

## From the Director

For the recent College Away Day I reviewed the ASC and its outputs over the last 5 years. The results are impressive. We have run or organised over 130 lectures, seminars and workshops. Some of the most important have been video or audio recorded. These are archived on our website. A measure of academic output is publication data. There have been 29 refereed journal or book articles published stemming directly from Keble ASC research cluster work in the last 3 years. Interestingly, more than half of these are a direct result of on-going collaborations developed through research visitors, seminars and workshops. In the Networks cluster, for instance, 100% of their papers ( $n=8$ ) were produced as a direct result of ASC visitor collaborations. This demonstrates the considerable merit and utility in the visitor programmes being run in the College and the degree to which they inspire collaborative research.

Our ASC website has seen over 12,000 page views this past year with more than 3000 users; a significant rise on previous years. The site contains a range of media, including videos of lectures, interviews with research visitors, updates on cluster activities, advertisements for lectures and seminars, and general research news.

One of the areas we are interested in



focusing on over the next year is news about individual research in the College. Much of what we have done in the past has been built around our research clusters, perhaps to the detriment of scholars whose work is more independent. I would love to hear from anyone who would like to share their research with a wider College audience.

As many will be aware the ASC runs an Annual Lecture. I would welcome suggestions from members of the College as to who we should invite this year. A year ago we welcomed Prof. Jared Diamond to Oxford in this capacity. I hope that for 2017/18 we can find someone of an equal international and academic stature.

Best wishes for the new term, and see you at some of our upcoming events!

## News

# Early Career Researcher award to Dr Lucy Kaufman

Congratulations to Dr Lucy Kaufman, Keble Career Development Fellow in Renaissance History and ASC Medieval and Renaissance Cluster former coordinator, for being recently awarded an Early Career Researcher Award for her public engagement.

Lucy's work focusses on the social, religious and political history of early modern Britain, particularly during the 16<sup>th</sup> century English reformation. For the last year she has been working with the National Trust on the multi-million pound renovation of The Vyne – a former Tudor mansion located near Basingstoke in Hampshire that was built for Lord William Sandys, King Henry VIII's Lord Chamberlain.

For this project, Lucy explored the Royal Progress of Henry VIII's religious reforms in the summer of 1535 and his visit to Lord Chamberlain at The Vyne. Together with curators, heritage professionals and an interdisciplinary team of scholars, Lucy enthusiastically transformed the Vyne's ground floor into a creative exposition of the Tudor mansion's rich history. The team recreated the look, smell and sound of its chapel -as it would probably have been during the Lady Mass that took place at the time of King Henry's visit in 1535. The aim was to immerse visitors in the history of the period. Take a look at it [here](#).



*Dr Lucy Kaufman (above) and Chapel at The Vyne. Images: National Trust*

The exhibition was extremely popular. In addition to the estimated 180,000 visitors to the exhibition so far, Lucy also engaged with over a million readers and listeners through talks, articles, and interviews at The Vyne, radio and television media. Likewise, she has encouraged further academic collaborations and public engagement through talks for the National Trust's leadership and The Oxford Research Centre for the Humanities, TORCH.

Further information about Lucy's work can be read in our previously published ASC Newsletter Michaelmas 2015 available to download [here](#).

## News

# Q&A: Lucy Kaufman on The Vyne Project

### *1) How did you get involved with the The Vyne project?*

I got involved at the Vyne through a TORCH (The Oxford Research Centre in the Humanities) project headed by Dr Oliver Cox, their Heritage Engagement Fellow. I just answered an email and went to a meeting, and it developed from there. The project has been eye-opening and I've really enjoyed it. I've had a chance to work with people in all aspects of public history, from the designers of the exhibit to curators to house managers to the media liaisons.

I've been interviewed for [BBC TV and BBC Radio](#), and I've also had the opportunity to work with a variety of print press. This has been great, not just for my career, but also to help bring people to see this wonderful project.



