HERA
Humanities in the European Research Area

REPORT

HERA Conference 2007

NEW TECHNOLOGIES IN HUMANITIES RESEARCH

Tallinn, September 2007

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green print

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Dear reader,

You are holding in your hands the proceedings of the conference "New Technologies in Humanities Research" that took place on 3rd September 2007 in Tallinn, Estonia. This was the third annual conference of an EU 6th Framework Programme ERA-NET project for humanities HERA – Humanities in the European Research Area. The conference gathered 100 researchers, research administrators and policy makers working in the field of humanities from 26 countries in Europe, Asia and Australia.

Sometimes the world is smaller than we think. Researchers and research administrators often have the experience that the problems and challenges we face are incredibly similar. The impact of new technologies on humanities as a research field, as well as on its raison d'être –human life in general, is a question that fascinates researchers across continents. Projects such as HERA help to create meeting places for people who are willing to make their contribution to the international arena on behalf of the present, and future, of the field of humanities.

You are most welcome to join our ongoing activities!

On behalf of the conference organisers,
Luule Mizera, Karl Pajusalu

Conference Programme

Conference of Humanities in the European Research Area (HERA)
"New Technologies in Humanities Research"

Date: 03 September 2007
Venue: SAS Radisson, Tallinn

9.30	Registration & coffee
10.00	Welcome & opening Prof Philip Esler, Chair of HERA Network Board
10.30	Keynote speech: The role of new technologies in humanities Prof Jane Ohlmeyer and Jennifer Edmond, Trinity College
11.30	Coffee
12.00	Keynote speech: New technologies and ethics Prof Margit Sutrop, University of Tartu
13.00	Lunch
14.30	Keynote speech: Convergence of digital media and content Prof Graham Murdock, University of Loughborough
15.30	Breakout groups: New technologies and doctoral training in humanities Chair: Prof Arto Mustajoki Rapporteur: Dr Eiríkur Smári Sigurdðarson, Icelandic Centre for Research Ethical aspects of technology Chair: Prof Margit Sutrop Rapporteur: Dr Carl Dolan, Arts and Humanities Research Council, United Kingdom
16.30	Coffee
17.00	Doctoral students' thematic poster session Chair: PhD Rüdiger Klein, European Science Foundation
18.00	Reports from breakout groups
18.30	Conclusions
20.00	Conference dinner

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List of Participants

First name	Surname	Organisation	Country
Olga	Borisova	KCSTD	Kyrgyzstan
Annemarie	Bos	NWO	The Netherlands
Natalia	Bragina	EdNet Association	Kyrgyzstan
Liz	Byrski	Curtin University of Technology	Australia
Dolan	Carl	Arts and Humanities Research Council	United Kingdom
Paul	Caton	National University of Ireland, Galway	Ireland
Rachel	Cooper	AHRC	United Kingdom
Pablo	Cortes	UCC	Ireland
Nessa	Cronin	National University of Ireland, Galway	Ireland
Ewa	Dahlig-Turek	Institute Of Arts, Polish Academy of Sciences	Poland
Alice	Dijkstra	Netherlands Organisation for Scientific Research (NWO)	The Netherlands
Pascal	Dissard	European Commission / DG RTD	Belgium
Ruediger	Dr Klein	European Science Foundation	France
Kirsten	Drotner	Danish Research Council for the Humanities	Denmark
Nursultan	Dzhusupov	Uzbek State World Language University	Uzbekistan
Jennifer	Edmond	Trinity College Dublin	Ireland
Margit	Enel	Estonian Science Foundation	Estonia
Mati	Erelt	University of Tartu	Estonia
Philip	Esler	Arts and humanities Research Council	England
Adolf	Filacek	Academy of Sciences of the Czech Rep.	Czech Republic
Marian	Flanagan	Dublin City University	Ireland
Orla	Flynn	Cork Institute of Technology	Ireland
Foekje	Grootoonk	NWO - Netherlands Organisation for Scientific Research	The Netherlands
Tiina	Haabpiht	Archimedes Foundation	Estonia
Torunn	Haavardsholm	The Research Council of Norway	Norway
Murad	Haitov	Altyn Umyt	Turkmenistan
Marianne	Hansen	Danish Agency for Science Technology and Innovation	Denmark
M.G.	Healy	MIC-UL	Ireland
Eila	Helander	University of Helsinki	Finland

Pirjo	Hiidenmaa	Academy of Finland, Culture and Society Research	Finland
Koen	Hilberdink	Royal Academy of Arts and Science	The Netherlands
Arne	Jarrick	Swedish Research Council (Vetenskapsrådet)	Sweden
Lena	Johansson de Chateau	Swedish Research Council (VR)	Sweden
Dovlet	Jumakuliev	Altyn Umyt	Tukmenistan
Laura	Kaur	Archimedes Foundation	Estonia
Ainash	Kenzhegaliyeva	West Kazakhstan State University	Kazakhstan
Turonsho	Khikmatov	National Information Point for FP7	Tajikistan
Ruediger	Klein	European Science Foundation	France
Davor	Kozmus	Ministry of Higher Education, Science and Technology	Slovenia
Anu	Kõrv	Archimedes Foundation	Estonia
Arno	Köörna	Eurouniversity	Estonia
Epp	Lauk	University of Tartu	Estonia
Bruno	Laurioux	CNRS	France
Margit	Lehis	Archimedes Foundation	Estonia
Reesi	Lepa	Ministry of Education and Research	Estonia
Monika	Maruska	Austrian Science Fund (FWF)	Austria
Brigitte	Mazohl	Austrian Science Fund (FWF)	Austria
John	McDonough	University College Dublin	Ireland
Tim	McLoughlin	National University of Ireland, Galway	Irleand
Kari	Melby	Research Council of Norway	Norway
Akbermet	Melis	KCSTD	Kyrgyzstan
Märt	Miljan	Archimedes	Estonia
Luule	Mizera	Estonian Science Foundation	Estonia
Zainidin	Mukhtorov	Tajik Association of critical thinking	Tajikistan
Kustaa	Multamäki	Academy of Finland	Finland
Orla	Murphy	National University of Ireland, Cork	Ireland
Ülle	Must	Archimedes Foundation	Estonia
Aadu	Must	University of Tartu	Estonia
Arto	Mustajoki	University of Helsinki	Finland
Jane	Ohlmeyer	Trinity College Dublin	Ireland

Haldur	Oim	University of Tartu	Estonia
Triinu	Ojamaa	Estonian Literary Museum	Estonia
TIIU	Paas	University of Tartu	Estonia
Karl	Pajusalu	Estonian Science Foundation	Estonia
Danae	Panayiotopoulou	NAGREF	Greece
Dipti	Pandya	IRCHSS	Ireland
Jaroslav	Panek	Academy of Sciences of the Czech Rep.	Czech Republic
Christelle	Pellecuer	The Arts and Humanities Research Council	United Kingdom
Marián	Pérez-Marín	Spanish Council for Scientific Research	Spain
Ille	Põder	Estonian Science Foundation	Estonia
Solbjørg	Rauset	The Research Council of Norway	Norway
Malte	Rehbein	National University of Ireland, Galway	Ireland
Halleux	Robert	FNRS	Belgium
Bolzern	Rudolf	Swiss National Science Foundation	Switzerland
Tatiana	Rybina	American University in Central Asia	Kyrgyzstan
Sean	Ryder	NUIG / IRCHSS	Ireland
Liliya	Safarova	National University of Uzbekistan	Uzbekistan
Martha	Shaughnessy	National University of Ireland, Galway	Ireland
Eiríkur Smári	Sigurðarson	The Icelandic Centre for Research	Iceland
Meelis	Sirendi	Estonian Science Foundation	Estonia
Tanel	Sits	Federation of Estonian Student Unions	Estonia
Martin	Stokhof	Netherlands Organisation for Scientific Research	The Netherlands
Stephen	Thornton	Mary Immaculate College, University of Limerick	Ireland
Georg	Thurn	Wissenschaftszentrum Berlin (WZB)	Germany
Justin	Tonra	National University of Ireland, Galway	Ireland
Terje	Tuisk	Foundation Archimedes	Estonia
Reija	Tuomaala	ESF	France
Monique	van Donzel	European Science Foundation	France
Maria	Wikse	Riksbankens Jubileumsfond	Sweden
Giedrius	Viliunas	Ministry of Education and Science	Lithuania
Risto	Vilkko	Academy of Finland	Finland
Jerca	Vodušek Starič	Institute of Contemporary History / University of Maribor	Slovenia
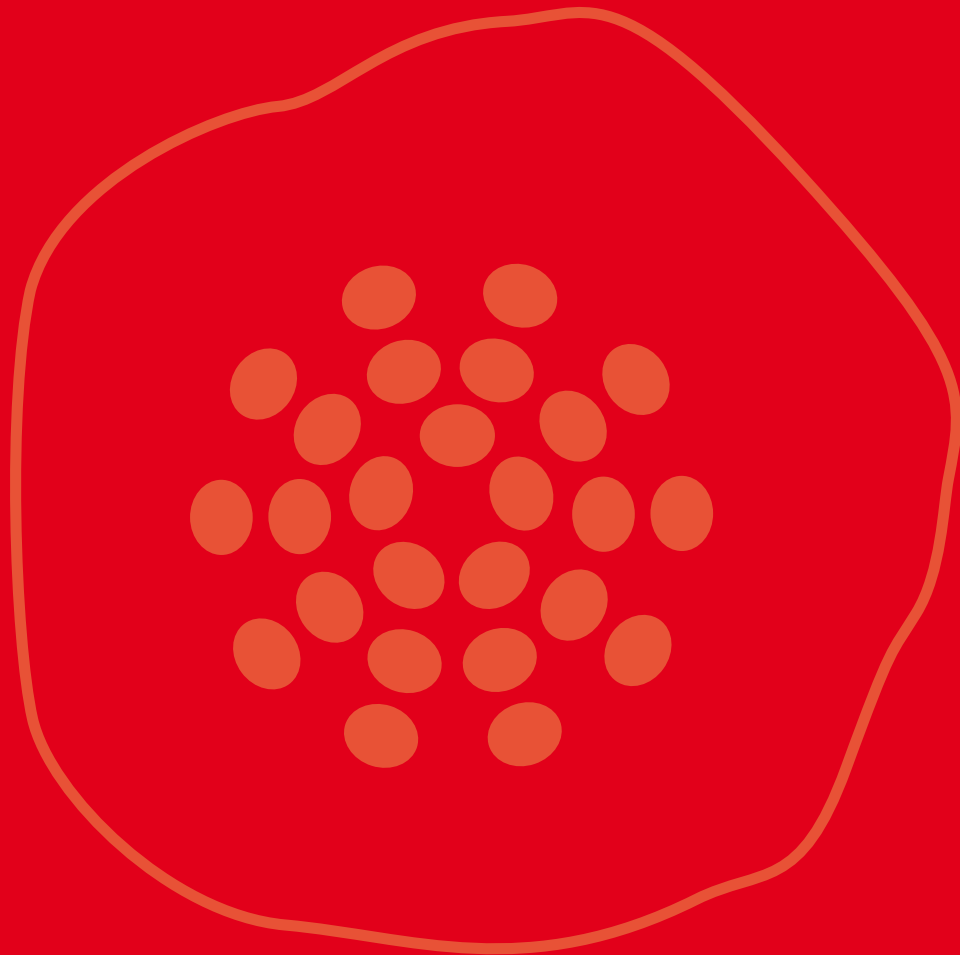
Conference Overview 2007

2007 HERA Conference
New Technologies in Humanities Research
03 September 2007
SAS Radisson, Tallinn

I Opening

Luule Mizera (Estonia Science Foundation) welcomed on behalf of organizers.

