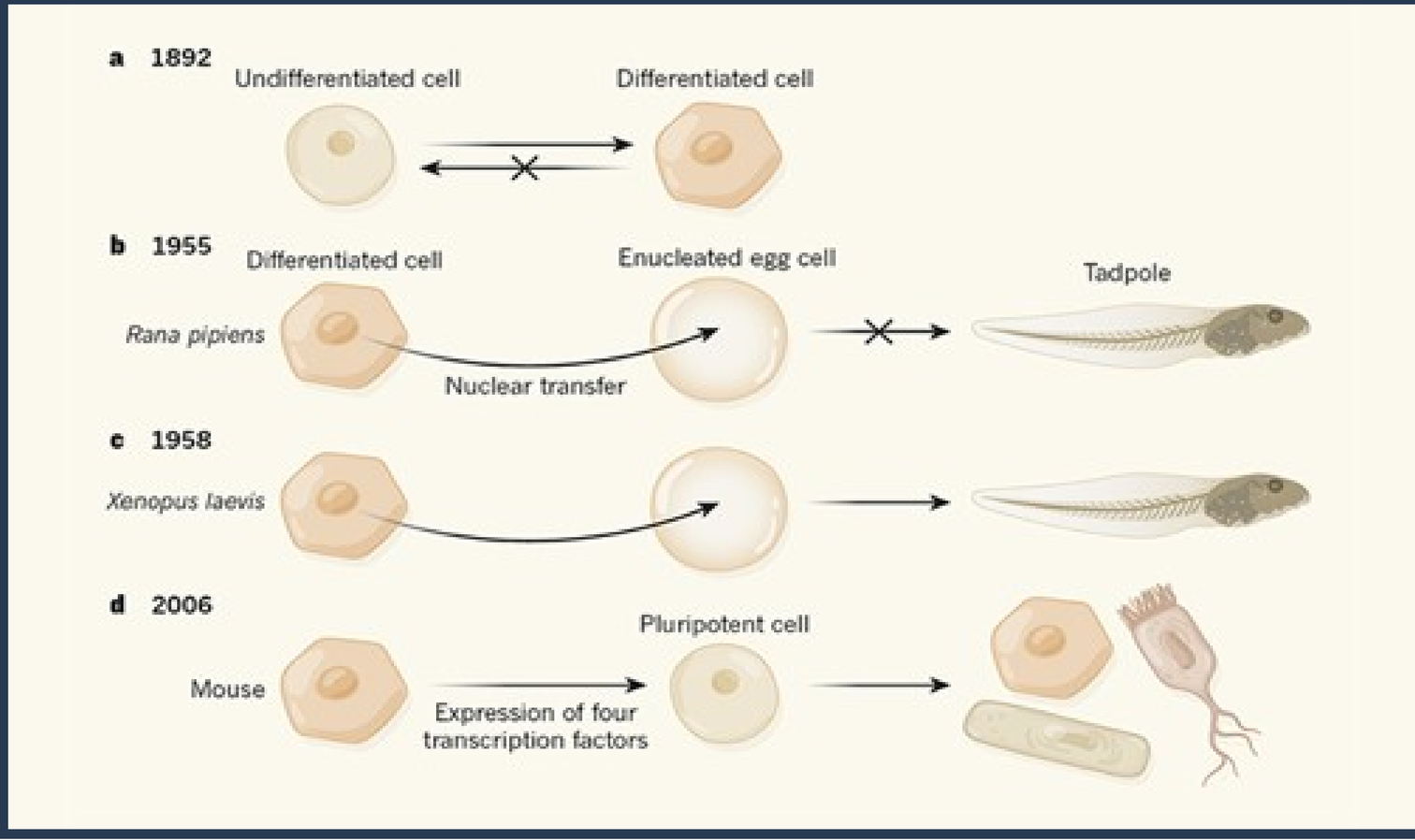
纳米材料诞生。



8. Cell identity reprogrammed

The discovery that cell differentiation can be reversed challenged theories of how cell identity is determined, laying the foundations for modern methods of reprogramming cell identity and promising new regenerative therapies.