Lucy Kaufman (right) with Liz Evenden (Brunel University).

In addition I've also been working to try to expand the partnership between Oxford and the National Trust (and heritage/university engagement more generally). I've met with the Trustees of the National Trust to talk about the ways in which the universities can add to their mission, and I know Oliver Cox has been talking with the various departments in Oxford using this project as an example. I've also given a talk to the current DPhil students about my work and how their own research can do something similar.

### *2) Do you consider your participation here as part of your research or is it more of a personal interest?*

My participation is absolutely part of my research. I think it's crucial that historians reach out to the general public and sustain the interest in history more broadly. One of the best parts of my involvement have been a series of public lectures that I gave at the Vyne that allowed me the chance to explain more of my research into Tudor social and religious history to a wide audience.

### *3) How did you hear about your award?*

I applied for the award at the advice of Oli Cox. I didn't have any expectation of winning but heard by email in early May--and I was really delighted. The other projects that won were so worthy--from working on the ground to stop lion poaching to recreating the lost treasures of Syria--and I was genuinely humbled to be included in their midst.

# News

## Complexity Cluster Publications

The Complexity Cluster is pleased to announce that the following cluster's publications acknowledge the support of the ASC.

**Gui-Qiang Chen, Apala Majumdar, Dehua Wang, Rongfang Zhang (2017) "Global existence and regularity solutions for active liquid crystals". *Journal of Differential Equations*, 2263 (1), 202-239.**

**Abstract:** We study the hydrodynamics of active liquid crystals in the Beris–Edwards hydrodynamic framework with the Landau–de Gennes  $Q$ -tensor order parameter to describe liquid crystalline ordering. The existence of global weak solutions in two and three spatial dimensions is established. In the two-dimensional case, by the Littlewood–Paley decomposition, the higher regularity of the weak solutions and the weak-strong uniqueness are also obtained. Find access to the article [here](#).



**M. Crespo, A. Majumdar, A.M. Ramos, I.M. Griffiths (2017) "Solution landscapes in nematic microfluidics". *Physica D: Nonlinear Phenomena*, 351-352, 1-13.**

**Abstract:** We study the static equilibria of a simplified Leslie–Ericksen model for a unidirectional uniaxial nematic flow in a prototype microfluidic channel, as a function of the pressure gradient  $GG$  and inverse anchoring strength,  $BB$ . We numerically find multiple static equilibria for admissible pairs  $(G,B)(G,B)$  and classify them according to their winding numbers and stability. The case  $G=0, B=0$  is analytically tractable and we numerically study how the solution landscape is transformed as  $GG$  increases. We study the one-dimensional dynamical model, the sensitivity of the dynamic solutions to initial conditions and the rate of change of  $GG$  and  $BB$ . We provide a physically interesting example of how the time delay between the applications of  $GG$  and  $BB$  can determine the selection of the final steady state. Find access to the article [here](#).

Visit our [website](#) to find all ASC publications

# News

## Complexity Cluster Grant Success

The Complexity cluster has recently formed a new interdisciplinary network on the mathematical modelling of juvenile crime in Barbados and general mathematical modelling of social phenomena. Here we list awarded grants related to this new network. The Keble ASC has hosted, and will continue to host, events related to these grants in the near future.

### GRANTS

**[1]** Knowledge Exchange Seed Fund grant for "*Reforming Juvenile Justice*". Principal Investigator: Prof. Martin (Experimental Psychology) and Visiting Academic: Dr Florence Seemungal. Complexity Cluster Members: Dr Apala Majumdar, Prof. Gui-Qiang Chen, Dr Ann Dowker.



*Dr Apala Majumdar, Dr Florence Seemungal,  
Prof. Gui-Qiang Chen and Dr Ann Dowker*

**[2]** ESRC Impact Acceleration Account Knowledge Exchange Dialogue Grant: to fund Dialogue Event with the GIS (Government Information Service, Barbados) at Keble College on 19th January 2017.