Philip Esler (Chair of HERA Network Board) in his opening speech first gave a look back to previous HERA Conferences. In London in 2005 we explored the ways in which history, dealing with Humanities disciplines, provides a foundation for understanding where we are, where we come from and where we might be going. In Helsinki, 2006, we considered the many ways in which Humanities disciplines help us to look ahead, to realise a brighter future for Europe.

In 2007 we are addressing the topic of new technologies in Humanities' research covering technical dimensions, ethical implications and the ongoing revolution we are witnessing.

Humanities focus on the normative, especially in the area of beliefs and values and their critical scrutiny, historical dimensions and lastly on representation and performance. These are unique things we had; we had them in combination with the other disciplines.

We always have to negotiate in the face of current complex situations and in interactions in alliances with the other disciplines without forgetting who we are and simultaneously not forgetting that we have some unique and indispensable contribution to add to the total mix.

Humanities researchers prove beliefs and values, history, memory and representations of phenomena, knowing that issues of identity and conflict are strongly influenced by religion, as well as by different cultures, mentalities and ideologies.

Humanities researchers generate new ideas about human identity, memory, motivation, expression and performance which are powerful economic and cultural impacts. They conduct research which enables new animation in interactive media and in the preservation and neutralisation of the material remains of their cultural heritages.

HERA is steadily progressing towards its culmination which will be a program of authoritative Humanities research disseminated throughout the European Research Area and the transference of the results of that research into a new context.

At the end of his presentation Professor Esler concentrated on two HERA themes *"Cultural dynamics" and "Humanities as the source of creativity and innovation".*

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II Keynote speeches

The first keynote speech "**The role of new technologies in humanities"** was divided between two presenters – Professor **Jane Ohlmeyer** and **Jennifer Edmond** from Trinity College, Ireland.

During the presentation the following topics were handled:

1) What are the technological needs of a humanist scholar? What is currently available? What challenges do we face?

The tools for a historian: what we actually need at one level and new technology, which is an indulgence, at another level. New technology saves us time, allows access to materials which were previously inaccessible (geographically and physically), and also enables high quality research (Computer and Internet based research engines and communication). But technology is not a substitute for empirical work; we still have to go to archives and to libraries. New technology does, however, allow us to analyse material in innovative, exciting and creative ways.

2) The 1641 Depositions Project – what are our goals and what are the challenges?

The project begins October 2007 for 3 years

The sources involve personal statements of experiences following the outbreak of the rebellion by the Catholic Irish in 1641. This is the chief evidence for the sharply contested allegation that the rebellion began with a general massacre of Protestant settlers (totalling 3,100 statements and 19,000 pages)

The objectives of the Project are to transcribe and digitise the '1641 Depositions', making images and transcripts freely available on the web, and situate this material within an appropriate interface, enabling search and browse by a number of audiences. The final idea is to publish all information online, incorporating the images and SQL database (using PHP), allowing users to search across a variety of fields, as well as via free text.

The project is a collaborative initiative between Trinity College, Aberdeen University and Cambridge University. It was funded by the Irish Research Council for the Humanities and Social Sciences (IRCHSS, Research Project Grants; €247k), the Arts and Humanities Research Council (AHRC, Resource Enhancement Scheme; €650k) and Trinity College Dublin Library (€105k)

3) Hopes for the future – what can technology can do for the Humanities?
Needs for the Future

• Sustainable infrastructure
• Good strategic decisions
• Centralised national/European policy on best practice guidelines
• Advice for those seeking to undertake digitisation projects
• Ideally a compulsory technical annex – agreed by all stakeholders - for research funding applications;
• Guaranteed core funding for the entire digital life cycle.

4) The development of a digital culture in Ireland.

The modern digital project cannot be delivered by a solitary scholar.

The modern digital project must have, or at least respect, a certain scale.

Issues: complexity, necessary array of skills and knowledge base, expense, sustainability questions, communication of best practices, training, skills and concepts

The Second keynote speech **"New technologies and ethics"**
was given by Professor **Margit Sutrop** from the University of Tartu, Estonia.

Ethics of technology is a subfield of practical ethics addressing ethical questions specific to the Technology Age. It refers to two basic subdivisions:

- Whether it is right or wrong to invent or implement a technological innovation
- How standard ethical questions are changed by the new powers.

The Natural Sciences can give us answers to questions about what we should

do if we want to rule the world technologically. But to answer the question whether we must or should rule the world technologically, we must step outside of science.

The ethical measure of progress depends on our values and our understanding of a good society. Value is a general characteristic of an object or state of affairs that a person views with favour and is disposed to act or promote.

There are different views of technology:

a) Technology as Liberator

- Higher living standards
- Opportunity for choice
- More leisure
- Improved communications

b) Technology as Threat - Human consequences of technology

- Uniformity in a mass society
- Narrow criteria of efficiency
- Impersonality and manipulation
- Uncontrollability
- Alienation of the worker

c) Technology as Instrument of Power – Environmental consequences of technology

- Technologies are social constructions and they are seldom neutral because particular purposes are already built into their design.
- The goals of research are determined by the goals of institutions: corporate profits, military industry, institutional growth, bureaucratic power, etc.

How standard ethical questions are changed by new technologies?

- Current bioethics is rich in controversies. Pivoted, disputed concepts and issues: the moral worth of the human embryo, conceptions of personhood, human dignity, the right to reproductive autonomy, gene therapy, cloning, organ and tissue transplantation, life-prolonging technologies
- Biometric identification technology used in diverse settings (national security, health and welfare, banking, insurance, commerce): surveillance as the sword with multiple edges.

Biometrics as an example is given.

- Biometrics is the scientific discipline of observing and measuring relevant attributes of living individuals or populations to identify active or unique properties developed for social security entitlement, payments, and immigration control and election management.
- Existing biometrical methods: fingerprints, retinal and iris scans, hand geometry, facial feature recognition, ear shape, body odour, skin patterns, foot dynamics.

Biometric identification devices may compromise privacy. They can reveal more about the person than only his identity.

- Protection of personal data, confidentiality
- Human dignity
- Freedom and autonomy versus security and responsibility

New technologies and databases

- Population genetic databases
- E-health databases: electronic health record, digital image, digital prescription, digital prescription

Ethical issues related to uses of databases

The collection of tissue samples and data (respect for autonomy, consent, right to withdrawal)

- The storage of samples or data (respect for privacy, confidentiality, ownership)
- The dissemination of samples or data (access, use, right to know/right not to know, benefit-sharing)

Changes in ethical framework. An attempt is made to balance the protection of individual interests against likely humanitarian benefits.

- From rights-based liberal ethics to the common-good based communitarian ethics.
- The complex notion of public interest should be elaborated.

The Third keynote speech "**Convergence of digital media and content**" was given by professor **Graham Murdock**, University of Loughborough, United Kingdom.

At the present time, when the key problems facing humanity are more than ever interlocked and global in scope the imagination, empathy and sense of history at the heart of the humanities are needed more than ever. For many commentators the digitalisation of stored culture and of contemporary communication and creative practice offers a comprehensive and convenient solution to this challenge. They see the increasing convergence of cultural institutions with computing and telecommunications systems laying the basis for new kinds of scholarly practice and intervention built around new forms of multimedia presentation, interactivity and networking. The first part of the paper explored these potentialities and the claims being made for them. The second offered a more cautionary and critical perspective, arguing that convergence is a contested process that raises difficult questions and choices.

Looking at the emerging digital landscape we can identify three major trends. Firstly, we see the revivification of public cultural institutions as museums, galleries; libraries and universities employ digital technologies to develop new forms of collaborative research and to make their expertise and holdings more widely available. Secondly we see an explosion of vernacular creativity and expression as more and more amateur practitioners share their knowledge, experience and expertise, post photos and videos, write blogs, and distribute their music and writing. Thirdly we see commercial cultural agencies mobilising these public and amateur efforts in the service of sales, promotion and public relations generating new forms of cultural enclosure.

Faced with the concerted push towards corporate convergence that is creating global multi media companies with interests across the whole range of cultural and communication sectors we need consider whether to match this with a parallel convergence of public cultural institutions as the organising hub of a new digital commons.

The final section of the paper considered three major issues that such a project needs to grapple with; intellectual property rights, cultural value, and the shifting relations between expert and lay knowledge and professional and amateur creativity.

III Doctoral students' thematic poster session

During the conference breaks participants had the chance to read Ph.D. students posters which were presented on display stands. During the session students gave short introductions about their work, and afterwards the floor was opened for questions. The session was chaired by Dr **Rüdiger Klein** (European Science Foundation).

1) An evaluation of the role of new technology in the creative media practice of young people in informal educational settings.

Emma Agusita, University of the West of England: Bristol School of Art, Media and Design & Knowle West Media Centre, Bristol, England

The research seeks to explore the role of existing, emergent and future technology in facilitated creative media communication activities for young people (ranging in age primarily between 7-19). These activities such as filmmaking, photography and design projects typically occur in locally based, out-of-school settings and are facilitated by Community Media organisations and practitioners.

The research will inform future policy work and practice by the collaborating organisation, the wider Community Media sector and beyond. It will focus specifically on the way young people participating in media communication activities make creative use of technologies and will aim to establish what platforms will be viable or valuable in terms of investment by Knowle West Media Centre (KWMC), similar organisations and educational providers (in future disseminations of media content)

The research aims to contribute to the debate regarding the role of media in young people's educational achievement, skills development, creative learning, decision-making and participation in community life.

2) Finding Synonyms Using Multilingual Parallel Corpora

Lonneke van der Plas, Alfa-Informatica, University of Groningen, The Netherlands

The identification of synonyms is critical for many tasks. In information retrieval the information that people ask for using a set of words may be found in a text snippet that is comprised of an entirely different set of words. In this paper we report on our findings in trying to automatically acquire synonyms for Dutch.

Defining the meaning of a word is difficult to do. Translations are interesting because translators bridge over difficulties relating to the meaning of words. We will use translations of words to acquire synonyms. This is built upon the following idea: words that share a large number of translations are similar. For example both *autumn* and *fall* get the translation *herfst* in Dutch, *Herbst* in German, and *automne* in French. This indicates that *autumn* and *fall* are synonyms.

