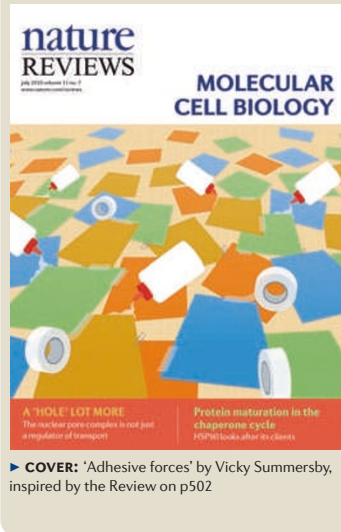




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Music is brought to *Nature Reviews Molecular Cell Biology* this month, with Joel G. Belasco on page 467 linking classic song titles with molecular mechanisms of mRNA decay in bacteria and eukaryotes. In the 'Shapes of things' and 'Go your own way' sections, he discusses how mRNA breakdown seems to follow different principles in the two kingdoms, based on mRNA structural features and the degradative enzymes involved, respectively. Although similarities between the pathways are summarized in 'The end', key differences remain, as discussed in 'We just disagree'.

In their Review on page 490, Michael P. Rout and colleagues analyse a different aspect of gene expression control. They describe how the nuclear pore complex (NPC), in addition to regulating transport across the nuclear membrane, has a key role in controlling gene expression by coordinating the delivery of genetic information to the protein synthesis machinery and by influencing nuclear architecture. To stay with the song titles theme, these functions involve NPC peripheral structures on 'Both sides now' — known as cytoplasmic filaments and the nuclear basket.

The Research Highlights section features recent studies in the field of autophagy. Jennifer Lippincott-Schwartz and colleagues provide new evidence regarding the origin of the autophagosome double membrane, which suggests that the mitochondrial outer membrane contributes to autophagosome biogenesis. Michael J. Lenardo's group uncovers a negative feedback mechanism whereby nutrients generated by autophagy stimulate mammalian target of rapamycin signalling, which in turn downregulates autophagy and triggers lysosome formation, thus maintaining lysosome homeostasis. Finally, Junying Yuan and co-workers elucidate the signalling pathway that results in low levels of autophagy during mitosis.

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