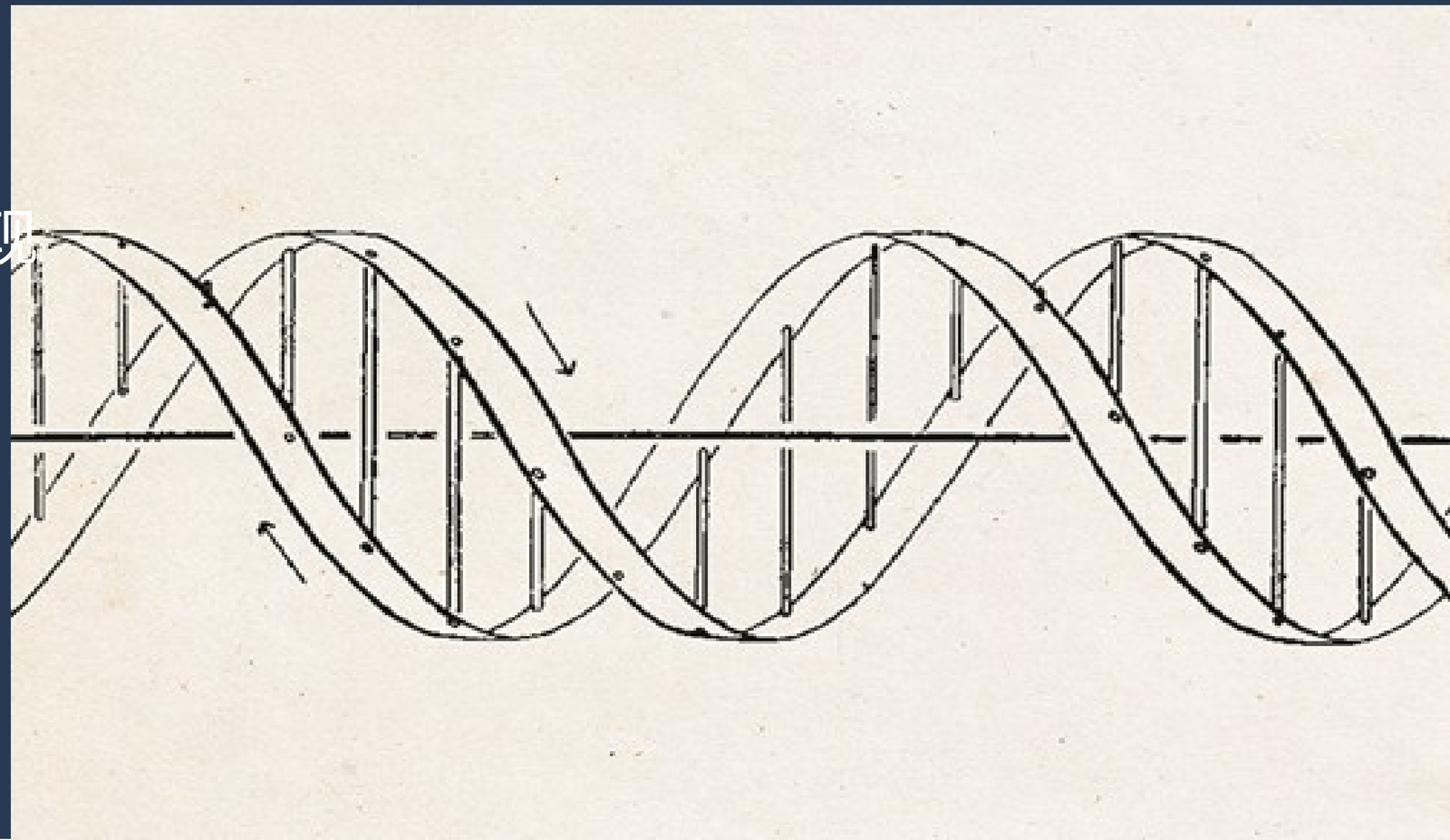
细胞融合重组技术。



9. The structure of DNA

In the early 1950s, the identity of genetic material was still a matter of debate. The discovery of the helical structure of double-stranded DNA settled the matter — and changed biology
forever.