*Prof. Alison Denham, Tulane University*

### AFFILIATED GRANTS

**[1]** The Carol Lavin Bernick Foundation, Tulane University.

Principal Investigator: Prof. Alison Denham (Tulane University and Senior Research Fellow, University of Oxford) and Prof. Burnston



## *Reports on activities: Creativity Cluster*

### **Prof. Ian Hodder lecture: 'Why is human evolution directional?'**

Professor Ian Hodder of Stanford University gave a talk in May sponsored by the Creativity cluster on directionality in human evolution. Prof. Hodder was a Senior Research Visitor at Keble for the term. His talk focused on the relationships between humans and objects, and the interactions between them, so-called 'entanglement theory'.

Over the long duration of human history and prehistory, Hodder noticed a tendency for things to become more complex using several examples. From Neolithic times humans have used spindle whorls to make wool, this led on almost inexorably to the spinning jenny of the Industrial age, powered by steam, and latterly to the employment of millions in the cotton industry producing garments in a globalized world. Hodder sees this progression not as linear but as the result of a complex pattern of interactions within what he terms a 'web of dependencies', in which things are influenced by other variables that are often very distant from them. As an archaeologist, Hodder often feels more comfortable talking about ancient technologies and these provide a reference point for examining the role of

objects within human societies. At the key site of Çatalhöyük (Turkey) which Hodder excavates, he sees the development of pots, for example, coming from several already used things; food, fired clay, water, fire, hearths. Wagon wheels were made possible by roads, cattle, wood, working tools etc., so within this entanglement of objects and within the complex relationships that exist between them and humans, cultural evolution takes place. Entanglements draw humans down specific pathways that have a long-term general directionality.

**This lecture was recorded. Watch it [here](#).**



Ian Hodder is the Dunlevie Family Professor in the Department of Anthropology, Stanford University. He has been excavating at the 9,000 year-old Neolithic site of Çatalhöyük in central Turkey since 2003. Among his publications are: *Symbols in Action* (Cambridge 1982), *Reading the Past* (Cambridge 1986), *The Domestication of Europe* (Oxford 1990), *The Archaeological Process* (Oxford 1999), *Çatalhöyük: The Leopard's Tale* (Thames and Hudson 2006).

## *Reports on activities: Creativity Cluster*

### **Semiotic resources and affordances in social interaction –Report on the Creativity Cluster Lecture by Professor Shaun Gallagher (University of Memphis)**

Professor Gallagher is a renowned contemporary philosopher whose research focuses on the area of cognitive science. In his ASC Creativity Cluster talk, he spoke about aspects of social cognition. He began with a fascinating discussion of people's reactions to 'first encounters' giving as an example what happened when a platypus was shipped to Britain from Australia in 1799. He reported that many people thought that it was a joke, that the animal had somehow been constructed or created by sewing together different parts of other animals. The discussion of the epistemological implications of this story

about the platypus can be drawn from the work of Umberto Eco, who suggests that the works of Kant and Peirce are inadequate to explain our initial perception of something new and unexpected. Prof. Gallagher argued that first encounters of this kind are an embodied account of cognition which takes into consideration what our senses perceive. He explored other aspects of this by exploring the interactions between adults and newborn children and the environmental influences on social and behavioural interactions. Read the full report [here](#).

