GRADUATE RESEARCH SEMINARS 2016-17

20 October 2016: Charlie Northrop (PhD in Classics) “Archetypal Characterisation in Ovid’s Metamorphoses: a study in the process of writing myths” ......................................................... 2

31 October 2016: Elena Loche (PhD in Biochemistry): “TBC” ................................................................. 2

17 November: Johana Syrjanen (PhD in Biochemistry): “Structural studies on the lateral element of the meiosis specific synaptonemal complex” ........................................3 Error! Bookmark not defined.

28 November 2016: Sebastian Steingass (PhD in Politics) 'What does Brexit have to do with international development?’ .................................................................................................................. 3

2 February 2017: Dr Milan Pajic (JRF in English) “The Migration of Flemish Weavers to England in the 14th Century: The Economic Influence and Transfer of Skills 1351-1381” ......................... 4

13 February: Jamie Trace (PhD in History): “Giovanni Botero and English Political Thought” .......... 4

2 March: Danilo Cardim (PhD in Neuroscience): “Pressures and the Brain: the Challenges of Non-invasive Monitoring in Clinical Neurosciences” .......................................................................................... 5

13 March 2017: Samuel Niblett (PhD in Chemistry) “Energy Landscapes in Atomic and Molecular Science: Theory and Practice” ........................................................................................................... 5

8 May 2017: Naim Bro (PhD in Sociology): War and State-Building in Chile and Peru... ....6

18 May 2017: Emily Hallinan (PhD in Archaeology): Variation and modernity in Middle Stone Age landscape-use behaviour in the Tankwa Karoo (Northern Cape, South Africa) ...6

Alternating between Monday lunchtimes and Thursday evenings, the graduate research seminar provides an opportunity for our graduate students and research fellows to discuss their work before an astute and very friendly audience. Because this mixed audience includes not only expert insiders, but also intelligent and interested outsiders, this is also an opportunity for speakers to hone their communicative skills, and for the rest of us to be exposed to unfamiliar problems, methodologies and theories.

The Monday seminars are held in the SCR where a free buffet lunch is available starting at 12.45pm and seminars start at 1pm and last about 30 minutes. A further 15 minutes lively discussion takes place after the talk, with seminars concluding at 1.45pm.

Thursday evening seminars are held in the Ramsden room with light refreshment available from 6.15pm. Seminars start at 6.30pm and last about 30 minutes. A further 15 minutes lively discussion takes place after the talk, with seminars concluding at 7.15pm, just before Formal Hall.
2016/17 Seminar Series

Details of the seminars to be given during the 2016-17 academic year are given below.

Michaelmas Term 2016

Thursday 20 October, Charlotte Northrop (PhD in Classics): “Archetypal Characterisation in Ovid's Metamorphoses: a study in the process of writing myths”

Abstract: Ovid’s Metamorphoses, published at Rome around 8 AD under the reign of Augustus, is a 15 book long, epic history of the cosmos, told through a series of stories in which things turn into other things. Its structure consists of an anthology of short mythological episodes, with few recurring characters, leading from the creation of the universe to the poet’s own day under Rome’s first emperor. The structure makes the poem difficult to analyse in terms of character, and most studies to date have focused on individual characters in isolated episodes. My work looks at repeating character-types - “archetypes” - which Ovid appears to use to generate a sense of unity and progression across his disparate narratives. I look backwards towards Ovid’s literary sources, and argue that Ovid purposefully adapted patterns from the mythological tradition into repeating character types, which link episodes across the long poem, and provide a sense of narrative progression. Thus, I hope to expose one of Ovid’s authorial strategies, and expand on our knowledge of the ways ancient mythologists read and wrote within a narratorial tradition stretching back into pre-history. In this talk, I will present two of my case studies, the archetypes of the Hero and the Blasphemer. These are, respectively, the murkiest and clearest examples of character archetypes, and will help show the broad range of possibilities for characterisation in this complicated, sometimes-baffling, yet beautiful and transfixing poem.

Monday 31 October, Elena Loche (PhD in Biochemistry): “Eating for two during pregnancy: consequences for offspring’s health”

Obesity is a health problem of pandemic proportion, which arises from an imbalance between energy intake and energy expenditure. The prevalence of obesity is dramatic, with a third of the global adult population being reported obese or overweight in 2011. Once considered only a problem of high-income countries, obesity is now a major threat in urban areas of developing countries. Obese individuals are more prone to develop a wide range of morbidities and have a higher risk of deaths compared to healthy people.

Recent statistics have highlighted that 50% of women of childbearing age are overweight or obese in the UK, with a similar pattern in other countries. This is of particular concern as being obese during pregnancy has been shown to be detrimental not just to the mother’s health but also impacts on the baby. This has been termed “developmental programming”, and suggests that development in an in utero obesogenic environment “programs” an increased risk of obesity and cardiovascular disease in the offspring, such as high blood pressure and heart failure in the long term.
During my PhD, using a combined approach of physiology and molecular biology, I looked at the consequences of maternal diet-induced obesity in adult offspring. My results show that an unhealthy diet during pregnancy poses an increased risk of cardiovascular diseases in the offspring, independently of offspring eating a low-fat diet throughout their life. Improving our knowledge on the detrimental effects of obesity during pregnancy is urgently needed in order to design effective intervention strategies for the mother and the baby.