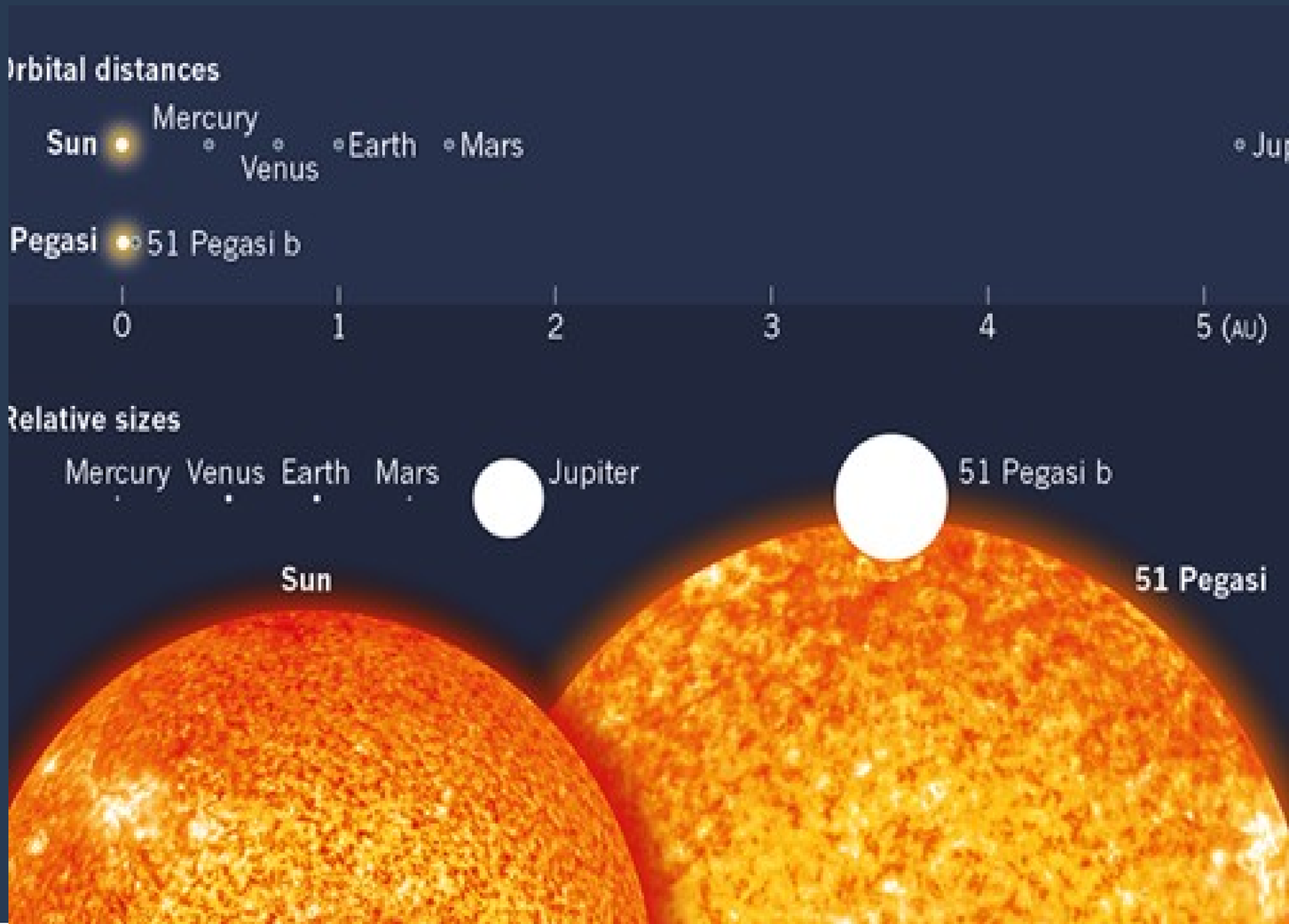
DNA 双螺旋结构的发现
揭示了遗传的秘密。



10. First exoplanet found around a Sun-like star

In 1995, astronomers detected a blisteringly hot Jupiter-mass planet orbiting closer to its host star than Mercury is to the Sun. This discovery recast our thinking of how planets form and led to a new era of exoplanetary exploration.

第一颗地外类地行星发现。



China: How science made a superpower

The opening ceremony of the 2008 Olympic Games in Beijing featured ancient China’ s four great inventions: the compass, printing press, paper and gunpowder. The lesson on display, as taught in classrooms across the country that today publishes the most research papers, is that Chinese innovation in science and technology changed the world.

古老中国科技的崛起正积极改变世界。

Data: from objects to assets

Data. The confusingly plural cornerstone of research. The grounding for a scientific understanding of the world. Lightning rods for the negotiation of political, social and economic
Interests.

数据从科学研究对象变成资产。

How science has shifted our sense of identity

In the iconic frontispiece to Thomas Henry Huxley’ s Evidence as to Man’ s Place in Nature (1863), primate skeletons march across the page and, presumably, into the future: “Gibbon, Orang, Chimpanzee, Gorilla, Man.”
Fresh evidence from anatomy and palaeontology had made humans’ place on the scala naturae scientifically irrefutable. We were unequivocally with the animals — albeit at the head of the line.

科学的进步让我们更加深刻地认识自己。