

He who pays the piper: universities, the oil and gas industry, and fracking

by

David Smythe

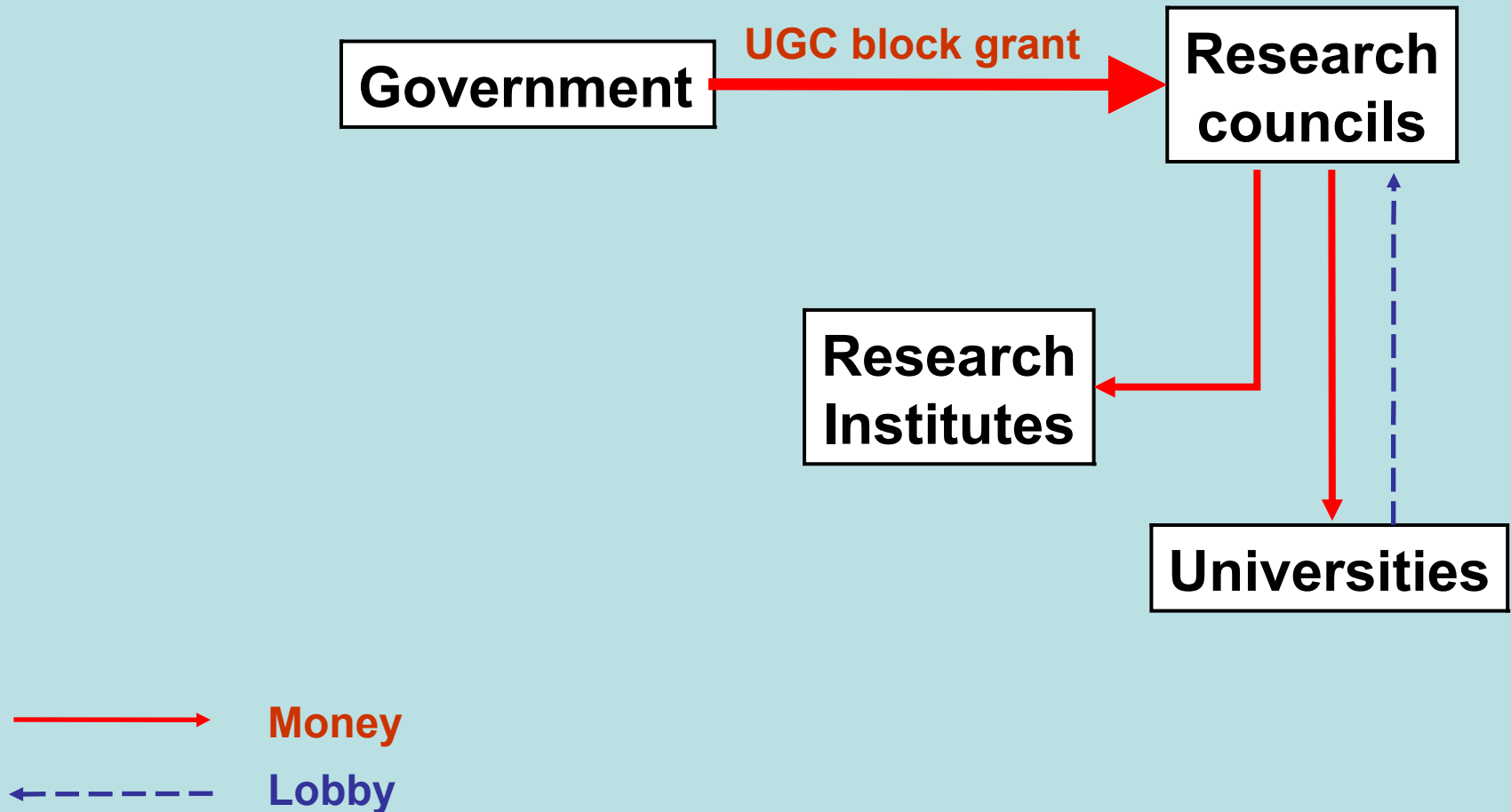
Emeritus Professor of Geophysics, University of Glasgow

November 2016

(version 1.2, annotated)

