

# ***AMERICAN SCIENTIST***

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## THE COVER

*A time-lapse photograph shows discharges of static electricity from the tines of a four metal electrodes. Most people have had a similar experience when scuffling across a carpet in dry weather and then touching a metal object, such as a doorknob. But such static charges also build up in nonmetal objects, even ones that are insulators and by definition don't conduct electricity. What actually causes such static, or triboelectric, charges, seems to depend on the materials involved, and may involve more than one mechanism. In "What Creates Static Electricity?" (pages 316-323), Meurig W. Williams explains that a number of researchers are actively exploring the topic, and the results are still coming in. Static charges can often be a nuisance, causing problems for electronic equipment. But when the charges are properly harnessed, they are basis of such useful products as copiers and laser printers. Williams notes that the history of charged toners in copiers is also convoluted and controversial. (Cover credit: Adam Hart-Davis/Photo Researchers, Inc.).*