Shaking up the social sciences: by Amanda Goodall (Cass Business School, City University, and Andrew Oswald (Department of Economics, University of Warwick).

A brave, intriguing and fiery op-ed article appeared last year in the New York Times. Written by Professor Nicholas Christakis, the article was highly critical of the way that modern social science is done. The title captured the spirit. "It's time to shake up the social sciences." His article spawned grumpy postings on blogs across the world.

Christakis visits the UK soon. In late October he will be giving public lectures at the University of Warwick and Cass Business School, and he will take part in a panel debate at the London School of Economics. That debate will be about whether he is right to want an almighty shaking of the world of social scientists.

Professor Nicholas Christakis is intrinsically unusual as a person and well-placed to judge. He is a medical doctor and a sociologist, and currently heads the Human Nature Laboratory at Yale University. Christakis is famous particularly for his work with James Fowler of the University of California in San Diego, which has promulgated the memorable idea that it is your friends who are making you fat (because you compare yourself with them, not because they take you out to great restaurants), and his lectures are typically characterised by complicated modelling of social networks and starkly beautiful graphical representations of nodes and linkages. Not many people in the world have his track record – one that includes lots of articles in scientific journals like Nature and Science, medical journals like the New England Journal of Medicine, as well as journals in fields such as sociology and economics. So he is an interesting man with an arresting CV. But does all this make him right? We are inclined to believe that broadly he is. Nevertheless, there are two sides to the issue.

The first thing to have in mind, as background, is the astonishing size of the social science literature. Few people appreciate this.

Take the refereed journals listed in the Thomson Reuters Web of Science database. For this sub-set only, and there are actually many academic publications that do not make it into this list, there are over 3000 social science journals. In the field of economics alone last year, in the journals classified as such in the Web of Science, approximately 20,000 articles were published. This implies that one new journal article on the subject of economics is published every 25 minutes. Every day -- including Christmas day, weekends, while you are sleeping, you name it. That is just in economics.

The iceberg-like enormity of the 'modern social sciences', therefore, means that it is going to be difficult to say anything coherent and truly general across them. Nobody walking the planet has read more than one per cent of the writings of modern social

science research. Most of us have not read 0.1 per cent. Such facts should give all of us -- whether we agree or disagree with Professor Christakis -- pause for modesty in our assertions.

But let us do our best and try to judge the state of the social sciences. One place to begin is with Nicholas Christakis's view on what he sees as the conservatism of social science. His New York Times article argues that in his working lifetime he has seen the traditional titles of science departments transmute into innovative departments of stem-cell biology, systems science, neurobiology and molecular biophysics. These changes, in his opinion, have first reflected and then in turn fostered interdisciplinary ways of thinking. He believes this is missing in today's social science departments:

"...the social sciences have stagnated. They offer essentially the same set of academic departments and disciplines that they have for nearly 100 years: sociology, economics, anthropology, psychology and political science. This is not only boring but also counterproductive, constraining engagement with the scientific cutting edge...".

This is an interesting and sharp claim. He is right, surely, when he describes the mostly unchanging names attached to social science departments. According to a search we did on their websites, most UK universities do have awfully traditionally departmental structures. Our own universities certainly have no departments of neuroeconomics, socio-biology, virtual experimental politics, or behavioural geography.

Yet is that a problem? Descriptors do not matter much in themselves. The truly serious issue, and here we think Christakis is on the right track, would be whether the immovable department titles of social science are a worrying signal of immovability of thought. We suspect that in the UK there is immovability of that kind. That is sad. One of us did a bachelors degree in economics in the 1970s and is conscious that undergraduate economics is not very different in its content today. This is despite some efforts to change the curriculum following the financial crisis by economists like Wendy Carlin from University College London. One of us did a social policy degree in the 1990s and is conscious that it contained nothing about the natural sciences.

Today's undergraduate students in UK universities on social science courses are, we believe, given essentially no teaching about modern brain science, the geophysics of climate change, the hormone cortisol, the biology of skin resistance, the genetic polymorphism 5-HTTLPR, the life-cycle happiness of great apes, the physiological effects of oxytocin, the nature of herd behaviour in zebrafish, and so on. Yet students would be fascinated by these things. More importantly, those things would be a vital adjunct to students' knowledge of social scientific issues. If you do not believe us, type these kinds of words into Google and see how they matter in modern social science research.

That makes one ask: will sheer waiting solve the problem?

Maybe any Christakis-like criticisms are jumping the gun, and merely to be expected from a researcher who is impatient with even the frontier work of social science and not just the bedrock stuff of conventional social science courses in universities. Maybe. It is hard to know.