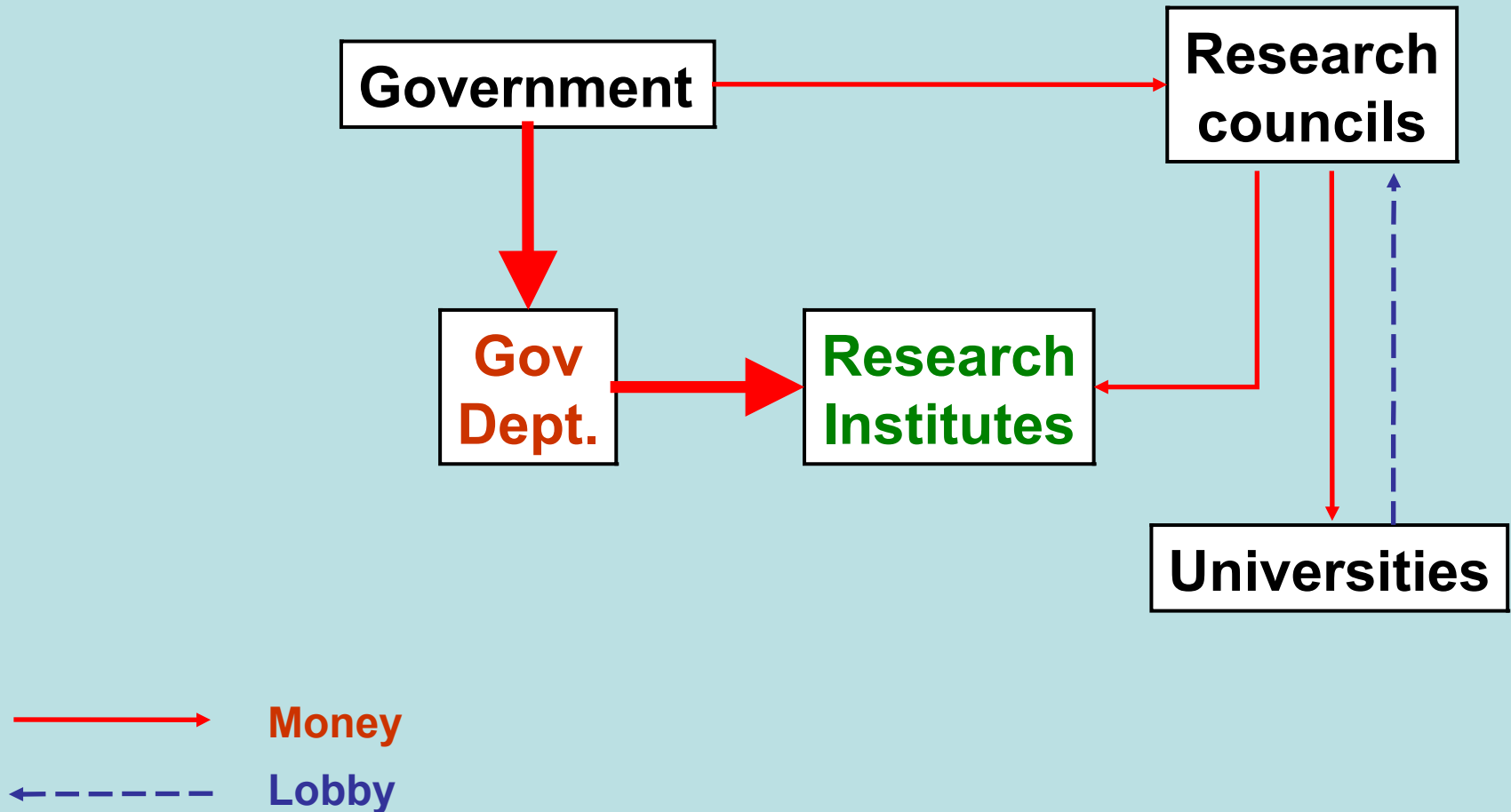
I am reluctant to talk about myself – I would much rather discuss the scientific issues – but this outline of my experience to date as an Emeritus of Glasgow University illustrates the malign influence of corporate influence (in this case the fossil fuel industry) on university research and freedom of speech.

