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## 18 LANGUAGE

### 18 Without a Sound

During language acquisition, gestures seem vital to learning how to speak. But were gestures an evolutionary precursor of human language? To investigate this question, Simone Pika at the Max Planck Institute for Ornithology in Seewiesen studies the communication strategies of great apes in natural environments, but also corvids and human infants.

### 26 Talk First, Think Later

During everyday conversations, we often begin to speak before we have decided exactly what we want to say. Antje Meyer and her team at the Max Planck Institute for Psycholinguistics in Nijmegen are investigating how we plan sentences and what obstacles may stand in the way.

### 34 Digital Storytellers

Movies with audio descriptions help blind people understand the storyline. Could computers take over the task of transforming moving images into natural language? Anna Rohrbach, a scientist at the Max Planck Institute for Informatics in Saarbrücken, and her husband, Marcus Rohrbach, are working on just that. They aim to develop a computer that can automatically generate and read out film descriptions.

**ON THE COVER** Even if we sometimes talk past one another, natural language is our central means of communication. But how did this instrument develop over the course of evolution? And what goes on in our minds when we hold a conversation? Language is proving to be an extraordinarily complex topic – and one that holds great interest not only for classical linguists and computer scientists, but also for psychologists and behavioral researchers.

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Wanted materials: Solid state researchers are testing new alloys designed to replace rare earths.

### PERSPECTIVES

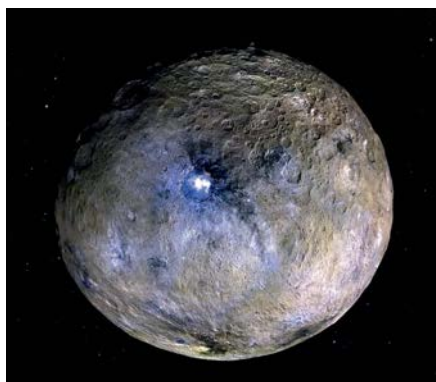
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Objectivity ranks as one of the highest ideals in research, but that wasn't always the case. It wasn't until the 19th century that it began to vie with the centuries-old principle of natural truth. Even today, the two concepts still come into conflict.

### FOCUS

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Technological advances are frequently possible only with the development of new materials. This is true whether we are talking about energy supply or information technology. Heusler compounds are a rich source of new materials.

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A space probe has journeyed to Ceres for the first time. Scientists are using its two onboard cameras to explore the dark surface of the dwarf planet. They have already discovered signs of frozen water – but is there also an ocean slumbering deep below the craters?

## ENVIRONMENT & CLIMATE

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Nowhere does climate change make its presence felt more strongly than in the Arctic. The volume of sea ice there has fallen drastically in recent decades. What processes influence the formation and melting of this ice?

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