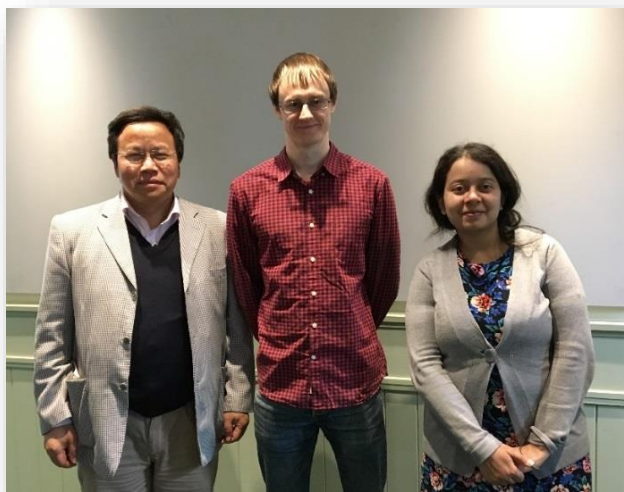


Prof. Shaun Gallagher (left) with Creativity Cluster leader Dr. Lambros Malafouris.

Shaun Gallagher is the Lillian and Morrie Moss Chair of Excellence in Philosophy at the University of Memphis (2011- ). He holds a secondary appointment as Professorial Fellow on the Faculty of Law, Humanities and the Arts, at the University of Wollongong (Australia). He is the recipient of the Humboldt Foundation's first Anneliese Maier Research Award (2012-2018). He is also a founding editor, and continues as a co-editor-in-chief of *Phenomenology and the Cognitive Sciences*, an interdisciplinary journal published by Springer (Google Metrics). His research interests include phenomenology and the philosophy of mind, philosophical psychology, embodiment, intersubjectivity, hermeneutics, and the philosophy of time.

## Reports on activities: Complexity Cluster

### Estimation in the face of noise and uncertainty – Report on the Complexity Cluster talk by Andrew Allan (Mathematical Institute, Oxford)



Dr Andrew Allan (middle) with Complexity Cluster leaders Prof. Gui-Qiang Chen and Dr Apala Majumdar.

In many applications one is interested in the behaviour of a process which cannot be observed directly, and must therefore rely on only partial observations in the presence of noise. The field of *stochastic filtering* is concerned with the problem of using a mathematical model to infer from such partial observations the best estimate for the current value of the partially hidden process. Upon running a *filter*, we obtain the probability distribution which, given our observations up to the current time, best represents our opinion of the current position of the hidden process.

In a typical filtering problem the underlying model will involve various parameters so, naturally, in order to run the filter one must first estimate the values of these parameters. In standard treatments of stochastic filtering one simply runs the filter using an estimate of the parameters. However, as Andrew Allan pointed out in his talk, this does not take into account the statistical uncertainty introduced by adopting this estimate. In other words, typical applications of filtering use an estimate for the values of the parameters, but they do not take into consideration the reliability of this estimate. Particularly when there is limited available data, resulting in a lack of precision in the estimate, this should cast doubt as to the accuracy of the filter.

The objective of Andrew's work is to propose a way to take this additional source of uncertainty into account in a meaningful way, by quantifying our confidence in the accuracy of the filter. His talk included various examples of filtering problems, and he briefly described his approach to incorporate parameter uncertainty in stochastic filtering.

## Reports on activities: Networks Cluster

### Identifying networks with common organizational principles –Report on a talk by Dr Anatol Wegner.

This term's Networks Cluster talk entitled ***Identifying networks with common organizational principles*** was delivered by Dr Anatol Wegner (UCL) who presented a new methodology for the study of networks.



Networks can be defined as a group of items that are connected in a systematic way. These could be anything from people to complex structures such as proteins interactions in a cell. The aim of the study of networks (Network science) is to find patterns in a network that relate to its functions. Many complex systems can be represented and studied as networks. Network comparison has become increasingly relevant today with social networks and technology development. There are many techniques for comparing networks but the it remains challenging to robustly group networks that are of a different size and density, but are hypothesized to have a similar structure. So a task is to find “signatures of generation mechanisms” which can be used for clustering networks.