The Weald, Sussex



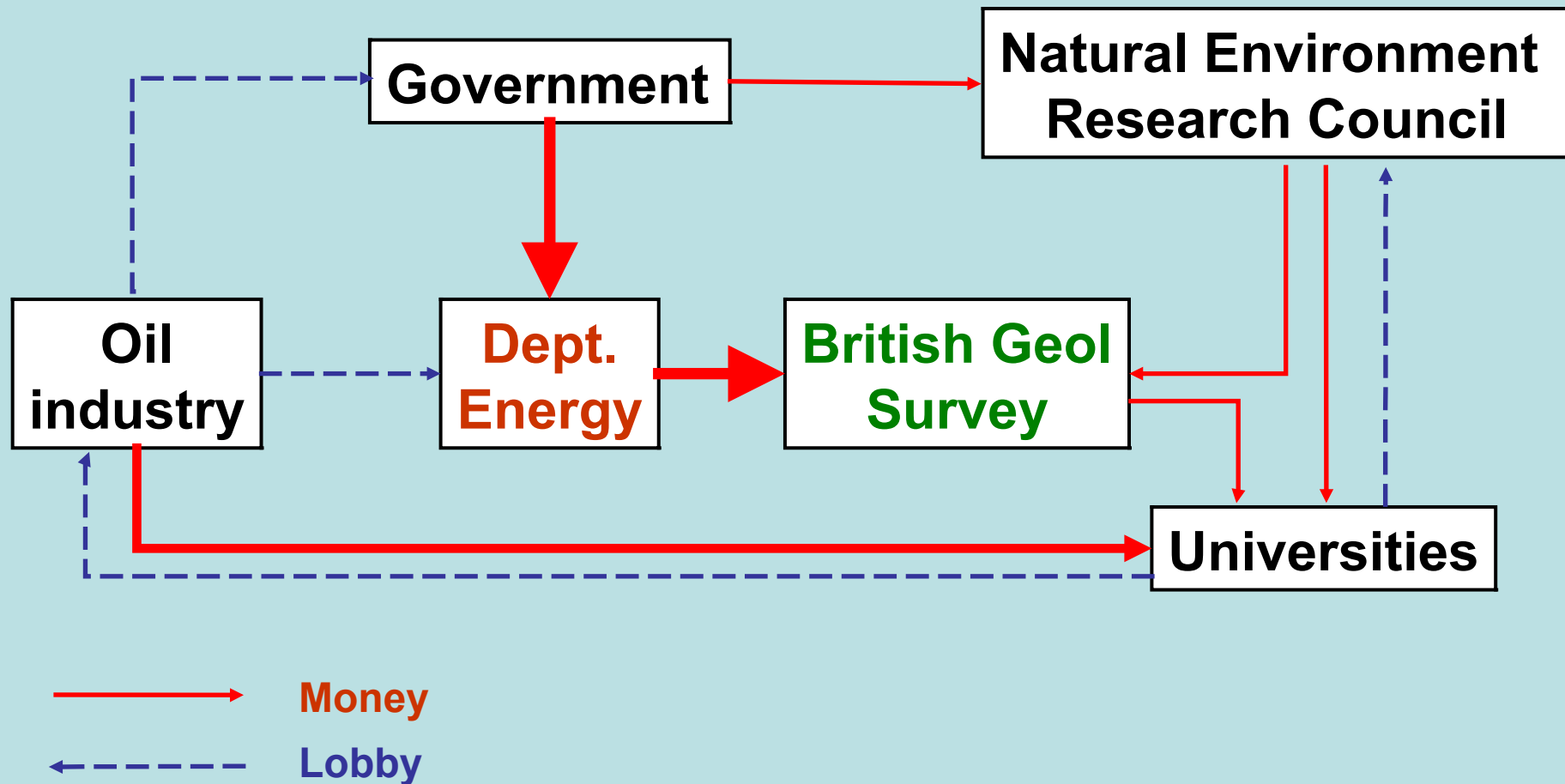
Research funding pre 1971

Very simplified diagram of how funding of research flowed prior to 1971. The dashed blue arrow includes grant applications.



Rothschild: **Customer** - **Contractor** principle, 1971

Under the Rothschild principle, government funding now flowed *via* departments, who commissioned the research they needed, mainly from research institutes.



Evolution of earth science funding

Mr John Brooks – Chief Geologist, DEn

In the earth sciences, post 1971, much of the research money was now channelled *via* the Department of Energy. This same department issued the exploration and production licences awarded to the oil industry. Overnight, Mr John Brooks became, in effect, the most influential geologist in the UK. The oil industry increased its links with, and funding of, university research as the North Sea was developed.

Global oil industry database extremely valuable

(trillions of dollars)

Worldwide – remains mostly confidential

UK:

- **BGS archives UK industry data**
- **BGS staff can work on data (“Commercial in Confidence”)**
- **Data released after 5 years (but payable)**

Research benefit examples:

- **Revolution in understanding of sedimentary basins**
- **Imaging of deep crust, interiors of volcanoes**

Risks to research integrity:

- **Researchers ‘need’ the data**
- **Collaborate with industry (get easy grants to solve their problems)**
- **Sharing industry mindset is biggest danger**
- **Veto of inconvenient results possible (e.g. ReFINE project)**
- **Government censorship a bigger problem**

Creation of new Glasgow earth sciences Department, 1998

Oxburgh report 1986

- Merge University departments
- Start with earth sciences
- Glasgow, Strathclyde and Dundee merged at Glasgow
- Planned mergers of Physics, Chemistry etc. never implemented

New Department of Geology & Applied Geology - With new Chair of Geophysics

An early 'Oxburgh' report (one of many over the years) recommended mergers of UK university science departments, to create fewer but bigger departments. The earth sciences were the first to be merged. The scheme was later dropped for other subject areas. I accepted the new chair of geophysics on the understanding that the merger would happen, as it was the Strathclyde geologists with whom I was collaborating, and not those at Glasgow or Dundee.

Closure of Glasgow Department, 1998

Why?

At Nirex Public Inquiry Appeal 1996-97:

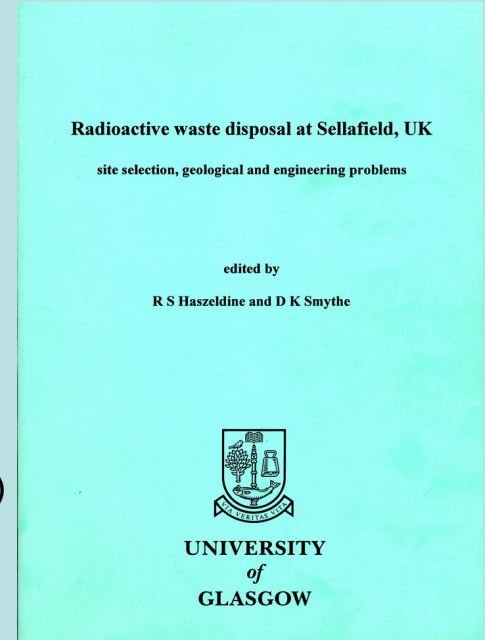
- Smythe (NB – large Nirex grant 1994-5): Expert Witness for FoE
- Haszeldine: Expert Witness for Greenpeace

How?