A straightforward place to start looking for translations of Dutch words is in bilingual dictionaries. However, as these are not always publicly available for all languages, we have chosen to automatically acquire word translations from a multilingual parallel text.

The paper shows that multilingual word alignments can be applied to acquire synonyms automatically without the need for resources such as bilingual dictionaries.

Taking the difficulty of the task into account, the scores are more than reasonable. Moreover, the authors were able to discover synonyms absent in Dutch EuroWordnet. Many errors are due to the partial alignment of Dutch compounds. In future work the authors would like to use multiword detection for languages that use multiword expressions, where Dutch uses compounds, to take care of the problem that compounding poses.

3) Using Corpus-based Methods in Hungarian Verbal Argument Structure Studies

Kata Gábor, LASELDI, Université de Franche-Comté; Linguistics Institute, Hungarian Academy of Sciences

As the main research interest of generative linguists is to explore native speakers' competence and universal grammar, it follows that data are obtained by introspection as grammaticality judgements, instead of relying on collections of language performance. However, the latest developments in computer technology, and especially the growth in computer memory and storage capacities made it possible to collect vast amounts of natural language texts and to automatically analyse them. The availability of language corpora, in tandem with the growing need for automatic text processing tools, brought data-oriented approaches to the forefront. Corpus linguistics is gaining more and more attention, while finding its place as a tool used for setting and testing linguistic hypotheses. Moreover, new methods in investigating large quantities of data may reveal hidden connections in a language system. The author's aim was to demonstrate how the analysis of Hungarian verbal argument structure can be promoted by applying statistical methods to Hungarian language corpora.

4) Digital edition of late medieval town statutes: Visualising the evolution of text and law

Malte Rehbein, University of Göttingen / National University of Ireland, Galway; Moore Institute for Research in the Humanities and Social Studies NUI, Galway, Ireland

The work on *kundige bok 2* shows how an electronic and historic-critical edition of a multilayer text can be created and used a) to make the genesis of the text itself visible and b) with the text as a witness to display the development of urban law and urban life in the Late Middle Ages. It focuses on the description of and linkage between the two dimensions "law" and "time" and presents techniques for text mark-up and data modelling

Within the digital edition of *kundige bok 2* the town statutes are reconstructed and easily retrievable and readable for each individual year. Access is granted by a two-dimensional overview which represents the codex in thematic as well as in chronological structure. The edition provides two main views: the "single text layer view" representing the critical edition of a user chosen text layer, allowing navigation through the different layers and granting access to the digitised sources. The "comparison mode" visualises the textual evolution among layers that can be chosen by the user according to his own research interest interactively without any presumption made by the editor. Thus, any variants of the law can be compared and e.g. put into their economic, social or political context.

The digital edition of *kundige bok 2* will be publicly available on the internet. Within the TEXTE programme at NUIG, a tool set for similar texts is in preparation.

5) Where's the on-switch? Integrating Information Technology and Humanities Postgraduate Research

Nessa Cronin, IRCHSS, Government of Ireland Postgraduate Scholar Centre for Irish Studies, NUI, Galway, Ireland

This interdisciplinary research project investigates how the concept of *spatiality* (where space is conceived as being socially constructed, and not just regarded as an 'empty container' through which time and history passes) can add to our understanding of how colonial and metropolitan cultures and societies are constructed within dialectic of space and time.[1] With a particular focus on English colonial maps of Ireland, the study is concerned with spatialising the Irish colonial context. The thesis concentrates on how cartography, as a specific form of spatial thinking, was involved in the effective 'desocialisation' of Gaelic Irish space which in turn allowed its subsequent re-inscription within a narrative of British imperial expansion.

The incorporation of digital images, and in particular, the use of details extracted from such images proved to be the most technically challenging aspect of this research project. The employment of various different digital imaging and software packages while maintaining the integrity of the original image demonstrated the limitations of my own training in information technologies. Upon discussion with my peers, I found that this tended to be less the exception than the rule amongst Arts and Humanities postgraduate students. It has been my own general experience that students entering postgraduate research programmes from an Arts/Humanities background may have encountered very little, if any, formal training in information technologies. Therefore, continued training in such technologies is needed for the updating, up-skilling and continued professional development of the Arts/Humanities student.

Many of us are fully aware of the extent to which the particular application of new and existing programmes can enhance research findings and can, to one degree or another, even determine research outcomes. In my own case, the inability to digitally reproduce and manipulate map and manuscript images would have radically altered the nature, outcome and overall presentation of my final research project. Additionally, the development of digital databases that can help erase the physical obstacles that many researchers encounter in the course of their work is very much dependent on people having the necessary skills and training to develop and appropriately employ such digital resources in the first instance.

In order to maintain international standards for best practice in terms of consolidating the university as a site for innovative ways of thinking and with the responsibility to communicate such ideas to a wider audience in developing dynamic ways through which knowledge can be transferred across national and international boundaries, the use of digital media provides an exciting platform from which such developments and connections can be made. Further training and support networks are therefore necessary to prepare and equip emerging scholars with the requisite tools to aid collaborative work with their European peers, and will be a significant element in shaping the future of 21st century research in the Arts and Humanities.

1   Edward W. Soja, *Postmodern Geographies: The Reassertion of Space in Critical Social Theory* (London: Verso, 1990 [1989]).

IV Breakout groups

New technologies and doctoral training in humanities

Chair: Professor Arto Mustajoki

Rapporteur: Dr Eiríkur Smári Sigurðarson

Topics for discussions:

1. Which kind of new technologies (NT) can be used in the Humanities.

New technologies – more complicated than the question of infrastructure – doctoral training is very much to do with that. This theme is high on the agenda of Europe – now including the Humanities. Humanities are competing with the better organised hard sciences. There are specific needs (local) in the humanities. At the same time, technology becomes of an object of the study (the book and not the text). There are different opportunities for interdisciplinary research (combining texts, images, sounds etc.). New approaches to research – e.g. comparative research using international databases.

2. New research methods

Quantitative methods in analysing large amounts of data. We need to learn and teach new methods (e.g. probabilistic method) which will bring Humanities closer to the Social Sciences. Where Humanities are in close collaboration with Life Sciences they need knowledge about their methods. This allows us to ask new questions and think about our research in a new way. Training in these methods needs to be built into doctoral training (i.e. the necessity to encourage mature scholars to use these methods).

We should not let technology determine what questions we ask; instead we must encourage research students to ask independent questions. IT professionals can do almost everything. We need to put questions. Research students should be trained in the use of concepts and not only the use of technology. Research students must be able to communicate with the technology professionals more than to learn their skills.

3. Doctoral training.

Better access to expertise (video conferencing). Virtual environments for research training in some areas (e.g. arts and design). There is need for common graduate programmes (mostly in new technologies). Efforts to get students and teachers in the humanities together with students and teachers in other sciences (Marie Curie action to import expertises; open invitation for poster displays; interdisciplinary masters programs).

4. General conclusions

There is need for:
- More cooperation with other sciences
- Creativity in using new tools
- Research on these new tools
- In doctoral training we should not only train in the use of new technologies – we need to train research students in new methods, get them into innovative topics.

Ethical aspects of technology

Chair: Prof Margit Sutrop
Rapporteur: Dr Carl Dolan

Topics for discussions:

1. How to understand connection between technology and ethics?
2. How can technology be significant for ethics?
3. Are ethical issues, surrounding new technologies, unique?
A case study about airport security was given. Conflict of values – security vs. liberality?
Who decides?
Cultural and ethical differences: Ethical rules, which come from outside a cultural environment. The question about trust in institutions (in Sweden financial data are available).

The role of ethics in Humanities: – privacy, human remains in museums, private data in the web.

How new technologies are effecting ethical issues? Information privacy issues.

Conclusions:

There is a need to educate people, and to train students in critical thinking.

Conference Presentations

Opening Speech

Philip Esler

Chair of HERA Network Board
Chief Executive of the UK Arts and Humanities Research Council
Professor of Biblical Criticism The University of St Andrews, St Mary's College

Ladies and gentlemen, it's my duty and pleasure today to welcome you to this - the third annual conference of HERA – Humanities in the European Research Area. In London in 2005 we explored the ways in which the humanities, looked at historically, have provided a fundamental understanding of where we are and where we have come from, and how the they have become an indispensable aid in knowing where we might go.

In Helsinki last year that theme was reviewed and we considered the many ways in which the humanities disciplines help us look ahead and create a brighter future for Europe, and the rest of the world. Today we will be addressing new technologies in humanities research covering both the technical considerations and the ethical implications of the ongoing revolution we are witnessing. Here there is a convergence of creative content as well as the evolution of digital, and other, technologies.

We should note that new forms of social interaction, such as Facebook and YouTube, and entertainment, such as animation and computer games, are driving technological innovation and its adoption by the community. Just as in the early 20th century, when the evolution of cinema created a surge of new technologies and new forms of social interaction, so to today does this human phenomenon, within the arts and humanities, provide massive stimulus to technological change.

Yet such developments are not ethically neutral. In recent years, the fact that people have used Facebook and YouTube to publish and promulgate video clips of assaults on our city streets, or of the weaponry of youth gangs, illustrates only one of the problems. Humanities research, the research that our people undertake, has a unique and vital role in exploring the ethics of these developments.

Let me draw a general point from this: if we are to understand the current problems and challenges for the people of Europe, and do something about them, it is essential that humanities are involved. Why is this? I'm not suggesting for a moment that the natural and social sciences aren't making an important

contribution; they are. But where the social sciences work with quantitative and instrumental skills and approaches, the humanities focus on the normative. This is especially true in the critical scrutiny of beliefs and values, historical dimensions and, lastly, in representation and performance. These are the unique and vital things we add; and we add them in combination with the other disciplines.

In my own career I have been seeking to integrate the social sciences into the humanities research area of biblical criticism. Early in my career, in the 1980s, I read something which I thought was very amusing and made a good point. It's a story of an African tribal leader who takes an anthropologist up to the top of hill. He points out across the valley and says: "See that tribe on another hill - they're our enemies, we marry them." We will always have to negotiate in the face of complex situational interactions and alliances with other disciplines, but without forgetting who we are and without forgetting that we have something unique and indispensable to contribute to the overall mix.

Just to bring some examples to the fore. Firstly, the insights of historians, religious studies experts, philosophers, linguists, literary critics and media specialists are essential in fully understanding pressing issues such as the clash of ethnic groups and identities. Something that we know a little bit about in Europe, don't we? Humanities researchers probe beliefs and values, history, memory and representations of phenomena whilst knowing that the issues of identity and conflict are strongly influenced by ethnicity and religion and also by differing cultures, mentalities and ideologies which are all grist for the mill for humanities researchers. Secondly, humanities comes into their own when helping the people of Europe build creative and innovative economies in the face of rapid globalisation where the intensifying flow of people and capital is clearly evident in the development of economies.