Thursday 17 November: Johanna Syrjanen (PhD in Biochemistry) “Structural studies on the lateral element of the meiosis specific synaptonemal complex”

Abstract: The process of meiosis is composed of one round of DNA replication followed by two rounds of cell division. Through a smorgasbord of intricately regulated dynamic molecular mechanisms, meiosis ensures the division of a diploid cell to form four haploid germ cells, leading to the eventual development of sperm and egg cells. Meiosis also facilitates the shuffling of genetic material, thus ensuring the generation of genetic diversity through generations of sexually reproducing organisms.

The first stage of meiosis, meiotic prophase I, is characterised by the dynamic reorganisation of the chromosome axis into a form conducive to alignment, synopsis, recombination and crossover formation. These events occur within the context of the synaptonemal complex (SC), a transiently formed zipper-like structure that uniquely assembles in prophase I of meiotic cell division and functions as the glue holding homologous chromosomes together.

Although the SC is required for fertility, we know very little of its molecular architecture or the molecular mechanisms that guide its timely assembly, function and disassembly. My PhD focussed on studying two key protein components of the SC. This talk discusses the molecular characterisation of one of these components and its possible role in human fertility.

Monday 28 November: Sebastian Steingass (PhD in Politics): “What does Brexit have to do with international development?”

Abstract: How are policies made when you are 28+ people in a room in Brussels, lobbyists wait outside, your political masters dread voters back home, and other government departments watch you suspiciously? Even more so, how do you agree on common guidelines for how policies should be made in the future? The 'guidelines' examined for this project are about how to make foreign aid and development cooperation with non-EU countries more effective. Development cooperation in the so-called 'Global South' has been part of the European project from the very beginning. Whether for better or worse, the EU – its member states and institutions – have contributed to international development with financial assistance, trade agreements and standards of behaviour. What guides these policies has not been created at once but in a process, in which EU member states and institutions like the European Commission have agreed on specific, usually non-binding sets of policies. That these non-binding, often inconclusive guidelines nevertheless exist and how they are made, tells us a lot about when EU member states decide to create, strengthen or change their ties with EU institutions and with each other. It also tells us when knowledge and communication matter – and how the UK could make a difference in European integration.
LENT TERM 2017

Thursday 2 February: Dr Milan Pajic (JRF in English): "The Migration of Flemish Weavers to England in the Fourteenth Century: The Economic Influence and Transfer of Skills 1351-1381"

Throughout the first half of the fourteenth century, Edward III issued several letters of protection encouraging Flemish textile workers to establish their trade in England. The patent letter of general protection for foreign cloth-workers was promulgated in 1337. However, the expected wave of immigration would take place only a bit later on, as an influx of immigrants did not immediately follow its promulgation. My research has shown that during the 1350s, around 1000 people from the Low Countries crossed the channel and settled in England. Most of these immigrants were Flemish weavers who had been exiled from their home country for their involvement in an armed rebellion against their prince. Favourable economic conditions and lack of workforce in England caused by the Black Death opened the door for a lot of Flemings to go to England on a voluntary basis as well. Flemish exiles settled both in the old and newly established textile centres. From 1351 onwards, there is repeated mention of the Flemings in the sources available in London, Great Yarmouth and York. The newcomers also made an intensive use of Colchester tribunals, its borough courts in particular. The most numerous were the ones to settle in London, of course, as a major trade and administrative centre it was characterized by better employment opportunity. Very quickly after their arrival, they became organized group and were granted the right to have their own guild and act independently from the London weavers’ guild. As is clearly illustrated in the primary sources, one notes that they are in direct economic contact with the natives, with contact ranging from litigation for debt or breach of contract, to employment of servants and bringing large quantities of wool and cloth to the aulnager and customs officials. This paper will explore the professional identity of these exiles and what was the economic influence of the migrant community which was forced to leave their own country, on English textile industry, based on the combined research from English and Continental primary sources.

Monday 13 February: Jamie Trace (PhD in History): “Giovanni Botero and English Political Thought”

Giovanni Botero was a popular and influential author in early modern Europe. His works were translated into numerous languages and saw several editions. Perhaps now best known for his work on the politics of reason of state, he was also known in the 16th and 17th Centuries as a writer on geography, demographics, climate, and commerce. Despite his popularity in Continental Europe, his reception in England and his subsequent impact on English writers has not been fully understood. This paper, therefore, looks to give an overview of my PhD thesis – exploring the interesting ways in which Botero was translated into English and determine the various ways he was being read.
Thursday 2 March: Danilo Cardim (PhD in Neuroscience): “Pressures and the Brain: the Challenges of Non-invasive Monitoring in Clinical Neurosciences”

