

## The Amazing Flexibility of the Human Mind

A study among illiterate women provides clues about what causes dyslexia



Writing was such a recent invention in evolutionary terms that there hasn't been time for a dedicated "reading area" to develop in the brain. Instead, brain regions that originally evolved to recognize complex objects, such as faces, are "recycled" to learn to read. In a study conducted with illiterate adult women, researchers at the Max Planck Institutes for Human Cognitive and Brain Sciences and for Psycholinguistics have now shown that this process changes the brain more fundamentally than was previously assumed. As these women learned how to read and write, the scientists registered changes that extend into the thalamus and the brain stem, which are evolutionarily old brain regions. Previously, congenital dysfunctions of the thalamus were discussed as a possible cause of dyslexia. However, this seems doubtful, since it has now been shown that this brain region can be fundamentally modified through just a few months of reading training. ([www.mpg.de/11312849](http://www.mpg.de/11312849))

Profound change: Illiterate women in India learned how to read Hindi, their native language. As they did so, brain regions that were previously assigned to different skills were modified.

## With the Grip of a Gecko

A gripper that resembles a suction cup and is equipped with microscopic nubs grips a variety of objects

Robots will soon likely be able to hold on better when they want to grasp an object: a gripper developed by researchers at the Max Planck Institute for Intelligent Systems in Stuttgart flexibly adapts to objects of different shapes and also holds them securely because its surface is covered with tiny nubs. These kinds of contact surfaces, which are inspired by the fine, extremely adhesive hairs on the soles of gecko feet, did in fact already exist, but thus far only in the form of rigid ma-

terials. They don't adhere to arbitrarily shaped objects. The coin-sized gripper developed by the materials scientists in Stuttgart resembles a suction cup. It uses negative pressure to hug the contours of a variety of shapes and can hold, for instance, a 300-gram glass flask filled with liquid. ([www.mpg.de/11315088](http://www.mpg.de/11315088))

Teacups and tomatoes – the gripper developed by the Stuttgart-based researchers grasps a variety of objects and also holds them securely.