They generate new ideas about human identity, memory, motivation, expression and performance that have powerful economic and cultural impacts. They do the research that enables new beliefs in design, animation, interactive media and in the preservation and interpretation of the material remains of our cultural heritage. The key sectors of the economy for our researchers are the creative and the cultural industries. These are the areas that our people work with, will work with, and must increasingly work with.

HERA is steadily progressing towards its culmination. The end result will be a program of powerful humanities research and the dissemination and transfer of the results of that research will fit into a new context where they will be of great benefit to the lives of the people of Europe. For a moment I would like to dwell on the two themes that the HERA group of national collaborators has produced after careful reflection.

The first theme is Cultural Dynamics. Here we have a programme that looks at culture as process rather than product and as praxis rather than pragma. It will focus upon cultural exchanges and dynamics across and between the social strata of countries and media. Research topics in this program will include collective identities before and after the nation state, and I should say that I have been astonished by the rich history of Estonia. For instance, if you go to the city museum you can see the array of people who have been active in the city from Danish conquerors to Hanseatic traders. So this aspect of the program will focus upon those identities. It will also deal with culture as self-reflection dealing with the dynamics and remembrance of the canonicity of texts, monuments,

rituals and cultural practices between local and global performance and ownership. It is clear that this theme has a strong knowledge transfer potential in relation to Europe's cultural infrastructure that is represented in museums and galleries, historical sites and cities, and also in policies relating to monuments, conservation and cultural and historical literacy programs. There is, therefore, a rich field here for our researchers to engage actively.

The second theme is Humanities as a Source of Creativity and Innovation. This program focuses on two concepts increasingly seen as essential to a vibrant cultural life and a flourishing economy. Creativity and innovation are talked about a lot but what do they mean and how do you activate them? We need disciplined thought on this. It is our community that is best placed to provide it. So what does it mean and how can these concepts be deployed? The 2000 Lisbon declaration aimed to make Europe the most competitive and dynamic knowledge-based community in the world by 2010 (although realistically we should push this date back.) Nevertheless the aim is a worthy one and still achievable over time. The research in this theme will cover creative values, the genesis of their meaning and impact, creating value, creativity and innovation in practice. And this last one, what does it mean in practice, will cover that best models for the development of creative communities and creative cities. We have many cities like this in Europe so what can we learn by studying them, seeking how can we share the best practice and how can we engage other parts of the continent to become active in similar ways. There are major knowledge transfer dimensions in this program because researchers will work with colleagues beyond academia, especially in the creative industries, in order to develop practical solutions for increasing creativity and innovation.

The subject for today's conference, New Technologies in Humanities Research, connects with many aspects of these two HERA programmes, but it also brings to the fore the indispensable contribution that humanities will make to the European research area. Once again, it is especially in this area of the convergence of humanities research especially in relation to creative content in areas like design, visuality, narrative, emotional depths and so on and digital technologies. You might have heard that about thirty years ago "The Two Cultures" debate was actively, if not viciously, conducted between C.P. Snow and F.R. Leavis. The idea of "The Two Cultures" was that there is a great rift between what goes on in the sciences and what goes on in the humanities.

Some of you may have done what I did one January afternoon in 2005, which was to watch the website of the European Space Agency as the little Huygens probe plummeted through the atmosphere of Titan. It was broadcasting as it went down and then continued unexpectedly to broadcast for another 45 minutes a huge amount of valuable data until the mother ship descended over the horizon. A few days later, you may recall, the data that streamed out of that little probe, a European creation, was converted into photos that revealed images of an entirely new world. A world that looked remarkably like a coastal landscape on Earth. One could see what looked like a sea, a lake or a valley. In fact it was none of these things, but a landscape comprised of solid ammonia. I watched with astonishment as these photos emerged, and it struck me that here again was an area where arts and humanities researchers should be active. I thought particularly of that poem by John Keats "On First Looking into Chapman's Homer." It's a very short poem where Keats is basically trying to describe

the excitement he feels on reading one particular Homeric translation and having discussed the translation he goes on to say:

Then felt I like some watcher of the skies
When a new planet swims into his ken;
Or like stout Cortez when with eagle eyes
He star'd at the Pacific — and all his men
Look'd at each other with a wild surmise —
Silent, upon a peak in Darien.

So here we have Keats referring to a scientific discovery and to human exploration to say something of his own human excitement as a poet. The watcher of the sky he is referring to is Herschel discovering Uranus from his little observatory in the town of Bath in 1781 and Cortez being the first European to see the Pacific from the Isthmus of Panama. Here we have a poet, one of our people, caught up in the excitement of scientific exploration. There is no notion of two cultures here. That is quite a powerful motif, or a totem if you like, for an attitude that permeates what many people in the arts and humanities, who are now engaging actively with technologies, are feeling.

I travel around the UK making institutional visits, generally making a nuisance of myself in various universities and research institutes. A few weeks ago I was visiting the University of York and I was taken to York Minster. Something happened here last night during the wonderful tour around Tallinn, which reminded me of that visit. As you remember, the guide was talking about the fresco on the back wall saying that hopefully with future research it will be possible to bring back the colour that has been lost in the inappropriate restoration in the 1960s. What I saw in York was a reconstruction of a glorious medieval window. In previous times, when glass cracked in these windows, the only way they could fix it was to insert lead between the pieces. As time goes, on you get more and more lead in the picture and less and less glass. Ultimately you get a very unpleasant spidery web of lead. With new research on resins, which the people in York Minster and no doubt in other parts of Europe have been working on, they can bind the various pieces of glass together with invisible mends. So what that they have now achieved in York is miraculously different to what went before. Indeed the glass now appears almost as it did when it was first placed in those windows by the master craftsman in 14th century. And that's the challenge that I see over here in Tallinn's old city. But of course that is only the beginning of the story, because the research which has been published in journals, can have another impact. What they're doing in York, is preparing a very sophisticated hand-held visual display unit for visitors, which means they can point to one panel of the window and then download high quality colour images of the panel – before, during and after restoration. In other words they are transferring their research results into the community and are turning the Minster and York into a more attractive destination for tourism. That's one example of what we can do here. But clearly in the area of digital technology we are at a very exciting moment, where the importance of humanities research has become very apparent, where we are increasingly digitalizing important resources. My Research Council in the UK has been very active promoting this. So here we are today and I am very happy to now open this conference.

The Role of New Technologies in the Humanities

Professor Jane Ohlmeyer
Trinity College Dublin

Writing from the perspective of a fairly typical humanist scholar, all I need to do my historical research is a pen and paper, access to libraries and archives, and time, time to research and to write. Yet there is no doubt that the progressive convergence of telecommunications technology with computing is transforming the nature of communication throughout all areas of public and private life. In a longer historical perspective the changes brought about by the rapid development of communications and information technologies surpass in significance even the Gutenberg revolution of the invention of print. The combination of internet, digital archives, bibliographic resources, the possibility of virtual libraries and online catalogues has transformed the practice of humanities research. It is a truism that the library is the laboratory of the humanities. The unification of the world's libraries into a single virtual collection at least at the level of their catalogues, with a swiftly growing proportion of digitised textual and graphic material made widely available over the network, is already transforming the laboratory of the humanities into one of global scale. In short, technology enables high quality research and provides real benefit in terms of communication and facilitating sophisticated search engines that feed into analytical research. The technological changes of recent years thus offer important opportunities to create an intellectual infrastructure for the research of future generations of scholars in a way that no previous generation has been able to do.

What is currently available? A wealth of materials – listings, catalogues, datasets, full text editions of books, journals, and archival documents – are already available. British History Online is an example of highly successful bibliographic database [http://www.rhs.ac.uk/bibl/dataset.asp]. Data sets proliferate. For example, the Scots in Scandinavia and Northern Europe Project [http://www.st-andrews.ac.uk/history/ssne/] comprises information relating to about 5000 individuals from Scotland, England, Ireland and Wales who migrated to, or worked in Denmark-Norway and Sweden-Finland between 1580 and 1707. They represent the military, naval, diplomatic, intellectual and social elite from the

British Isles who operated in northern Europe. Two Irish military migration datasets catalogue the details of Irish, English and Scottish soldiers who formed the Irish Regiments in Spain [http://www.tcd.ie/CISS/isai.php] and France between 1691 and 1791. Early English Books on Line (EEBO) is a web based resource that provides access to all material published in English between 1475 until 1700. It is an indispensable research tool for early modern scholars and their postgraduate students working the disciplines of history, art history, classics, literature, drama, Philosophy, Music, Theology and even French, German, Italian, and Irish. Equally important, EEBO has become an indispensable resource for teaching. EEBO introduces undergraduates to texts, both canonical and lesser known, as they appeared to their first readers in the early modern period. Whether providing historical background from a variety of perspectives, illustrating the growth in parts of the book industry, or simply furnishing facsimiles of works as they originally appeared in print, EEBO has offered undergraduates an invaluable means of finding out more about the sixteenth and seventeenth centuries. Of course EEBO is expensive, as is access to other commercial resources such as Eighteenth Century Collections online (ECCO) or J-STOR (Journal Storage), which provides access to the key journals and periodicals. It remains to be seen how the Google book search project, which promises to provide instant access to millions of volumes, will transform research in the humanities.

Across Europe numerous projects are being planned. I am, for instance, committed to a major initiative, which involves digitizing the '1641 Depositions' held by Trinity College Dublin. The depositions comprise some 3,400 personal statements and other related materials, in which mainly protestant men and women of all classes told of their experiences following the outbreak of the rebellion by the catholic Irish in 1641. Collected by government-appointed commissioners, the witness testimony runs to approximately 19,000 pages, and constitutes the chief evidence for the sharply contested allegation that the rebellion began with a general massacre of protestant settlers. The 1641 depositions are both difficult to access and to read, which has severely restricted their research potential. Yet this body of material, unparalleled elsewhere in early modern Europe, provides a unique source of information for the causes and events surrounding the 1641 rebellion and for the social, economic, cultural, religious, and political history of seventeenth-century Ireland, England and Scotland. In addition, the depositions vividly document various colonial and 'civilizing' processes, including the spread of Protestantism in one of the remotest regions of the Stuart kingdoms and the introduction of lowland agricultural and commercial practices, together with the native response to these developments. If accessible the 1641 depositions could also contribute to contemporary discussions about atrocity, massacre and ethnic cleansing, as well as identity and ethnicity, history and memory.