- Head of Planning Unit - chemist
- Forced to enter all 17 staff in RAE 1996 (result: a grade 3, not the expected 4)
- Solutions to financial problems ignored
- Micro-management (the case of the 30 pence resistor)
- Proposal for a new leading Applied Geology department ignored
- Trumped-up stories of in-fighting
- Kangaroo court assessment of department
- The two professors (Russell, Smythe) blamed for 'lack of leadership'

6-7 staff dispensed with; rump of 5 retained for teaching; 4-5 took normal retirement

Certain other staff in the Physical Sciences planning unit did not like the fact that two of us had acted as expert witnesses at the Nirex local planning appeal of 1995-96. We won the case, which concerned plans to open up a nuclear waste repository near Sellafield, West Cumbria. Furthermore, these staff objected to our publication of a book bearing the university logo (NB this was fully in accordance with internal rules!) compiling the cases and evidence of the three main objectors' groups – Cumbria County Council, Friends of the Earth, and Greenpeace. In particular, these individuals did not like the fact that I had received a large grant in 1994 from Nirex, and perceived that I was therefore being somehow disloyal in later acting for FoE. But I felt morally obliged to do so, since my three-dimensional seismic survey of the Sellafield site (a double world first) had demonstrated that Nirex did not understand the geology, and that it was far too complex ever to become a safe and predictable waste repository.



Staff dispensed with (all still active):

- **Mike Russell** (Chair Applied Geology) → Jet Propulsion Lab, NASA
- **David Smythe** (Chair Geophysics) → independent research, consulting
- **Stuart Haszeldine** → Professor of CCS, Edinburgh Univ.
- **Doyle Watts** → Associate Professor, Wright State Univ, Ohio
- **Gary Couples** → Professor of Energy, Heriot Watt Univ.



The staff dispensed with on the closure of the Glasgow department are all high-achieving researchers, as has been demonstrated by their subsequent careers, shown above. It was as if Glasgow wanted to rid itself of perceived troublemakers, whatever the cost. All of the above, except Doyle Watts, who was hired in 1981, were transferred to Glasgow or hired as a result of the merger.

Mike Russell, still active at age 77, is internationally renowned in two fields of research. For his work in the Emergence of Life he has been tipped for a Nobel.

My retiral (compromise) agreement

- **Emeritus Professor of Geophysics**
- **Honorary Senior Research Fellow (HSRF)**

Both in perpetuity.

After age 65 – same rights as any other HSRF

Attached to Faculty of Science

Areas of research since retirement in late 1998

- 3D ultrasound medical diagnostic imaging (patent)
- Nuclear waste disposal
- New, objective Nuclear Accident Magnitude Scale
- **Fracking - geological and hydrogeological problems**

Common theme – socially useful

No problem with online access for 17 years, 1999 - 2015

I had decided to take early retirement in 1998, as I had a plethora of research interests that I could pursue without needing the resources of a university laboratory, or having research students. My Compromise Agreement makes it clear that I am a lifelong member of Glasgow University, with the same rights since reaching age 65 as any other honorary staff member. I had no trouble with my online rights of access until I got involved in research into fracking.

Awareness of fracking problem – France, 2011

I first became aware of the potential environmental problems of fracking for shale gas ('gaz de schiste') as a result of the risk where I live in the Languedoc. Scientists at University of Montpellier 2 (UM2) published a couple of informative reports in early 2011 for the public. But the problem receded with the cancellation by the government of the existing licences, and the complete ban on fracking in France. Prof Séverin Pistre, with whom I have given a couple of public lectures, told me that his colleagues in the earth science department at UM2 do not now speak out either for or against fracking, due to pressure from a fossil fuel company, which funds both teaching and research in that department.

Gaz de schiste dans le sud de la France

Questions géologiques, hydrologiques et environnementales

Michel Séranne (*Géosciences Montpellier, CNRS*)

X

Séverin Pistre (*HydroSciences Montpellier, UM2*)

Professor of Hydrogeology

Roger Soliva (*Géosciences Montpellier, UM2*)

X

Francoise Elbaz Poulichet (*HydroSciences Montpellier, CNRS*)

X = silenced by pressure from a fossil fuel company

*Géosciences et HydroSciences Montpellier sont 2 laboratoires de
l'Observatoire de REcherche Méditerranéen de l'Environnement*



Email to me from Prof Paul Younger, copied to BBC Scotland

Email from Paul Younger Paul.Younger@glasgow.ac.uk 1 July 2014 12:16

To Prof David Smythe

cc John Chapman John.Chapman@glasgow.ac.uk

cc morningcallscotland@bbc.co.uk

Dear Professor Smythe

[red highlighting added]

Working on a paper in my study this morning, I was alerted by my wife to today's Morning Call programme on shale gas on BBC Radio Scotland. I was saddened to hear you on that programme once more shamelessly using your emeritus professor status to tacitly imply that you have some meaningful connection to the present-day research base here at the University of Glasgow, and then proceeding to misrepresent not only geosciences generally, and hydrogeology in particular (of which you are clearly deeply ignorant), but also the work of the joint Royal Academies' Panel on shale gas, on which I served. If you had read the report of that panel properly, as you purported on air to have done, then you would know fine that it DID NOT restrict itself to induced seismicity, as you so wrongly claimed. It dealt at length with the issues of groundwater pollution, which you pretend to know about, despite your utter lack of hydrogeological background. I of course phoned-in offering to put the record straight, but was not given the opportunity to do so. Hence this email.