An important recent contribution that assesses the impact of the social sciences on public policymaking, business, the third sector and the economy, is the work of Patrick Dunleavy and his colleagues in the LSE's department of government, Simon Bastow and Jane Tinkler. In their 2014 book, *The Impact of the Social Sciences: How Academics and Their Research Make a Difference*, the authors argue against the simple dichotomy of social versus physical sciences. Instead they prefer to think in terms of three categories of disciplines: those concerned with human-dominated systems, human-influenced systems and almost completely natural systems. Dunleavy thinks the social sciences are increasingly important in the study of human-influenced systems such as the planet's climate" (THE, January 9, 2014). He and his colleagues argue that we need substantially greater interaction and integration between STEM subjects and the social sciences. We agree, and so would Christakis.

Climate change is an obvious social science concern, one where the difficulty for Planet Earth is that, as individuals, people will not alter their carbon-consuming ways. This is ultimately a social problem. We feel that the social sciences can learn something from the way the natural sciences are organized.

First, what principally matters, of course, is whether social scientists are doing their job of helping humans to understand the world and improve life. Our instinct is that too much of social science is focused on minor issues. Yet there is worrying evidence (Goodall, Journal of Management Inquiry, 2008) that some of the major social science journals may be letting down humanity. Bibliometric data show that prior to 2008 most of the elite social science journals in economics, business studies, political science and sociology eschewed articles on global warming. There has been some improvement over the last few years, certainly in business and management journals, but, as a stark example, on an electronic search the highest-impact political science journal, the American Political Science Review, has not published a single article on climate change or global warming. And the American Sociological Review has published only one. This seems extraordinary.

The empirical study of climate change by social scientists has appeared mostly in specialist journals, such as Energy Policy and Ecological Economics, and, sad to say, these journals are often viewed as less prestigious, so that younger generations of social science scholars are subconsciously put off working on a vital topic. Contrast that with the hard sciences. The highest impact-factor journals such as

Science have published some of the pioneering research on rising carbon emissions and the melting of glaciers.

It is not easy to understand why topics like climate change would attract comparatively little interest from social scientists. Optimists will be able to point to some research, like that by William Nordhaus, Andrew Hoffman, Richard Tol and Gareth Harrison. But when weighed against the size of the problem for the human race, why, looking at just UK universities as an example, do this country's most famous departments of sociology, economics and political science have so few academics who do research on climate change? If you do not believe us, go and scan the websites of staff members at the universities with the highest scores in the last Research Assessment Exercise. It is chastening.

Second, and in a related vein, the journal system in the social sciences worries us a lot. This is not because we reckon that journals in natural sciences are flawless or that journal referees will ever be perfectible. What is noticeable, however, is the puzzling length of so many articles in social science journals. If journals like Nature and Science can insist their contributors to keep it down to a few pages, why on earth do social science journals allow authors to rabbit on and on? The most recent issue of the American Sociological Review has an article called Changing Work and Work-Family Conflict. It is 27 pages long. The most recent issue of Administrative Science Quarterly has an article called The Price You Pay: Price-setting as a Response to Norm Violations in the Market for Champagne Grapes. It is nearly 40 pages long. In the most recent issue of the Quarterly Journal of Economics, the average article length is 48 pages. That is almost double the length that QJE articles were in the 1970s.

At best, this is inefficient. Online appendices can now take all the detail of life in a way that was impossible for journals fifty years ago. At worst, our darker hunch is that the long length of articles in so many elite social science journals is little to do with the quality of research ideas. It is fashion. Worse, it is fashion that is driven in part by the conscious or unconscious desire by editors and referees to restrict the supply of articles in elite journals. Hence it is fashion and monopoly power – an especially unattractive combination. When, as in many social sciences, youngish researchers publish only tiny numbers of journal articles per decade, and the exact names of the journals in which they publish make all the difference to their promotion prospects, our concern would be that researchers would be especially prone to follow the herd and work on safe ideas that referees will find conventional.

Perhaps this would be improved by one type of shake-up. We could have a switch in social science journals to the model used in a number of important science journals. Journals like Nature and Science have full-time editors who are scientists but not regular academics. Conceivably that helps such journals, for all their imperfections, and we are genuinely cognizant of those, to promote disinterested science and

somewhat to resist fashion and monopoly power. Something strange has apparently been happening, anyway, at a number of elite social science journals.

Third, business schools seem to do a reasonable job of bringing different disciplines together under one roof. Many management journals, too, attempt inter-disciplinarity, even if they do not always succeed. More probably has to be done, however, just to get political science to speak to a discipline like psychology let alone to the bio-sciences. If we are not careful, the global expansion in the number of social scientists and scientists will lead to greater polarisation and deeper silos. A bit of shaking is probably in order.

These issues will be discussed further at a public debate: 'Do we need to shake up the social sciences?' jointly organised by the Department of Economics, University of Warwick and the Forum for European Philosophy at LSE on Tuesday 21 October, 6.30 – 8pm. Panellists include: Nicholas Christakis, Patrick Dunleavy, Amanda Goodall, and Andrew Oswald, and in the chair Siobhan Benita. Nicholas Christakis is presenting his research in public lectures at the University of Warwick, 6pm 22 October, and at Cass Business School, City University, 6 pm 23 October.