In recognition of their historical and cultural significance the Irish Research Council for the Humanities and Social Sciences, the Arts and Humanities Research Council in the UK and the Trinity College Dublin Library funded in 2007 a collaborative initiative between Trinity College, Dublin, Aberdeen University and Cambridge University. The main objectives the 1641 Depositions Project are to transcribe and digitise the records and to create a comprehensive electronic resource. This material will be published on the web, providing a unique research tool, of interest to both the academic community and the general public. Web site publication would give users access to all images and transcripts, with search options allowing free text search. The digitized transcripts will provide the raw source material for further research and will serve as an ideal tool for use in the teaching environment, at both taught postgraduate and undergraduate levels. Predictably, putting together an ambitious project like this throws up all sorts of hurdles. Securing the funding (over €1M) was the immediate challenge. The importance of bringing together a multi-disciplinary research group with the necessary academic, library and technical skills quickly became apparent. On the academic side we needed to reach out to experts in computer science, literature, linguistics, gender studies, anthropology and historical geography. A close working relationship with our colleagues, especially archivists and conservators, in the Trinity Library was also essential. Above all we needed technical assistance and advice about image capture, how the data should be marked up and how the web interface should be constructed. For best practice advice we turned to the Arts and Humanities Data Service in the UK and commercial providers.

Involvement with the 1641 depositions project has highlighted a number of major challenges. To begin with the digital environment is a fragile one. Technological, organisational, and market changes all conspire against the long-term viability of digital materials. This is a particular worry given the fact that major libraries have not yet developed long-term plans for archiving electronic research resources. While we can guarantee that – natural disasters permitting – a book will be available 100 years from now, no comparable guarantee can be given for a CD-rom or digital publication. Yet the digital environment represents the future. Preservation and maintenance of digitised data is a labour-intensive task and needs considerable resources and support if we are to ensure that the digital resources we create now are available for future researchers.

A second concern is with fragmentation. At present in Ireland (and Ireland seems to be fairly typical) a number of organisations are involved in digitisation projects across a range of disciplines. There is currently no way of identifying the exact number and nature, or even of providing a comprehensive overview, of projects underway or planned by researchers. Potential problems arising out of this lack of coordination include the inadvertent duplication of research and an inability to ensure that adequate consideration is being given to issues of relevance quality control. Moreover, the lack of consistency in standards and models for access limits the interoperability between different projects. The current fragmentation in the system also makes it very difficult to ensure that digital projects are achieving value for money, as they cannot avail of a community of practice, economies of scale, or shared standards and channels for dissemination and preservation. The pooling of knowledge not only minimizes seemingly endless IT-related problems but also facilitates the widest possible dissemination and interrogation of years of painstaking archival research. To date in Ireland no single government department or organisation has taken the lead in realizing the potential of digitisation as a major resource for increasing access to cultural heritage or for enabling innovation in research and education. Responsibility for digitisation is spread across as many as six government departments. Other European countries, especially the recent accession states, appear to be in a similar position and are only beginning to look at possible structures for a national framework for

digitization. Much closer collaboration needs to occur at all levels: governmental, funding councils, universities, museums, libraries and so on, as well as between individual scholars. These datasets and digital resources also need to be able to speak to each other. Rather than constantly reinventing the wheel, we need common sets of protocols and internationally recognized procedures and processes for the collection, input and publication of data. In order to achieve this we need to train and educate our researchers in the intricacies of digital humanities. Finally, now more than ever we need unprecedented levels of funding to create high quality e-resources and datasets, to maintain and update existing ones and above all to develop the all important – and not very sexy – infrastructure that underpins a digital environment.

Over the course of the last 30 years digital humanities has been developing as a distinct discipline based on the constituent elements of Library Science, Computer Science and the Humanities disciplines (in particular history, literature, languages, art history, archaeology, geography, and the visual and performing arts). This development of standards, methodologies and unique research questions have been driven by initiatives by and large in the UK and the United States, with further strong nodes of activity on Continental Europe (Netherlands, France and Germany), Canada, and in Japan. Ireland has been largely left out of these developments until very recently, but the academic and economic imperatives to engage with this field are just now being recognized, and the entire national research culture is poised to embrace Digital Humanities. My colleague, Dr Edmond, will now share these developments with you in detail.
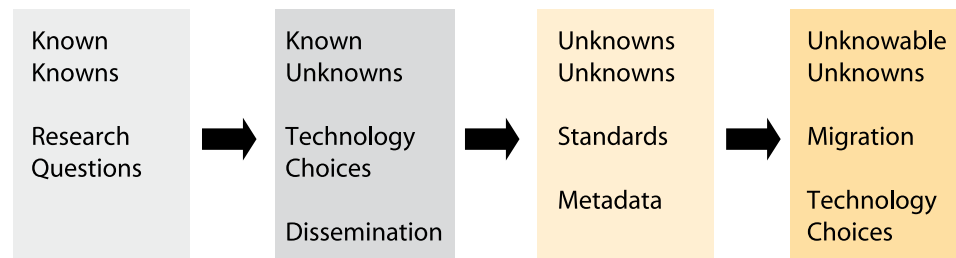
Digital Ireland: The Story so Far?

Dr Jennifer Edmond
Trinity College Dublin

I'd like to begin this presentation with a few generalizations. First, the modern digital project cannot be delivered by a singleton scholar, and, as a corollary to that, a second generalization: the modern digital project must have, or at least respect, a certain scale. These two statements lead of course to a number of related issues that any digital development will need to resolve: complexity, array of skills and knowledge base needed, expense, sustainability questions, communication of best practices, training, skills and concepts, among others. The precise resolution of these issues will have wide-ranging impact on the shape and size of the project's staffing, finances, audiences, intellectual property concerns and so on. So, if it is so difficult why do it at all? And the answer is that engaging as a humanist with modern ICT allows a spectacular opportunity to innovate, to reach truly new audiences and to expose otherwise unimaginable research findings. It is, in other words, that very same core excitement that makes academic research itself so special: the joy of new knowledge discovered, and of new ideas shared with a community of practice or interest.

Ireland has not been entirely immune to this excitement for digital methods, but it has been somewhat slower in developing a mature culture than some of its peer nations. At this point in time we are truly facing an explosion of opportunities, however: if you think that the oldest high-profile digital humanities project in Ireland, the Celt project based in Cork, only goes back a decade in a field that usually traces its roots back to the 1960s and 1970s, you'll understand what I mean when I say that change is occurring on a massive scale. But why now, so suddenly, has the Irish scholarly imagination writ large become caught by the potential of ICT in humanistic research? The answer is, I think, multifactoral, with opportunities in the national and international environment coinciding with the development of a consciousness among the Irish scholars themselves. Our traditional strength as a land of poets and scholars has been met head on by the Celtic tiger knowledge economy, to give us unprecedented development. And not just unprecedented for Ireland: the Irish higher education

sector's strong and flexible ties with indigenous and international industrial investment places us in an internationally unique position to capitalise on new business models and new technology opportunities.

But we have to get there first. As many of you surely know, the maturation of a digital humanities project team, not to mention that of a whole national culture, is not a linear or evenly paced process. From the researcher's perspective, it invariably starts with the 'known knowns': an intriguing research question or problem. But how to translate this into technology? Here we start to enter the realm of the 'known unknown:' a neophyte digital humanist may realise they need a database, but not know what software or skills are needed to develop one. Then we start to get into the more dangerous waters of the 'unknown unknowns:' I know well the look on the face of a researcher who has just, for the first time in their lives, encountered the term 'metadata,' little realising that by the time their project is done, they will have an intimate, if perhaps sometimes frustrating, relationship with this particular concern. At this point, a scholar's team can probably complete an individual project, but there is also one further level, however, which I call the 'unknowable unknowns.' How much should be budgeted for the 50 year sustainability of the project? When will the first major migration of the interface occur? How much will it take to enable it to take advantage of semantic web technologies? The expert answer to each of these questions is a very honest 'nobody knows,' which is frustrating in the extreme, but none the less true for this.

Known Knowns	Known Unknowns	Unknowns Unknowns	Unknowable Unknowns
Research Questions	Technology Choices	Standards	Migration
	Dissemination	Metadata	Technology Choices

As a side note, I would like to point out, that it is not just academic researchers who suffer through these stages. Industry suffers, just as we do, from a tendency to want 'mauve SQL databases because they have the most RAM' (to paraphrase a famous Dilbert cartoon) or, as I was once asked, 'CD ROMs on the web'. We are in good company, but some aspects of academic culture can make it more difficult to get past critical junctures such as those we face in Ireland today.

And where are these critical junctures? For I long time I worked on the basis of the 'Level one' model you see below: a very standard one to which I added to the common triad (researcher, librarian, technologist)the functions of the publishing house (that is marketing and business planning). This model did allow us to get into the realm of the 'unknown unknowns,' but I have since concluded that this is not far enough given the problems of the 'unknowable unknowns,' and the scale required to address them. Hence my adoption of the 'Level two' reference to the importance of the community

of practice, whose focus is not on the single project, but on issues such as: interoperability, standards, best practice, long term protection of investment, and on building acceptance among colleagues (be they peer reviewers or promotion boards), of the value of time invested in the development of a database, corpus, or enhanced digital archive.

Level 1: Gets us into the realm of the 'Unknown Unknown'

Level 2

Interoperability
Standards
Best practice
Formats
Coordination of investments
Long term protection of investment
Environment
Funding
Acceptance
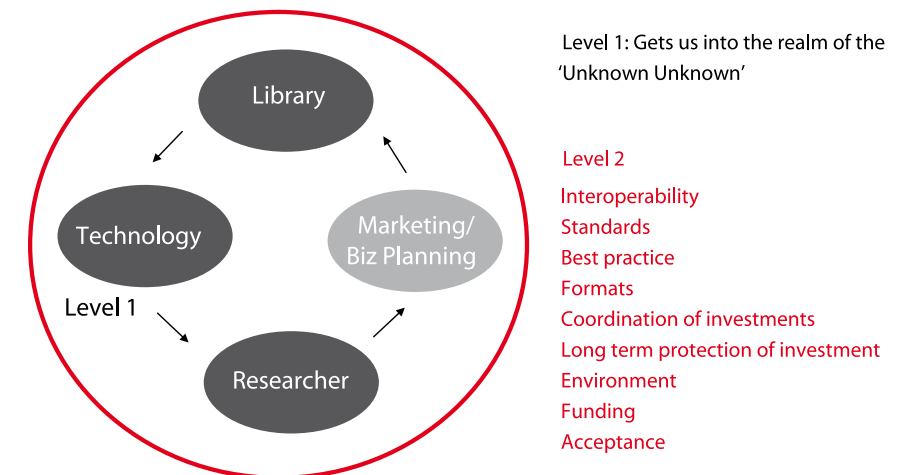
Not one of the issues on this list is addressed adequately by the old paradigm of the scholar/technologist/ library scientist triad, which shows how very important the overarching coordination levels are.

So how is Ireland, with its desire to become a force in the world of digital humanities, addressing these issues? The answer is: with a multi-layered approach addressing the institutional, national and international levels. To start with the lattermost of these, funding has just been allocated to support the Irish plan to build a Digital Humanities Observatory (DHO) as a part of the Humanities Serving Irish Society Project (HSIS). This project has been spearheaded by the Royal Irish Academy, with members that include six of the seven Universities in the Republic, plus others. In essence, the DHO will act as both a national community of practice and a trusted repository, ensuring that support is available, standards are agreed and sustainability is addressed as a centralised issue. It will link projects, allowing them to share knowledge and support both 'up-skilling' and what I would call 'up-ambitioning' of humanist scholars in Ireland. The DHO will also encourage a full life cycle approach to digital projects and an international perspective on best practice and partnership, in particular with regards to projects Ireland is already involved with, such as the Dariah infrastructure and the ESF COST Action A32, entitled 'Scholarly Communities in the Web'.