Anatol and his co-workers respond to this problem with a new network-comparison methodology called NetEmd. This is used to identify networks with common organizational principles by comparing the distributions of local network features (here mainly subgraph distributions) and defining a measure between them, a method that looks at the shape but not the size of a network. Throughout his talk, Anatol compared his NetEmd solution with various other methods (e.g. Graphlet Correlation Distance, GDDA and Netdis) currently used in a broad range of research areas, from the functional classification of chemical compounds to tracking the evolution of the Internet, to show that this new methodology is simple and successfully applicable in a wide variety of settings.

# Reports on activities: Complexity Cluster

## Seminar on Juvenile Justice

In July 2017, the Complexity Cluster hosted a seminar on Juvenile Justice. Three short talks were delivered by Dr Florence Seemungal (Department of Experimental Psychology, Oxford), Dr Ann Dowker (Department of Experimental Psychology, Oxford) and Atreyi Majumdar (Retired Associate Professor; University of Delhi, India).



*From left: Dr Florence Seemungal, Prof. Atreyi Majumdar, Dr Apala Majumdar and Dr Ann Dowker (second from right).*

Florence Seemungal's current work is linked to the activities of the Oxford-Tulane Developmental Justice network which is assisting Barbadian authorities to develop an operational model for juvenile reform. Part of understanding the needs of juveniles (11-17 years) in state detention for crimes ranging from wandering, theft and some serious offences was based on assessing the mental health needs of these youths. Screening of these young persons for their levels of post-traumatic stress disorder (PTSD), anxiety disorders, depression, narcissism and callousness revealed a trend towards co-morbidity; that is, offenders who displayed the symptom of one form of mental illness also showed high levels of another. Offenders who experienced PTSD, for instance, also experienced an anxiety disorder. Analysis of these patterns is ongoing.



*Florence Seemungal delivering her talk.*

Rehabilitating these offenders is linked to providing mental health support during and after detention. In order to offer targeted long-term follow up support and resources to those most in need, a recidivist risk assessment calculation must be made. A multi-disciplinary approach is needed to provide a reliable risk estimation, including mathematical modelling of psycho-social data.

...Continued

## Reports on activities: Complexity Cluster

... Continued

Ann Dowker, a developmental psychologist with a particular interest in early mathematical development and disabilities in children, talked about difficulties in attaining literacy and numeracy and how these may contribute to a pattern of offending. Ann combined her interest in literacy and numeracy with previous research on offending and re-offending. She revealed that one-fifth of the British population has severe difficulty with numeracy and that this affects everyday activities. This portion of the population also had low employment levels and an increased likelihood of criminal offending. Ann also pointed out that low literacy is very common amongst convicted offenders when compared to the British population as a whole. Astonishingly, the literacy level of 48% of young and adult offenders is below than that expected for an average 11 year-old child. Ann mentioned that basic skill deficits, and other factors often associated with low socioeconomic status, family instability, emotional and difficulties, are frequently found in offenders. According to Devitt (2011) young people who are not in education, employment or training are 20 times more likely to be convicted of a crime. Ann also discussed briefly literary and numeracy interventions to help improve the levels in both young and adult offender inmates, as well as the importance of carrying out further research to investigate: 1) the impact of interventions on young and adult offenders, 2) cultural differences in literacy and numeracy deficits and 3) the extent to which interventions are likely to be universally applicable versus culture-specific.



*Ann Dowker delivering her talk.*

Finally, Prof. Majumdar, an expert in economics and geography, talked about migration, culture and crime. She explained that migration involves ethnic differences, economic disadvantages, mobility, acute inequality, heterogeneous racial ethnicity and that migrants are very often at a social and economic disadvantage that can lead to crime and street-oriented group formation with peers in similar situations (i.e. gang formation). She pointed out that there is a tendency in criminality in 2<sup>nd</sup>-3<sup>rd</sup>-4<sup>th</sup> generation migrants from disadvantaged socio-economic backgrounds, stemming from the inequalities and instabilities they experience. She also talked about immigrant integration and concluded that having a negative migration policy does not remove migrants from society but promotes an isolationist environment in which migrant crime is more likely to take place.