I find it the height of disingenuous unprofessionalism that you presume to speak wearing the University of Glasgow badge, whilst making no attempt whatsoever to engage with the current generation of researchers here, who are actively engaged in proper, process-based scientific investigation of the topics upon which you presume to opine in public, with your customary hand-waving and ill-informed, crowd-pleasing prejudice. For someone who has spent much of his career

... another page of this stuff

Part of the defamatory email I received from Professor Paul Younger of Glasgow University, some two hours after I had talked on a phone-in programme on BBC Radio Scotland. Note that he copied it to the BBC as well as to Prof Chapman, Dean of Science.

Letter from Secretary of Court 16 July 2014

Dear Professor Smythe,

It has come to the attention of the University that you have, on at least one recent occasion in the broadcast media, expressed views and/or made representations in your capacity as an Emeritus Professor of the University. A number of my academic colleagues are concerned that the views which you have expressed, particularly on the subject of shale gas, are not consistent with work which is currently being undertaken at the University.

Although it is the University's policy to adopt a neutral stance on political issues and matters of public debate, we remain supportive of all staff, current and former, as they pursue excellent research in their chosen fields. We also acknowledge that free expression is a cornerstone of healthy academic debate.

Notwithstanding our support for freedom of expression, we respectfully request that you make it clear, in all of your future publications and broadcast media appearances, that the views which you hold and express are your own and are not necessarily representative of the views held by the University's current researchers. In doing so, we hope that healthy debate will continue to flourish without compromising the University's neutrality or inadvertently misrepresenting research being undertaken by its current researchers.

This letter arrived two weeks after the email from Younger. It was referred to internally at Glasgow as the 'Cease and Desist' letter. Note the weaselly third paragraph.

Email from Paul Younger to Secretary of Court, 23 July 2014

Clare Grady

From: Paul Younger
Sent: Wed, 23 Jul 2014 21:40:21
To: David Newall (Secretary of Court)
Cc: John Chapman, Dorothy Welch, Maggie Cusack
Subject: Re: Misrepresenting the University of Glasgow

Sticky Note 26/07/2016 14:21:36
dks Options ▾
Here is the nub of Younger's objection to my views - he has been collaborating with the fracking industry and it doesn't like what I am saying.

Thanks David

Various industrial research partners have suggested an open letter to major newspapers making clear he does not speak for us. Not sure ...

No need to rush into anything though - this can wait till everyone's back in circulation.

Paul Y

The sticky note was for my lawyer. Note the title of the email. The staff copied in by Paul Younger are other senior staff whom he seems to have convinced that I am publishing outrageous stuff. Ironically he seems to have been in receipt of only one small grant from industry at the time that the email was written, so it is not clear why the adjective "*various*" was used.

My response to the 'Cease and desist' letter

29 July 2014

...

I believe that it is a correct assumption by the media that whenever an academic is speaking or writing, then he or she is doing so in a **personal capacity**.

This is a **core value of academic freedom** in practice; it is different from, say, a company CEO or a government minister, where the assumption is that they are representing a group or corporate interest.

Furthermore, the **use of academic titles such as Doctor or Professor rightly endows the holder with some authority** (in the appropriate field), and this fact is also correctly perceived by the media.

My response to the so-called Cease and Desist letter was very polite. I made it clear that I have never tried to represent myself as a member of any particular research group or school at the university.

National press, 1-2 Aug 2014, quoting Paul Younger

The Times 1st Aug 2014 **Fracking row scientist lied about his credentials**

A retired scientist who argues that fracking is dangerous and gives evidence against drilling applications has been accused of making a false claim about his qualifications.

... Professor Younger said: *"He has published nothing on [shale gas] in any proper scientific forum — no doubt because he knows he would never get past peer review with his pseudo- scientific scaremongering.*

*He falsely claims to be a chartered geologist. **That's fraudulent. It's wilful untruth.** I am concerned about the damage to the reputation of the university by someone who never fails to use his university affiliation."*



Anti-fracking 'expert' and question marks over his credentials: Ex punk rocker 'lied and peddled pseudo science'

- David Smythe accused of being less than totally honest over his credentials as shale gas expert
- Retired geologist has been prominent in highlighting dangers of fracking
- Professor at his old university accuses him of 'pseudo-scientific scaremongering'
- Geological Society demands he stops claiming to be chartered geologist
- Mr Smythe insists he has done extensive research into unconventional energy extraction

By MICHAEL SEAMARK

PUBLISHED: 18:48, 1 August 2014 | UPDATED: 01:47, 2 August 2014

[Also the *Daily Telegraph*]

Two London libel law firms:- Younger's comments are defamatory

I was shocked and distressed to discover these articles in the tabloid press accusing me of lying (about being a Chartered Geologist), and quoting Paul Younger. I approached two separate London libel law firms about raising an action; they both agreed that Younger's comments were defamatory. However I had neither the money nor the time to devote to raising an action for defamation.