There are institutional agents for ensuring integration as well, such as my own institution's Trinity Long Room Hub. The Long Room Hub (TLRH) will act a an agent for culture change and research facilitation, in particular with respect to research needing access or support for the development of collections, networks, and/or digital projects. The Hub will provide resources, management, dis-

semination, development, training for the next generation of scholars and support for many of the planks in the platform of the national infrastructure. And I should mention that Trinity is not the only institution to put such an enabling infrastructure in place, as the NUI Maynooth-led Foras Feasa network, the NUI Galway Moore Institue and the Irish Virtual Research Library Archive at University College Dublin also have missions which, while different in their implementation, share many of the goals of the Long Room Hub.

So when will we have this all in place? Much of the funding for what I have described was only announced in August 2007. Dariah too has only recently received EU funding for the preparatory phase. In other words, all I can say for sure is that you should…

Watch this space…

Keynote speech:
New technologies and ethics.

Margit Sutrop

Professor, University of Tartu, Department of Philosophy

The previous speakers have demonstrated how technogy is a tool for humanities. I am going to address the question of technology from a very different angle, showing on the example of ethics how humanities can be useful for technology by redirecting it toward realizing universal human and environmental values. During the recent years I have been involved in several projects which deal with the ethical, legal and social issues of human genetic databases and e-health and new technologies. There has been an intensification of interest in ethics not only in Estonia but all over the world. This surge of interest has been caused by the rapid development of science and technology that has given people unprecedented opportunities for controlling and shaping the world and even human nature as they see fit. The euphoria of scientists about what we *can* do makes ethicists raise concerned questions about what we *may* do. The nuclear physics that gave humanity nuclear weapons and the ability to destroy itself has also forced us to ponder where we should draw a line in the development of science and technology. Sociologist Max Weber claimed that natural sciences can give us answers to questions about what we *should* do if we want to rule the world technologically. But to answer the question whether we *must* or should rule the world technologically in the first place, we must step outside science. This is where ethicists lend a helping hand. It is not the task of ethicists to find the one true solution to problems. Rather, it is their task to reflect on the question: what kind of technology do we really want. The answer will depend on our value judgements and our vision of the good life. As we live in a pluralistic world it is not easy to agree on our values. Besides conflicts between different value-systems there may be also conflicts between individual values. Value conflicts are frequent mostly because we want to realize incompatible goals and incommensurable values.

Ethics of technology refers to two sorts of questions which can be divided into two subdivisions:

1) Ethical assessment of the development and use of technology. Different views of technology are based on various interpretations and rankings of values and conceptions of the good life.

2) Challenges to ethics arising from technology. The development of technologies poses challenges for existing ethical frameworks. In relation to the advancement of new technologies, it has recently become commonplace to argue that the individual-centred framework should be replaced or at least complemented by one where more collective values and public interests are represented.

In the following I am going to discuss the issues of these subdivisions:

1) Ethical assessment of the development and use of technology.

A German philosopher of science Jürgen Mittelstrass (2002) has shown that we are living in the world made by man. In this world there is ongoing progress. . He has called this world 'a Leonardo world' pointing to the renaissance engineer, artist and scientist Leonardo da Vinci. This is the world where man meets his own creation and is himself part of this creation. Also nature has become culture. There seems to be no place for nature or natural parts to be met. Society is depending on science and technology and also man himself can now change himself. Human nature can, for instance, be changed by gene technology. Not only physical or social world, but also man himself has become an artefact. In the 'Leonardo world' there is limitless progress of science and technology. The progress does not know any limits. There is no inner measure; the measure can only be set from outside, only Mankind can say that from here we should not go forward. Not because we cannot but because we do not want to. In this ethical nature Mankind remains the measure of progress and the world.

If we know that it is in our hand to say whether and where the limits are, so the question is how can we do it? We can find some help from Hans Jonas's ethics of responsibility which points out that it is very important that we should err on the side of caution adopting policies designed to avoid catastrophe, rather than to maximise short run benefits. We should seek the least harm, not the greatest good. We have no right to tamper genetically with human nature or to accept policies that entail even the remote possibility of the extinction of humanity in a nuclear holocaust. According to Hans Jonas what we want to avoid at each price has to be determined by what we want to preserve at each price.

Ian Barbour has shown in the Gifford lectures published in "Ethics in the Age of Technology" that appraisals of modern technology diverge widely. This is how he puts it: "Some see it as the beneficent source of higher life standards, improved health, and better communication. They claim that any problems created by technology are themselves amenable to technological solutions. Others are critical, holding that it leads to alienation from nature, environmental destruction, the mechanization of human life, and the loss of human freedom. A third group asserts that technology is ambiguous, its impacts varying according to the social context in which it is designed and used, because it is both a product and a source of economic and political power" (1993: 3). In his book

Barbour groups views of technology under three headings: Technology as Liberator, Technology as Threat, and Technology as Instrument of Power. I will briefly sum up what is behind these headings.

Technology as Liberator can be dived between different fields. The first argument that we most often hear is that technology helps us to achieve higher living standards. New drugs, better medical attention and improved sanitation and nutrition have more than doubled the average lifespan in industrial nations within the past century. Machines have released us from most of the back-breaking labour, which in previous times took most of the people's time and energy and not only before our lifetime, even during our lifetime. I remember very well spending the whole of Saturday just washing the clothes of my children and now the washing machine gives me at least some hours to work on the paper.

Then there is opportunity for choice. Individual choice has a wider scope than ever before because technology has introduced new options not previously available and a greater range of products and services. Social and geographical mobility allow a greater choice of jobs and locations and individual options are not limited by parental or community limitations as they were in a small-town agrarian society. Birth control techniques allow choosing the size and timing of the family and so on. More leisure time and increases in productivity have lead to shorter working hours; in an affluent society there is no time for conferences, arts, sports and participation in community life. With improved communications and new forms of transportation one can, in a few hours, travel to distant cities that once took months to reach. And with electronic technologies we can save a lot of time; the speed, range and scope of communications has vastly increased. And the new media offers a possibility of instant world-wide communication, greater interaction and understanding and mutual appreciation in the global village.

But what is the downside? Those who are critical of technology say that technology has both human and environmental consequences. The human costs of technology include uniformity of mass society, mass production, standardized products, mass media tend to produce a uniform national culture, individuality is lost and local or regional differences are obliterated in the homogeneity of industrialization. There are quite narrow criteria of the efficiencies that dominate. Technology leads to rational and efficient organisation but it requires fragmentation, specialisation, speed and maximization of output. Quantitative criteria tend to crowd out qualitative criteria. And advertising creates demands for new products whether they fill market needs, or not, in order to stimulate both a larger volume of production and a consumer society. About impersonality and manipulation we can say that relationships in a technological society are specialised and functional, genuine community and interpersonal interactions are threatened.. Technology has created subtle ways of manipulating people with new techniques of electronic surveillance and psychological conditioning. When technological mentalities dominate, people are viewed and treated like objects.

There is also a problem with controllability.Technology is not only a set of adaptable tools for human use but also an all encompassing 'form of life' with a persuasive structure, its own logic and dynamics, and its consequences are unforeseeable. We often hear that we are living in a 'risk society', the term coined by Ulrich Beck. Even if we have more power to control nature, the threats and dangers

seem to be growing and not vanishing. An age-old criticism of Marxism was the alienation of the worker, which meant that the workers could sell their labour as a commodity, but their work was not a meaningful form of self expression. This state of affairs has not changed very much. Public opinion and the state have become the servants of techniques rather than the masters. Techniques are global, there is no way out since all our institutions, media and our personal life is controlled by them. And there are huge environmental consequences of technology which we all should know and which should not be ignored whether we speak about genetically modified crops or other environmental dangers.

If you look at technology as an instrument of power we can see that this is the third position which holds that technology is neither inherently good nor inherently evil but is an ambiguous instrument of power, whose consequences depend on its social context. Some technologies seem to be neutral if they can be used for good or evil just as a knife can be used for surgery or murder. Technologies are social constructions and they are seldom neutral, because particular purposes are already built into their design. We can make differences between the goals of research which are determined by the goals of institutions not by the technologists themselves. The decisions are often made by managers to show the interest of institutions, specialised industrial corporations and government bureaucracies.

So if we look at these different views - optimistic and pessimistic - what are the value judgements that underline the views of technology? The optimists stress the contribution of technology to economic development. They evaluate the economic freedom of the marketplace and political democracy, but they attach it in a utilitarian framework seeking to maximise the benefits over the costs.

The pessimists make human flourishing and personal fulfilment the highest priority. They question the technological goal of the mastery of nature. This is just a matter of how we compare different values, whether it is welfare and economic freedom or whether it is personal fulfilment, sustainability and also dignity of the individual. In this discussion there is an aspect that only the humanities can bring to the fore by just opening these arguments up and showing how to deal with value conflicts.

Our research group in Tartu University Centre for Ethics is currently working on value pluralism in ethics. We believe that values are objective but conditional and contextual. Although pluralists deny that there is one authoritative way of resolving value conflicts, as there is no overriding value, they still do not succumb to relativism. On a pluralist approach, rankings of values are reasonable only in particular situations because they depend on traditions and individual conceptions of the good life (Kekes 1993). We have shown that even if value comparisons at the general level (in the whole range of situations of choice and comparison where the values figure) are not possible ('strong incommensurability'), there may be possibilities for relating conflicting values to further values (moral or non-moral) which would help us rank the realization of one value above that of another ('weak incommensurability'). Often there is incommensurability of values at the general level, but this does not necessarily mean that values cannot be compared in specific socio-political contexts (Sutrop and Simm 2008).

The solution of the value conflict lies in giving preference to one value in a single specific situation, but it does not entail final adherence to an absolute hierarchy of values or an ethical framework. However, it may well be the case that our value systems change because of the development of socio-political contexts or our self-understanding. For example, the shift towards more communal values, such as solidarity and reciprocity, in the field of genetic research can be explained through changes in our conception of the human being, in understanding our relatedness to other living beings. A similar contextualized approach can be applied in case of a conflict between two different value systems (e.g. liberal individualism and communitarianism). Instead of debating whether one should prefer individual rights or common-good based arguments, one should rather consider the value conflicts in specific socio-political situations and keep in mind the larger picture and the long-term perspective.

