Biological membrane pores typically result from proteins interacting with lipid bilayers, however other materials, such as carbon nanotubes (shown) can also be engineered to form such pores. Membrane pores have been adapted and applied to a variety of technological challenges, such as DNA sequencing. This cartoon image shows DNA transiting the nanotube pore in a lipid bilayer, which also contains other membrane proteins. (Image by Adam Gardner, © Aleksandr Noy (LLNL).) Typeset by Nova Techset Private Limited, Bengaluru & Chennai, India. Printed in the UK by Latimer Trend. This paper meets the requirements of ISO 9706:1994(E) and ANSI/NISO Z39.48-1992 (Permanence of Paper) effective with volume 335, issue 1273, 1992. Phil. Trans. R. Soc. B (ISSN 0962-8436) is published 26 times a year for US\$6461 per year by the Royal Society, and is distributed in the USA by Agent named Air Business, C/O Worldnet Shipping USA Inc., 149-35 177th Street, Jamaica, New York, NY11434, USA. US Postmaster: Send address changes to Phil. Trans. R. Soc. B, C/O Air Business Ltd, C/O Worldnet Shipping USA Inc, 149-35 177th Street Jamaica, New York, NY11414.