Dr James Verdon (Bristol; 3-year NERC post-doc)



Blog 'Frack-Land'

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Sponsors of a Bristol University earth science research project

Frack-Land

Exploring the development of hydraulic fracturing in the UK

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Shale Gas: FAQ

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Spotlight on SMEs

Friday, 1 August 2014

Fracking scientist accused of lying about his credentials

Many readers familiar with the shale "debate" in the UK will be familiar with David Smythe, Emeritus Professor of Geology, retired (in 1998) from Glasgow University. ~~It should be noted that the reason for his retirement was that Glasgow's Geology Department was closed in 1998. Bad luck perhaps, but hardly a ringing endorsement.~~ On his website Prof. Smythe cites the closure of

Comment on the article above (still online as of 15 Nov 2016)

Anonymous 21 August 2014 at 08:42

... I was an undergraduate student in the Department of Geology at Glasgow University in the late 1980s and early 1990s. **His lectures were extremely poor, and most shocking of all were his geological map interpretation skills. I can categorically say that as a second year geology student I, and my classmates, had a better grasp of geological map interpretation than the good professor. His nickname among the undergraduate students was "Dave 'I don't have a f*cking clue' Smythe".** ...

This is another example of the vituperative attacks on me from the 'frackademic' community. Verdon runs a blog, Frack-Land, on which he permitted to be published this anonymous defamatory comment about me. He could, of course, have moderated the comment. It is clearly nonsense, as I never taught second year students at Glasgow. Verdon ran a microseismic array for Cuadrilla in 2014 at Balcombe, presumably in the expectation that Cuadrilla would frack the horizontal well Balcombe-1z.

Links between Glasgow, Cuadrilla and Lancashire CC (FOI request)

First email 25 Aug 2014 from Glasgow to Cuadrilla

Oct 2014 – Younger asked by LCC to review my submissions

Dec 2014 – Glasgow review submitted to LCC

9 June 2015 – 2 Cuadrilla staff fly to Glasgow

End June 2015 - LCC Development Committee determines Cuadrilla applications

**July 2015 – Glasgow review released under FOI
- parts of it retracted in a newly added foreword**

Why did Lancashire County Council ask Paul Younger, out of all the academics and industry people in the UK potentially available, to review my submissions? Perhaps Cuadrilla suggested him. The Glasgow review was only released in July 2015 under an FOI request, even though technically it was in the public domain from the start. Younger prefaced the released version with a page in **bold red** indicating that he and his co-author Rob Westaway no longer believed in some of what they wrote – i.e. it was already out of date. So the questions arise; when did they realise this? Did they communicate their new views to LCC? Did the old version of the report influence LCC in any way?

January 2016 on



The screenshot shows the Solid Earth journal website. At the top left is the journal's logo, a brown square with a mountain landscape and the text 'Solid Earth'. To its right, the journal title 'Solid Earth' is displayed in a large, bold font, followed by the subtitle 'An interactive open-access journal of the European Geosciences Union'. Below this is a navigation bar with links: '| EGU.eu | EGU Journals | Contact | Imprint |'. On the left side, there is a vertical menu with buttons for 'About', 'Editorial board', 'Articles', 'Special issues', 'Highlight articles', 'Subscribe to alerts', 'Peer review', 'For authors', and 'For reviewers'. Above this menu are two buttons: 'Submit a manuscript' and 'Manuscript tracking'. The main content area features a research article titled 'Hydraulic fracturing in thick shale basins: problems in identifying faults in the Bowland and Weald Basins, UK' by David K. Smythe. The article's DOI is 10.5194/se-2015-134, and it is dated © Author(s) 2016. The article is distributed under the Creative Commons Attribution 3.0 License. The article's reception timeline is shown: Received: 22 Dec 2015 – Accepted: 20 Jan 2016 – Published: 27 Jan 2016. The abstract begins with 'Abstract. North American shale basins differ from their European counterparts in that the latter are one to smaller in area, but correspondingly thicker, and are cut or bounded by normal faults penetrating from the'. On the right side, there is a 'Review' section with the text 'A revision for further submission'.

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doi:10.5194/se-2015-134
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Research article
Hydraulic fracturing in thick shale basins: problems in identifying faults in the Bowland and Weald Basins, UK
David K. Smythe
¹College of Science and Engineering, University of Glasgow, Scotland
*now at: La Fontenille, 1, rue du Couchant, 11120 Ventenac en Minervois, France

Received: 22 Dec 2015 – Accepted: 20 Jan 2016 – Published: 27 Jan 2016

Abstract. North American shale basins differ from their European counterparts in that the latter are one to smaller in area, but correspondingly thicker, and are cut or bounded by normal faults penetrating from the

Review
A revision for further submission

User ID 

Academic research article put online 27 January 3 days later – my access terminated - no warning, no explanation

I finally got round to writing up my results of the previous two or three years in one big research paper, submitted to a respectable journal. As specified in my Compromise Agreement, I used the university address as shown here. Three days later I found that my university email address and GUID (the ID pass giving me access to the online journal system) had been terminated. It took a week to discover that I had to approach 'senior management' to find out why.