II. Challenges to ethics arising from technology. We shall now look at the second subdivision and ask how standard ethical questions are changed by new technologies. We can also ask, what is new about these questions? The new possibilities by human actions, pose ethical questions that humans have never faced before. There may be questions like the following: should we develop nuclear weapons and risk nuclear war? Should I donate my organs for transplantation? Is it wrong to make a copy of software? Recent discoveries in genetics mean that it is now possible to modify human being themselves, so: Is gene technology and cloning wrong because the scientists should not play god? About biometrics and human dignity, we an ask are we ready to have parts of our body like fingers, eyes and genes stored in central databases and traded by insurance companies and government agencies. There are, without doubt, other new questions. But what are these questions about? They are about privacy, autonomy, and which is more important: autonomy, responsibility or solidarity? There is nothing radically new. The choice remains the same. What is new, is a new *context*, in which these questions are raised As well as the possibilities that technologies give to us to face the challenges that we have to meet.

If we look at what the European Group on Ethics in Science and New Technologies at the European Commission has dealt with, the topics are as follows: genetic testing, ethical aspects of human cell research, research in human embryos, blood banking, nanomedicine and now also biometrics. There are new challenges. I would like to take two examples to show how these questions have been raised. Current bioethics seems to be a very rich source that the humanities can bring for research. There are many disputed issues like the moral worth of a human embryo, conceptions of personhood, human dignity, the right to reproductive autonomy, gene therapy, cloning, organ and tissue transplantation, life-prolonging technologies. Rapid developments have taken place in biology, medicine and biotechnology during the end of 20th century and the beginning of 21st. Thanks to these advancements we are now increasingly capable of unravelling the information embedded in genes, determining faulty genes that cause grave diseases and engineering new genes into cells. New methods in molecular and cell biology contribute towards the development of medical diagnostics and new pharmaceuticals. This progress allows us to considerably improve our life, while at the same time developments raise a host of concerns. In the fast developing fields of research the

formulation of applicable ethical and legal principles tends to lag behind the science. We see huge differences in moral practices even if we compare similar cultures. The German and Dutch societies disagree on the question of euthanasia, the British and German communities have totally different views on stem cell research. In the case of cloning, views diverge not only across different cultures, but also in one culture. Many scientists and patients support cloning because of its potential to gain a better understanding of human development and the treatment of diseases. A small minority of the public would also support its use to help couples who otherwise would not be able to have genetically related children. Some fear a brave new world-like civilization in which people intentionally are designed for the use and control of those more powerful. Some oppose cloning because it requires the destruction of human embryos, while others view the cloning of a human being as an ill-conceived attempt to assert divine authority or to second guess nature.

In spite of, or as a reaction to, different views on ethical issues there have been continuous attempts to formulate universal bioethical principles. Why should we even aim at an international normative framework? The answer is that the impact of local norms is often too weak. Bioethics is a realm where activities undertaken in one corner of the world may affect the whole of humanity. The necessity of harmonising norms of bioethics is also influenced by the fact that as science and technology research becomes more international it becomes possible to conduct research in localities where these norms are more relax. Henk Ten Have (2008) has pointed out that the example of cloning has shown that when a new technology has been developed in one country it can be applied elsewhere even if some countries would like to ban its use. As research institutes and pharmaceutical companies carry out research in different countries it is important to apply the same standards in all countries. However it has turned out that in order to maximize the chances of avoiding outright divisions and reaching a consensus on broad principles, the working committees of these documents have been opting for general definitions, very often deferring the specification of key concepts to later protocols. In some cases one just cannot avoid decisions, but this might mean declaring some values more important than others without any justification.

I think that Aurora Plomer (2005) is right, when she pointed out that agreement may exist about the core meaning of a principle but at its boundaries the principle is characterized by indeterminacy and openness. She explains it as follows: "For instance, there is undoubted agreement that the principle prohibits the deliberate inflection of cruelty and torture on persons and therefore rules out the kind of experimentation conducted on human beings by the Nazis in concentration camps. But does the principle also prohibit experimentation or even the destruction of frozen human embryos?" (Plomer 2005:11). Here the beliefs diverge significantly. Pro-life supporters clearly believe that it does, those who are in favor of research on human embryos, do not. Similar difficulties regarding interpretation, meaning and scope of key concepts arise in relation to all the other bioethical principles usually invoked. The interpretation of a principle of beneficence depends on whether one is a utilitarian, Kantian or a contractualist, as these theories have a different understanding of the duty to help others. Also the principle of respect for autonomy can have different readings in the context of utilitarian and Kantian ethics.

I believe that even if particular moral norms may vary from one culture to another, or transform, this is rather the consequence of interpretation of values and not the uptake of different values. The interpretation on moral values depends largely on our self-understanding, on our need and desires on our understanding of the good life, on the way we answer the question: how should we live? All this is closely tied up with the concrete cultural, historical and economic conditions in which we live or in our religious convictions. This emerges very clearly in the debates on ethical issues. Here the humanities can have a lot of research to do in order to open up the different interpretations of these concepts both historically and culturally.

Is the unity of ethics out of reach, one might ask? Since our understanding of values has developed over time, we can suppose that others can also change their mind. I believe that moral values are objective. All moral practices appreciate honesty, freedom, human dignity, justice and beneficence. If their values are not esteemed we can not speak of moral practice at all. Moral values are objective in nature, thus allowing criticism of peoples and groups who do not accept these values. The problem is that these values can be interpreted differently and these interpretations should be open. When cultures or groups of one society come into contact and are faced with other interpretations, one reflects on one's interpretation and compares them to others. Sometimes it may come to change. As the American philosopher Robert Baker (2005) has suggested, international bioethics can be reconstructed as a negotiated moral order which is consistent with traditional ideals of human life whilst respecting cultural differences but recognizing defined areas of non-negotiability.

Now the second example: biometric identification technology which is now used in very diverse settings. It is exactly the same problem, that there are different values; biometric identification is used for national security, health and welfare, banking, insurance and commerce, surveillance. Biometric systems are developed in many countries (i.e. technical surveillance related responses to 9/11), but we can say that the public discussion on benefits and drawbacks has been lamentably absent. Such discussion is now mandatory.

What is biometrics? The definition has been nicely opened up by Emilio Mordini and Carlo Petrini (2007: 5). They have shown that biometrics is a scientific discipline of observing and measuring relevant attributes of living individuals and populations to identify active properties or unique vehicles. These are developed for social security entitlement. Existing biometric methods include fingerprints, ultrasound fingerprinting, retinal and iris scans, hand geometry, facial feature recognition, ear shape, body odor, signature dynamics, voice verification, skin patterns, foot dynamics. Future biometrics will include DNA analysis, neutral wave analysis and skin luminescence.

The problem with ethical and social questions raised by biometrics is that they may compromise privacy, they can reveal more about a person than only their identity. There are ethical questions that can be raised – protection of personal data, confidentiality; very often we can sum them up under human dignity. How to balance individual and collective values, freedom and autonomy *versus* security and responsibility? Surveillance methods include video cameras, computer matching, profiling and data mining, computer and electronic location monitoring, biometrics, DNA analysis, drug tests, brain scans, lie detection. These are various forms of imaging to reveal what is behind the

walls. We can see that since these devices have become more invasive they may deeply compromise privacy. How can we make a decision about what is more important – security or individual liberty and autonomy to decide which kind of information should be conceived about ourselves? Sometimes it is said, that what matters most is the appropriateness of collecting the information. The possibilities of collecting data have become more available and logistically easy, and also cheaper. And volunteering one's data and being digitally recorded and tracked is coming now to be taken for granted as a means of asserting selfhood. This wilful blurring of some of the lines of public and private self and the ability of technologies to transmit and receive personal data, has now become a problem.

Two broadly opposed views can be identified. One optimistically places great faith in the power of technology, and welcomes ever more powerful surveillance as necessary in today's world where efficiency is valued and where there are a multiplicity of dangers and risks, of terrorists and criminals. More pessimistic is the Frankenstein view that surveillance technology is inhumane, destructive of liberty and untrustworthy. Clearly surveillance is a sword with multiple edges. These are value conflicts, which makes it difficult to take a broad and consistent position in favour of, or against, expanding or restricting surveillance. If we look at these new examples, like new technologies and databases, which Estonia is also developing - population, e-health database, where all the electronic health records are being collected, the argument very often is that the community profits. We seem to be going to the edge where solidarity and equity are prevailing over individual freedom and autonomy. The argument is that the common good is superior to individual rights.

We can now come back to the question: what is new about these issues? Changes are taking place in the ethical framework. It's not that there are new ethical questions, but at least we can now follow any changes in the ethical framework, because an attempt is continuously being made to balance the protection of individual interest against likely communitarian benefits or the common good. We are living in an age where we are going to move from rights-spaced liberal ethics to the common-good based communitarian ethics. The complex notion of public interest has not yet been elaborated very well, so this is a new challenge for the ethicists. If we look at liberal *versus* communitarian ethics, we see that liberal ethics plac But whodefines the common good? The problem is that public interest is an extremely vague concept and famously difficult to define. History has shown that it can be easily manipulated and used in order to further particular interests under the label of common interests.

Since solidarity and equity prevail over individual autonomy one can speak about the changes in ethical discourse. One can ask if communitarian ethics is a suitable ethical framework for all societies. Is it able to protect individuals in non-democratic totalitarian societies where the common good can be defined by the group which is in power? My belief is that we can make decisions about technology within a wider context of human and environmental values and the concept of the good life. The most important thing is that we should be aware of what values we have chosen and also look at the justifications. In order to clarify our values and resolve the conflict, the humanities can lend a helping hand to the biosciences and the technology sciences and hopefully this will be a good cooperation.

References

Baker, R. (2005). International Bioethics and Human Rights: Reflections on a Proposed Universal Declaration on Bioethics and Human Rights. *Politics and Ethics Review*, 1:2, 188-196.

Barbour, I. G.(1993). *Ethics in an Age of Technology. The Gifford Lectures 1989-1991*. *Volume Two*. HarperSanFransisco.

Ten Have, H. (2008). Towards Global Bioethics: The UNESCO Universal Declaration on Bioethics and Human Rights. *Genetic Democracy: Philosophical Perspectives*. Launis, V. and Räikkä, J. (Eds.). Springer Netherlands.

Kekes, J. (1993). *The Morality of Pluralism* (Princeton, New Jersey: Princeton University Press.

Mittelstrass, J. (2002). *Wissenschaft und ethische Masse. Teadus ja eetilised mõõdupuud*. Tartu 2002.

Mordini E., Petrini, C. (2007). Ethical and social implications of biometric identification technology. *Annali dell'Instituto Superiore di Sanità*, 1: 43, 5-11.

Plomer, A. (2005). *The Law and Ethics of Medical Research. International Bioethics and Human Rights*. London, Sydney, Portland, Oregon, Cavendish Publishing Ltd.

Sutrop, M. and K. Simm. 2008. Public and Private Interests in the Genomic Era: A Pluralist Approach. *Ethics, Law and Society*, Volume IV. Ashgate Publishing Limited, Aldershot.

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Keynote speech:
Convergence of digital media and content.