## ASC Research Visitors

### Public Service Ethics and Corruption in the 19<sup>th</sup> century

*Report by Dr Ian Cawood, Reader in Modern  
History, Newman University, Birmingham*



In Hilary Term 2017 I was fortunate enough to enjoy a Visiting Research Associateship at the Centre for Victorian Political Culture, based at Keble. Thanks to the sponsorship of Professor Angus Hawkins and the support of Dr Ian Archer and Dr Alisdair Rogers, I was able to enjoy the facilities of the Senior Common Room, which nourished me on the cold January and February days and where I was able to consider whether or not Nikolas Pevsner was right to call the wallpaper 'a decidedly ladies' paper'. I also spent much time in Butterfield's library, opened by William Gladstone in April 1878, exploring the political, cultural and social history collection, before venturing out to the less inviting setting of the Gladstone Link beneath the Radcliffe Camera.

Writing of Gladstone leads me onto the work I have been pursuing this Term. Gladstone famously pronounced himself an enemy of privilege and in favour of greater equality of opportunity. In his recent magisterial volume on *Victorian Political Culture* Angus Hawkins notes that the traditional view of a 'liberal advance' in mid-nineteenth century Britain includes 'the replacement of patronage by a more meritocratic public ethos', such as Gladstone espoused, in the administrative bodies of Victorian Britain. Recently, much

work has been done on the growth of ethical values and professional self-denial in the higher civil service, particularly by Rodney Lowe and Barry O'Toole, but much of the process whereby this ethos became embedded throughout the civic realm remains largely uninvestigated.

My research project looks more specifically at the ways in which a culture of patronage, 'jobbery', peculation and the misuse of public office was replaced by what Frank Carr terms 'an intangible set of values' and John Girling calls 'the pursuit of virtue'; a collective, institutional sense of altruism and personal self-denial that has proved remarkably tenacious in the character of British civic culture, at least until the 1980s. This was already well established in 19th century Prussia, where the bureaucracy had developed a reputation for honest, efficient government, before it became somewhat distorted by the ambitious national and personal ambitions of Bismarck.

Read his full report [here](#).

A. Hawkins (Oxford: Oxford University Press, 2015) R.Lowe (London: Routledge, 2011) B.J. O'Toole (London, Routledge, 2006) F. Carr, *Public Policy and Administration* (1999) J. Girling (London: Routledge, 1997) R. Neild (London: Anthem, 2002).

## Coming events: Relics Cluster and Alfred the Great

Check our website [here](#) for updates about events and to see the range of exciting and innovative research being undertaken here at Keble.

Photo: University of Winchester



### The Search for Alfred the Great

8 November, 5pm Pusey Room

A Relics Cluster talk by Katie Tucker, Visiting Fellow in Osteoarchaeology (MHARP) at University of Winchester and Research Fellow in Human Osteology, Deutsches Archäologisches Institut in Berlin. All are welcome.

The talk will detail the archaeological, osteological and historical detective work involved in the search for the remains of King Alfred, a collaboration between the University of Winchester and Hyde 900. The project was the focus of a BBC2 documentary in January 2014 and features in the book *"The Search for Alfred the Great: The King, The Grave, The Legend"*, co-authored by Katie Tucker with Edoardo Albert. The talk will include many details that do not feature in the documentary or the book.

### The discovery of Queen Eadgyth

22 November, 5pm Pusey Room

A Relics Cluster talk by Prof. Harald Meller, Director of the State Office of Heritage Management and Archaeology (State Museum of Prehistory), Halle (Saale), Germany. Eadgyth was the grand-daughter of Alfred the Great and scientists succeeded in positively identifying her remains in Magdeburg in 2010. All are welcome.



Photo: State Office of Heritage Management and Archaeology of Saxony-Anhalt, Juraj Liptak.

Follow us at [www.keble-asc.com](http://www.keble-asc.com) and on Twitter