From: David Newall (Secretary of Court)
Sent: 04 February 2016 17:34
To: Martin Lee
Cc: Mark Temple
Subject: RE: Agreed statement

**NB Despite this evidence,
Glasgow maintains that the
termination was a 'routine' matter**

Thanks Martin

IT Services has deactivated the email account, having received a request via HR from the School. The contact in IT Services is Mark Temple, to whom I'm copying this for information.

I expect Professor Smythe will challenge this, and will argue that, as an Emeritus Professor, he has a right to an email account.

But I am comfortable with the decision.

Best wishes

David

Sticky Note 26/07/2016 14:52:02
dks Options
I have already pointed out that I have no link to the School of Geographical & Earth Sciences, of which Martin Lee is the head. Therefore it is not within the school's remit to grant or deny me

-----Original Message-----

From: Martin Lee
Sent: 04 February 2016 17:26
To: David Newall (Secretary of Court)
Subject: RE: Agreed statement

Dear David,

I think that Maggie is a bit behind on developments w'th this matter, so please do not worry about the statement at the moment

I have just got a message from the journal saying that Smythe's Glasgow e-mail address is still active. Could you please investigate - I think you had spoken to IT services last week about deactivating the e-mail.

Many thanks,
Martin.

Sticky Note 26/07/2016 14:50:13
dks Options
Here is the evidence linking the termination of my email account and the fact that I had published my fracking article in Solid Earth Discussions ("the journal") a week earlier.

Professor Martin R. Lee,
Head, School of Geographical & Earth Sciences, University of Glasgow, Gregory Building, Lilybank

Glasgow maintains that the access termination was "routine". This is untrue; internal emails released under a Subject Access Request show that it was connected to the fact that I had published the article. Martin Lee is the Head of Geographical & Earth Sciences, a department with which I have never had any formal or informal connection – all the staff I used to work with were got rid of in 1998 (see slide 8 above).

Interactive comment on “Hydraulic fracturing in thick shale basins: problems in identifying faults in the Bowland and Weald Basins, UK” by David K. Smythe

First of many online comments

R. Westaway

robert.westaway@gla.ac.uk

Received and published: 3 February 2016

Introduction

In this comment on the Smythe (2016) discussion paper I shall try to avoid distraction by this author's record in the field of shale gas and fracking (cf. Seamark, 2014; Smythe, 2014, 2015), and will concentrate on technical issues related to three topics:

**Defamatory
Daily Mail
article**

Seamark, M., 2014. Anti-fracking 'expert' and question marks over his credentials. Ex punk rocker 'lied and peddled pseudo science'. Daily Mail Online. Available online: <http://www.dailymail.co.uk/news/article-2713509/Scientist-claims-fracking-dangerous-argues-against-drilling-applications-fraud-lied-credentials.html> (accessed 3 February 2016)

Dr Rob Westaway is a colleague at Glasgow that Prof Younger brought with him when he moved from Newcastle in 2012. I asked the Topical Editor of the journal to remove this defamatory pseudo-Harvard-style citation from his first commentary. Westaway did so, but then found an excuse to re-insert the defamatory citation in one of his later comments.

Comments on paper from:

Westaway (Glasgow; 4 comments)

§

Younger (Glasgow)

§

Verdon (Bristol)

§

Clarke (Cuadrilla)

§

Kingdon (BGS)

Engelder (Penn State)

§

Birdsell (Colorado)

§ - Oil industry, or
industry funded

By far the most comments ever received in any *Solid Earth Discussions* paper

Referees:

Haszeldine (Edinburgh) – narrow down scope, accept after revision §

Aplin (Leeds) – reject §

Two anonymous referees – reject

Agreed with Editor in May 2016:

Paper to be split into 4-5 parts; resubmit part about UK shales only

The Editor had great difficulty in finding enough referees. Andrew Aplin wrote a negative and tendentious review; he is Professor of Unconventional Petroleum at Leeds, and his grant income is almost entirely from the fossil fuel industry. The two anonymous referees were last to report. Both of their comments were hard to understand, being written in poor English. The Editor decided that the paper had become too long and unmanageable for publication in its current form or after revision, and I agreed. I am to submit a new, more focussed paper, dealing just with the English shale basins, and intend to publish all the other topics elsewhere.

Conclusions

Scientific integrity under attack

Anthropogenic global warming the most important issue today

Fossil fuel industry in denial

Universities now run as corporate businesses

UK university earth science departments largely complicit

Pending court case against Glasgow; £14K raised by crowdfunding

Legal opinion – high chance of success

The main issue here is academic freedom of expression; it is not just a dispute about fracking. I raised the initial £10K crowdfunding target in 2.5 days, with the aim of raising an action against Glasgow to restore my rightful access.

