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PHOTOS: AXEL GRIESCH (TOP LEFT); KATHARINA DUBNO (TOP RIGHT); CRISTINA GOMES/TAI CHIMPANZEE PROJECT (BOTTOM LEFT); BIGTUNAONLINE / ALAMY STOCK PHOTO (BOTTOM RIGHT)

40 | HEARD

Researchers are using modern technology to track the ultrasound calls made by bats.

50 | FOUGHT

Mariela Morales Antoniazzi is campaigning on behalf of people in Latin America.

66 | SWAPPED

Some viruses can jump from chimpanzees to humans

80 | WAVED

Damascene steel is often used for decoration due to its pattern.

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In the Atacama Desert in Chile

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Surviving the anthropocene

Surviving in the Anthropocene Humans have taken dominion over the Earth – to an extent that threatens the basis for human life. Here, new findings in science and technology have played a key role on the path to this new era.

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All Ears

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Ultrasound can be used to manipulate tiny particles and even to arrange them in any desired patterns through the use of acoustic holography. Physicists are already working on medical applications.

32 | Sound check

Operatic singing. Birdsong. Loud shouting. An off-pitch violin. We instinctively find some sounds pleasant, and others unpleasant. But how do we decide whether something sounds good or bad?

40 | Getting their bearings

Two shadows flit around in the evening light: a bat is chasing after a moth in a wild dance between hunter and prey. But how do the animals use sound to track each other?

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Racing against the virus

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Mariela Morales Antoniazzi

Campaigner for human rights

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Europeans considered bears, wolves and ibexes either as a food source or as trophies, and hunted them to extinction. Yet over the last few centuries, our relationship with iconic mammals has changed.

66 | Viruses from the wilderness

Some pathogens can jump from chimpanzees to humans and pose a danger to them – and vice-versa.

74 | The bitter legacy of slavery

Scientists have succeeded in returning a part of their history to three men from Africa who lived in Mexico City during the 16th century.

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An interview with Tatjana Hörnle about the demand for more severe penalties in cases of child abuse.

80 | A legend from the 3D printer

In ancient times, Damascene steel was the material of choice for sword blades. Today, a form of this composite material can now be produced using a completely new technique.

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