Intracranial pressure (ICP) is commonly regarded as the cerebrospinal fluid pressure and it is strongly associated with certain components of the intracranial system, such as the brain parenchyma, cerebrospinal fluid and the arterial and venous cerebral blood flow. Increased ICP may be acute or chronic and can lead to brain ischemia and death. It is usually associated with head traumas, intracranial tumours, infections, malformations of the central nervous system and neuropathological disorders such as hydrocephalus. ICP monitoring has been used for decades in the fields of neurosurgery and neurology. However, the invasiveness of the standard methods for brain monitoring, especially intracranial pressure, and their associated risks to the patient (infections, haemorrhage, brain tissue damage), lead to a scenario where ICP is an unknown and neglected parameter in most neuropathological diseases. The idea of assessing ICP non-invasively is captivating and of great importance, as it could potentially improve the clinical management of patients at risk of lethal intracranial hypertension without the risks associated with the invasive methods. This talk is aimed to provide an overview of my PhD in Clinical Neurosciences, whose focus has been on the application and assessment of non-invasive techniques, specifically Transcranial Doppler ultrasonography, for non-invasive ICP monitoring in different clinical conditions requiring brain monitoring.

Monday 13 March: Samuel Niblett (PhD in Chemistry): “Energy Landscapes in Atomic and Molecular Science: Theory and Practice”

Abstract: The concept of an Energy Landscape underlies most modern theories to describe the behaviour of many-body systems, with wide applicability to problems throughout the physical sciences and in many branches of the life sciences. In particular, this concept has found extensive use in the study of molecular and atomic systems. Since most experimental measurements can be related to features of an underlying Energy Landscape, a theoretical description of this Landscape is a powerful tool for interpreting and guiding experimental research. However, most simulation and calculation methods can only probe the properties of Landscapes indirectly.

In this seminar, I will introduce the Potential Energy Landscape (PEL) as a concrete mathematical object and briefly describe the methods used by my research group to explore this object directly for general continuous energy functions. I will discuss methods for efficient preferred-structure prediction and for calculation of thermodynamic quantities and reaction kinetics. The discussion will be illustrated with examples relating to metallic nanoclusters, biomolecules (peptides, proteins and nucleic acids) and condensed matter systems.

As an extended case study from my own research into supercooled liquids, I will demonstrate how a systematic exploration of PELs can shed new light on the so-called “pinning transition”, a topic of great current interest in the study of the glass transition.
Monday 8 May: Naim Bro (PhD in Sociology): “War and State-Building in Chile and Peru”

Abstract: My project examines Chile's nineteenth century rise as a political and economic power. This outcome seemed improbable in 1810, when Chile entered independent life as one of the most marginal countries in South America. Peru – a former centre of colonial power – declined over the same time period. What explains these unexpected trajectories? Scholars have pointed out the countries' differences in agrarian relations (Kurtz, 2013), how elites reacted to economic booms (Paredes, 2013; Saylor, 2012), and the institutional decisions they made at the onset of the state-building process (Soifer, 2015). However, I contend that these positions neglect the role of war. Two successful wars against Peru-Bolivian coalitions (1839 and 1879) gave the Chilean state legitimacy, enlisted elite support, and fostered nationalism. In addition, the conquest of resource-rich territories helped finance bureaucratic expansion and public goods provision. I am particularly interested in the War of the Pacific (1879-1883) and its aftermath, when the Chilean state expanded four-fold in the lapse of a decade and created institutions in unprecedented numbers. In short, war helps explain why Chile passed from being poorer and institutionally less developed than Peru at the time of independence, to being richer and institutionally more developed by the end of the nineteenth century.

Thursday 25 May: Emily Hallinan (PhD in Archaeology): “Variation and modernity in Middle Stone Age landscape-use behaviour in the Tankwa Karoo (Northern Cape, South Africa)”

Abstract: Southern Africa is a critical location for understanding the origins of modern human behaviour in the Middle Stone Age (MSA), the period about 300,000 to 40,000 years ago. Current evidence from excavated, often coastal, cave sites indicates the emergence of complex technological, social and symbolic behaviours at least 100,000 years ago. However, cave sites considered alone give a spatially and temporally restricted picture of MSA lifeways. In order to address this imbalance, my research has targeted the open-air site record of the inland, marginal environment of the Tankwa Karoo. My work aims to establish the pattern of landscape use for past humans occupying the understudied Doring River catchment zone, to the east of the Cederberg Mountains. Today, this region receives some of the lowest annual rainfall levels in South Africa, classified as semi-arid desert, which stands in contrast to the fynbos ecozone of the mountains immediately to the west. I will present the results of surveys in the Tankwa Karoo which have mapped the location of stone artefacts across the landscape. Artefacts lie on the land surface, forming a rich palimpsest of evidence for occupation of the region spanning the past million years. These provide information on technology and site use, which can be dated on a relative techno-typological basis and used to track change through time and across environmental zones. Survey results show that MSA people were producing innovative stone tool technologies which appear to be unique to this region, potentially reflecting an adaptation to this marginal desert environment.