OPEN ACCESS

IOP PUBLISHING

Environ. Res. Lett. 8 (2013) 024024 (7pp)

The '97%' paper

ENVIRONMENTAL RESEARCH LETTERS

doi:10.1088/1748-9326/8/2/024024

Quantifying the consensus on anthropogenic global warming in the scientific literature

John Cook^{1,2,3}, Dana Nuccitelli^{2,4}, Sarah A Green⁵, Mark Richardson⁶,
Bärbel Winkler², Rob Painting², Robert Way⁷, Peter Jacobs⁸ and
Andrew Skuce^{2,9}

¹ Global Change Institute, University of Queensland, Australia

² Skeptical Science, Brisbane, Queensland, Australia

³ School of Psychology, University of Western Australia, Australia

⁴ Tetra Tech, Incorporated, McClellan, CA, USA

⁵ Department of Chemistry, Michigan Technological University, USA

⁶ Department of Meteorology, University of Reading, UK

⁷ Department of Geography, Memorial University of Newfoundland, Canada

⁸ Department of Environmental Science and Policy, George Mason University, USA

⁹ Salt Spring Consulting Ltd, Salt Spring Island, BC, Canada

E-mail: j.cook3@uq.edu.au

Received 18 January 2013

Accepted for publication 22 April 2013

Published 15 May 2013

Online at stacks.iop.org/ERL/8/024024

Abstract

We analyze the evolution of the scientific consensus on anthropogenic global warming (AGW) in the peer-reviewed scientific literature, examining 11 944 climate abstracts from 1991–2011 matching the topics 'global climate change' or 'global warming'. We find that 66.4% of abstracts expressed no position on AGW, 32.6% endorsed AGW, 0.7% rejected AGW and 0.3% were uncertain about the cause of global warming. Among abstracts expressing a position on AGW, 97.1% endorsed the consensus position that humans are causing global warming. In a second phase of this study, we invited authors to rate their own papers. Compared to abstract ratings, a smaller percentage of self-rated papers expressed no position on AGW (35.5%). Among self-rated papers expressing a position on AGW, 97.2% endorsed the consensus. For both abstract ratings and authors' self-ratings, the percentage of endorsements among papers expressing a position on AGW marginally increased over time. Our analysis indicates that the number of papers rejecting the consensus on AGW is a vanishingly small proportion of the published research.

**Afterword: Andy Skuce -
PhD student of Russell
and Smythe**

Afterword. Although my own research concentrates on the risk of groundwater contamination, the overarching reason why shale gas should not be developed is, of course, AGW. I am proud to say that Andy Skuce, whose idea it was for the '97%' paper, worked under me at the BGS in Edinburgh 1978–81, and started a part-time PhD supervised by myself and Mike Russell, then at Strathclyde (see slide 8). The paper has been downloaded 500,000 times, and quoted by President Obama.

Notes and references

Details of the abrupt termination of my rightful university access to the online academic database are supplied at:

<http://www.davidsmythe.org/professional/termination.html>

Links to the internal university emails quoted above may be found here.

My blog Frackland contains, *inter alia*, some pertinent comments about the expertise of Professor Paul Younger in the field of fracking:

<http://www.davidsmythe.org/frackland/>

I have written about several UK 'frackademics' in the following web page:

<http://www.davidsmythe.org/professional/insolence.html>

The history and background to the Nirex public planning inquiry is at:

<http://www.davidsmythe.org/nuclear/nuclear.htm>

The academic paper which led to my research access termination is:

Smythe, D. K. 2016. Hydraulic fracturing in thick shale basins: problems in identifying faults in the Bowland and Weald Basins, UK. *Solid Earth Discuss.*, doi:10.5194/se-2015-134

Solid Earth is an open-access publication of the European Geosciences Union. Papers appear first (after initial vetting) in the *Discussions* section, where anyone can make attributed comments. Referees' reports and editorial decisions are also published. This procedure is a big step towards transparency.

The crowdfunding page which I used to raise £10,000 is at:

<https://www.crowdjustice.org/case/at-glasgow-university/>

Recent press articles about the case include:

<https://www.desmog.uk/2016/08/01/exclusive-emails-reveal-university-glasgow-s-attempt-silence-emeritus-prof-smythe-over-his-views-fracking>

<http://www.spinwatch.org/index.php/issues/climate/item/5891-emails-reveal-glasgow-university-academics-close-links-to-fracking-industry>

A case study of funding of industry research into fracking has been published by:

Davies, R.J. and Herringshaw, L. G. 2015. How should fracking research be funded? *Research Ethics*, doi:10.1177/1747016115605871.

Here are a couple of quotations from this paper:

"ReFINE (Researching Fracking In Europe) is a research consortium led by Newcastle University and Durham University in the UK, focusing on the environmental impacts of shale gas and shale oil exploitation using fracking methods. ...

In June 2014, shortly after publication of the paper showing that a small percentage of boreholes drilled for fracking might leak, Total took what they referred to as a 'management decision' to withdraw from the consortium and funding it. No more information on the reasons for the withdrawal was provided; it is not known if it was linked to the publication of the well integrity paper."