always the case, by converting a zeolite into a stable new mineral using high-pressure compression.

Zeolites are often used as catalysts because their pores can trap a range of molecules. Depending on zeolite structure, the minerals can break up heavy oil, separate out gases or purify water.

In the hunt for fresh zeolite structures, Avelino Corma at the Polytechnic University of Valencia, Spain, and his co-workers used diamond anvils to compress the minerals. At 32,000 times atmospheric pressure, a type of silica zeolite transformed irreversibly into another porous structure, which was better at separating propene and propane than its parent form.

Angew. Chem. **http://dx.doi.org/10.1002/anie.201305230 (2013)**

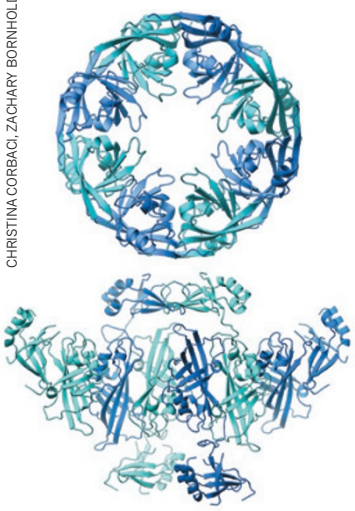
STRUCTURAL BIOLOGY

Lethal viral shape-shifter

An ebolavirus protein adopts drastically different conformations (**pictured**) throughout its life cycle, allowing the deadly virus to do more with fewer genes.

Ebolaviruses kill up to 90% of the people they infect. Erica Ollmann Saphire of the Scripps Research Institute in La Jolla, California, and her colleagues used crystallography, biochemistry and microscopy to track the structure of VP40, a protein that controls ebolavirus assembly and exit from host cells. They learned that the protein does not travel alone as previously thought, but moves to the cell membrane in butterfly-shaped pairs, which then align end-to-end into hexamers that form filaments essential for viral assembly and release. The team also analysed requirements for VP40 to form yet another structure, a previously observed ring that binds to RNA and regulates viral genes in infected cells.

Cell 154, **763–774 (2013)**



CHRISTINA CORBACI, ZACHARY BORNHOLDT, ERICA OLLMANN SAPHIRE/TSRI

CANCER BIOLOGY

Mouth microbe causes cancer

Certain bacteria living in the mouth and gut can invade intestinal cells and trigger changes that lead to colorectal cancer.

A team led by Wendy Garrett at the Harvard School of Public Health in Boston, Massachusetts, found that the bacterium *Fusobacterium nucleatum* induced colonic tumours in genetically susceptible mice.

Separately, Yiping Han at Case Western Reserve University in Cleveland, Ohio, and her colleagues showed that FadA, an adhesion molecule produced by *F. nucleatum*, interacts with a counterpart on mammalian cells and triggers proliferation of colorectal-cancer cells. Colon tissue from patients with tumours had 100 times more copies of the gene encoding FadA than did tissue from healthy individuals.

Cell Host Microbe 14, **195–206; 207–215 (2013)**

PSYCHIATRIC GENETICS

Common variants behind disorders

The risk of getting a psychiatric illness is largely heritable — and many of the genetic variants involved seem to be shared across disorders.

The international Cross-Disorder Group of the Psychiatric Genomics Consortium identified common genetic variants in more than 30,000 patients diagnosed with one of five psychiatric disorders, and compared these with thousands of non-diagnosed controls.

These variants accounted for 17–29% of risk for the illnesses, and there is substantial overlap between disorders. For example, in schizophrenia, 15% of the variants overlapped with bipolar disorder, 9% with depression and 3% with autism.

Nature Genet. **http://dx.doi.org/10.1038/ng.2711 (2013)**

ZOOLOGY

Bone-eating worms in icy seas

Two species of bone-devouring worms have been discovered in the cold waters of the Antarctic. Other members of this genus had previously been found only at warmer latitudes.

Scientists led by Thomas Dahlgren at the company Uni Research in Bergen, Norway, found a new species of worm (*Osedax antarcticus*; **pictured**) carpeting whale bones that the team had placed on the sea floor. Another *Osedax* species was found on bones left in shallower water.

THOMAS DAHLGREN, ADRIAN GLOVER

Pine and oak planks placed with the bones remained in near-pristine condition, free of the marine invertebrates that usually feed on wood in warmer waters and quickly consume sunken ships. As a result, the researchers suggest that shipwrecks on the cold sea floor will stay remarkably well-preserved.

Proc. R. Soc. B 280, **20131390 (2013)**

For a longer story on this research, see go.nature.com/kb2kix

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NEUROSCIENCE

Commitment beats will

HIGHLY READ on www.cell.com in August

Avoiding temptation is more effective than resisting it.

Molly Crockett, now at University College London, and her colleagues tested 78 men as they relied on willpower (resisting an available temptation) or precommitment (voluntarily restricting access to temptation) to obtain rewards.

After rating a set of erotic images, subjects could choose to view a less-enjoyable image immediately or a more-enjoyable one after a delay. In willpower tasks, the option to see the less-preferred image was always available, whereas in precommitment tasks, men chose at the outset whether to wait for a preferred image. Participants were more likely to gain the superior reward in precommitment scenarios, with the benefits of precommitment varying across individuals. Imaging of a subset of 20 men revealed that different brain areas were used for precommitment and willpower.

Neuron 79, **391–401 (2013)**

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