

PRINCIPAL EDITORS

GORDON E. BROWN JR., Stanford University,
USA (gordon.brown@stanford.edu)

BERNARD J. WOOD, University of Oxford, UK
(Bernie.Wood@earth.ox.ac.uk)

FRIEDHELM VON BLANCKENBURG, GFZ
Potsdam, Germany (fvb@gfz-potsdam.de)

EXECUTIVE COMMITTEE

COSTANZA BONADIMAN, Società Italiana
di Mineralogia e Petrologia

THOMAS D. BULLEN, International
Association of GeoChemistry

CATHERINE CORRIGAN, Meteoritical Society

KATERINA M. DONTSOVA, The Clay Minerals
Society

BARBARA L. DUTROW, Mineralogical
Society of America

ANTON EISENHAEUER, Geochemical Society

DANIEL J. FROST, European Association
of Geochemistry, Chair

BERNARD GROBÉTY, Swiss Society of
Mineralogy and Petrology

MARK E. HODSON, Mineralogical Society
of Great Britain and Ireland

HEATHER JAMIESON, Mineralogical Society
of Canada

MATTHEW I. LEYBOURNE, Association
of Applied Geochemists

GUY LIBOUREL, Société Française
de Minéralogie et de Cristallographie

KLAUS MEZGER, Deutsche Mineralogische
Gesellschaft

MAREK MICHALIK, Mineralogical Society
of Poland

JUAN J. MILLAN, Sociedad Española
di Mineralogía

YASUHIITO OSANAI, Japan Association
of Mineralogical Sciences

MICHAEL WIEDENBECK, International
Association of Geoanalysts

EXECUTIVE EDITOR

JODI J. ROSSO (jrosso.elements@gmail.com)

EDITORIAL OFFICE

WASHINGTON STATE
UNIVERSITY
TRI-CITIES

2710 Crimson Way, TWST 263
Richland, WA 99354-1671, USA
Tel/Fax: (509) 420-5331 (UTC-8)

Layout: POULIOT GUAY GRAPHISTES

Copy editor: PATRICK ROYCROFT

Proofreader: PATRICK ROYCROFT

Printer: ALLEN PRESS

The publishers assume no responsibility for any statement of fact or opinion expressed in the published material. The appearance of advertising in this magazine does not constitute endorsement or approval of the quality or value of the products or of claims made for them.

www.elementsmagazine.org

Elements
An International Magazine of Mineralogy, Geochemistry, and Petrology

DON'T MISS AN ISSUE OF ELEMENTS.
Join a participating society today!

EU SCIENCE AND "BREXIT"

1811-5209/16/0227-\$0.00 DOI: 10.2113/gselements.12.5.299



Bernard J. Wood

Everybody reading this will know that on 23 June 2016 the people of the United Kingdom voted to leave the European Union (EU). For almost all of us in the UK academic community, this was a shocking result, leaving us feeling bereaved as if by the death of a family member. The impact on our university and research communities cannot be overestimated, but nor can the impact on our European neighbours, colleagues and friends. The President of the Royal Society (UK Academy of Science) has welcomed the fact that our government has promised to replace the funding (~€1.15 billion/year) which comes to British science from European Research Council grants and contracts. He also stated, however, that simple restoration of EU funds by our government does not replace the many other benefits of such funding. Collaborations and networks with other EU scientists have taken many years to build and have enabled us to influence the planning of future European research directions and new facilities. We all know that together we Europeans can attempt projects such as the Large Hadron Collider at CERN (Geneva, Switzerland) and the Joint European Torus near Oxford (UK), neither of which could be funded by individual governments. The exchange and employment of our young scientists, supported by programs such as Horizon 2020 (the European Union Framework Programme for Research and Innovation), are vital for the health of science all around the EU. Already, however, there are indications that scientists based elsewhere in the EU are reducing contacts with British colleagues and that other EU governments are attempting to relocate EU agencies and research centres from Britain to their own countries. The noted UK television broadcaster the BBC recently reported examples of UK researchers being told that they were no longer welcome to join network proposals because their colleagues feared that their presence as partners would damage the possibility of obtaining funding. Romano Prodi, former President of the European Commission, is reported as saying, "Everybody fights now to have the headquarters of the agencies that are now in the UK.... The cities are pushing you, saying, 'My city is the best for pharmaceuticals in the world'. Britain is leaving a big heritage" (*The Observer*, 18 September 2016).

But while some governments and individuals in the EU see 'Brexit' as an opportunity to obtain increases in funding and influence, it is clear that the departure of the UK will also have a strong negative effect on our colleagues around the EU. There are over 30,000 EU nationals employed in academic posts in the UK, with many more employed in science- and engineering-based businesses. They will presumably now be required to

fulfil stringent visa rules. The most prestigious research fellowship in the UK is the Royal Society's University Research Fellowship, which provides up to 8 years of salary and research funding free of teaching duties. Between 2013 and 2015, 38% of these fellowships were awarded to non-UK European nationals. Finding positions of similar level elsewhere will be difficult for many of these young researchers. Furthermore, the weakening of bonds between the UK's extremely strong research universities (e.g. Cambridge, University College London, Imperial College London, Edinburgh, Manchester, Oxford) and European universities will inevitably be to the overall detriment of European science.

If we consider British society as a whole, then the result of the referendum (52% leave, 48% remain) highlights the stark divisions that now exist in our society. More than 80% of students, looking to a liberal, European future, voted to remain in the EU. So did 64% of those with a higher degree and a large majority of skilled professional people. Black and Asian people voted heavily to remain, as did Scotland. Everybody *you* know voted remain. Please remember that the next time I see you at a meeting! So, who voted to leave? It was those with the least to lose from leaving the EU. More than 60% of people aged over 65 (mainly white, mainly English) voted to leave, as did most unemployed and unskilled people. It is clear that the latter groups in the UK and elsewhere have suffered most from the Europe-wide austerity that was imposed after the financial crisis of 2008. They are aware of lower standards of living, lower quality of health care, the closing of libraries and of other public amenities and want something – anything – to change. They also know that the UK is receiving 150,000–200,000 immigrants from the EU each year, principally from eastern countries, Poland, Slovakia and so on. It was a simple matter for the 'leave' campaign to imply that immigrants take jobs, place too much pressure on public services and, rather than austerity, are responsible for declining standards of living. This approach, however, is not unique to the UK. Similar anti-immigrant and xenophobic sentiment has fuelled powerful right-wing movements around Europe: Golden Dawn in Greece, Alternative für Deutschland in Germany, Front National in France and a presidential candidate in the US. We live in interesting times.

A final word from a famous German immigrant to the UK who wrote in 1870 (and I paraphrase) that the English bourgeoisie encouraged immigration from Ireland in order to force down the wages and lower the material and moral position of the English working class.... The ordinary English worker hates the Irish worker as a competitor who lowers his standard of life (Karl Marx). Plus ça change!

Bernard J. Wood
Principal Editor