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Shifting Landscapes: Convergence Culture

Up until very recently the storage ,circulation and display of cultural knowledge and expression was distributed across a wide variety of forms; manuscripts, books, graphic arts, photographs, moving images, and recorded voices and sounds. Each generated its own unique practices and based itself in dedicated institutions. The cultural landscape was multidimensional but dispersed. By translating all forms of human expression into a single universal language of 0's and 1's , the arrival of digital technologies ends this separation of cultural spheres and lays the basis for a new landscape of convergence.

This shift is made possible by intersecting innovations in storage, computing and communication. The arrival of high density digital discs , flash drives and portable hard drives enables ever expanding amounts of material to be stored and retrieved economically and flexibly. Increases in the capacity of desk top computers , laptops, and mobile phones allow complex internet sites and data bases to be easily accessed and searched. More efficient use of existing cables and the development of high density fibre optic connections enable the 'broadband' distribution of moving images and other bulky forms of expression. Innovations in the deployment of the radio spectrum enhance wireless ('wi-fi') communication making digital material easily available in a range of public locations. Taken together , these innovations provide the basic infrastructual supports for an emerging convergence culture defined by four major characteristics

Firstly it is **multi-modal** and based on novel combinations of text, image, voice, data, and sound brought together on a single disc , data base or internet site.

Secondly it is increasingly **mobile .**It uncouples space from place allowing remote access to material stored in geographically distant locations .

Thirdly, it is **participatory** . Users are increasingly encouraged to interact with material already posted on internet sites by leaving comments , contributing their own material or ,in the case of multi player games, navigating simulated environments.

Fourthly, it is **networked** prompting users to move from one internet site to another by clicking on the hyperlinks provided or inputting key words into a search engine to locate other sites related to particular topics and interests.

Emerging Opportunities: Digitalising Practices

The development of these possibilities offers practitioners, researchers, teachers and students working across the humanities a range of new resources, sites, and modes of communication.

Most obviously, as the case studies provided by other contributors to this volume show very clearly, digitalising existing archives and collections not only makes them more widely available it also supports new forms of use and analysis. They can be searched easily and effectively and patterns identified using a range of software packages. Different and successive versions of the same text or related works by the same author can be readily compared. Instances from other places and contexts can introduced and analysed to identify wider movements and shifts.

Added to which, digital collections are dynamic and open ended. Because they are not subject to the same space constraints that confine physical holdings they can be extended in more flexible ways. Some of these additions will come from discoveries made by researchers searching for lost or hidden materials generated by professional practices but others will come from vernacular sources. There is already an extensive interest in collecting, salvaging and cataloguing material produced in the ebb and flow of everyday life; family photographs, amateur film footage, diaries, cabinets of curiosities. Digital technologies allow these materials to be placed alongside professional productions throwing new light on prevailing accounts of taste and change.

Alongside these efforts to preserve existing materials, digital media also offer opportunities to engineer new encounters between researchers, students and the contexts they are studying. The Arden Project, launched by Edward Castronova - Director of Indiana University's Synthetic Worlds Initiative - is a particularly interesting and ambitious example. Named after the Forest of Arden in Shakespeare's play, *As You Like It,* the project is creating a computer generated version of Shakespeare's social world which users are invited to enter. The initial aim is to encourage people to deepen their understanding of the Bard's work through encounters with characters and settings from the plays, but Castronova also hopes to use the immersive and participatory qualities of synthetic environments to explore responses to alternative histories and social and cultural innovations (Indiana University 2006).

While synthetic environments expressly designed for humanities research are still rare, researchers and institutions have been experimenting with renting space in commercial sites for some time. The most widely used of these, Second Life, run by the Californian company Linden Labs, now hosts activities developed by a wide range of interest groups. Universities are establishing virtual campuses. Teachers are offering virtual seminars. Artists and musicians are putting on shows and performances in virtual galleries and concert halls. There are museums and libraries. As these three dimensional spaces become more photo realistic and speech replaces lines of text as the standard medium of interaction, so the possibilities for launching new initiatives and reaching new or neglected audiences increase.

Digital media also have the capacity to alter communication within academic and professional communities and between researchers and their publics .Scholarly communication is being rapidly transformed by the proliferating range of freely accessible electronic journals operating outside the orbit of the major publishers and by the increasing numbers of bulletin boards devoted to exchange and discussion in specialist areas. Alongside this digitalisation of the 'invisible college' we also see new channels of communication between researchers, users and publics opening up. Universities are launching institutional repositories of staff publications on their web sites. Increasing numbers of individual researchers and scholars have personal web sites providing accounts of their work and web logs commenting on current developments and issues in their areas of interest. It is now common for research projects to have dedicated web sites that simultaneously publicise their work and invite responses and comments. Funding bodies are increasingly requiring that researchers deposit the raw materials collected in the course of their investigations in national research archives.
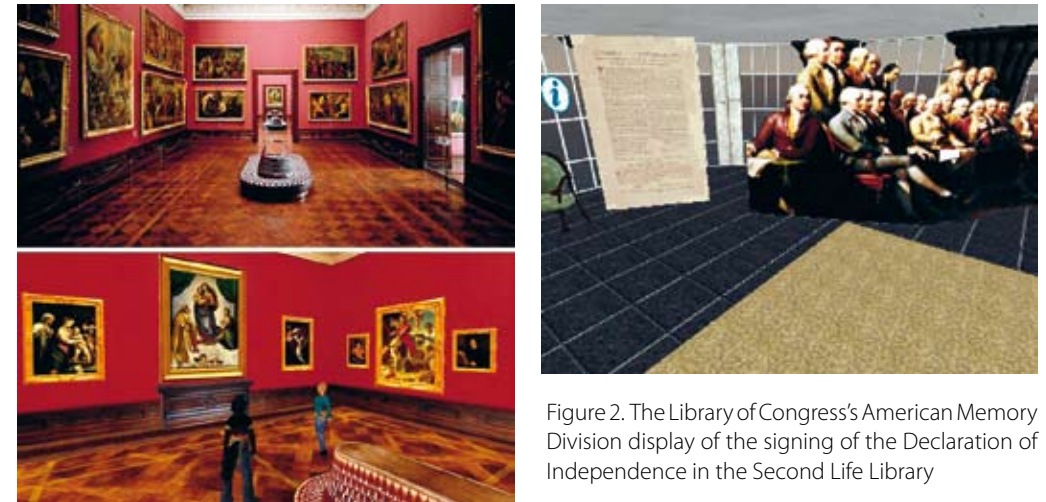

Figure 2. The Library of Congress's American Memory Division display of the signing of the Declaration of Independence in the Second Life Library

Figure 1. In 2007 the Dresden City Museum's Old Masters Gallery installed 750 paintings from its collection in a dedicated space within Second Life

New Risks: Technologies and Vulnerabilities

These emerging opportunities presented by digital innovations have immense potential .Given the pace of change over the last half decade it is clear that we are only at the very beginning of a process that is likely to offer even more possibilities in the future. At the same time, it is vital not to become too entranced by the unfolding vistas presented by successive technological innovations. New opportunities also bring with them new vulnerabilities.

As the cautionary histories of acid impregnated paper and nitrate film stock remind us, no storage and display system is ever entirely secure. Books are rotting and early movies are spontaneously combusting. Digitalising these artefacts is widely seen as the only way to salvage them and preserve them for posterity, but it is too early to say for sure how robust current digital storage technologies will be in the long term. It is not simply that the current generation of digital discs may decay .There is also the issue of obsolescence. Innovations in digital technologies are driven primarily by commercial ambitions. The long term needs of public organisations come some way down the list of priorities if they feature at all. The BBC's Domesday Project is a notable case in point.

Intended to celebrate the 900th anniversary of the compilation of the original Domesday Book, the project set out to compile a comprehensive capture of life in Britain drawing on both professional and amateur contributions. The results were archived on two video discs, a National Disc containing news footage and professional photographs and commentary and a Community Disc made up of writing and images about local areas contributed by schools and community groups. The discs were designed to be played on a laser disc player produced by Philips. Unfortunately, this format never sold widely and became obsolete within a few years of the discs' launch, making it increasingly difficult to view them. The material was eventually salvaged by an exercise in reverse engineering that translated it into a form that could be read on a the Windows based system that by then had come to dominate personal computing. Given the pace of change and the format wars that have characterised successive waves of innovation there is every likelihood that obsolescence will be a recurring feature of digital developments. One suggested solution is to regularly transfer materials to new media as they come on stream, but the expense entailed may well be beyond the budget of a number of public organisations.

Nor are the computer systems and networks, on which Internet based storage and networking depend, entirely secure. In May 2007 the everyday business of governing Estonia was severely disrupted when key websites were jammed to make them unusable. This action was added to a growing list of attacks on government websites across a range of countries, from the US to India and Australia. To date these instances of 'cyber warfare' have been directed at data bases held by military, security and government agencies, but given the centrality of historical records and cultural archives to struggles over identity, national and religious, it is not beyond the bounds of possibility that these may become targets in the future. Similarly, the recent incident when one of the main undersea cables carrying internet traffic between Western Europe and the Middle East was accidently severed by a ship's anchor reminds us of the vulnerability of some of the key links in the current network configuration.

However, I want to argue that ,at present, the principle problems facing the creative public use of digital resources to advance humanities research and teaching and develop new ways of engaging public interest and participation, are posed by the gathering pace of commercialisation and commodification.

Public Enterprise in the New Economy

The lion's share of the preservation, display, research and teaching associated with the practice of humanities within Europe takes place in institutions funded primarily out of the public purse and dedicated to making relevant knowledge, skills and cultural experience as widely available as possible. Subsidised theatres and orchestras, universities, art schools, music and dance academies, libraries, museums, galleries, and public broadcasting organisations provide the essential institutional supports that enable a public cultural commons to develop and grow. Digital technologies offer novel ways of revivifying and extending their core project.

The problem with libraries and museums historically is that geography and space has restricted access even when entry and use were free. To see an exhibit or consult an archive it has been necessary to travel to the building and once there one might have to contend with crowds of people jostling to see the same painting or a queue wanting to consult the same source. Added to which limited display space in the publicly accessible parts of the building meant that a substantial proportion of the holdings were stored in basements or stacks, some accessible to visitors, some not. By enabling collections to be displayed in their entirety and offering ready access, anytime and anywhere, moving materials onto the Internet solves problems of differential access, at least potentially.

The other advantage of creating digital holdings and data bases is that it allows cultural institutions to move from simply staging events (lectures, exhibitions, performances) or displaying its own collection to offering gateways that direct users to other relevant sources. Despite the battering they have received economically over the last two decades, public institutions still enjoy relatively high levels of public trust. This symbolic capital is an invaluable asset in developing institutional websites that link users to sources of information chosen for the reliability and quality of their information and the comprehensiveness and even handedness of their analysis and discussion.

It could be argued that relying on expert judgement to select the sources recommended to users runs directly counter to the wisdom of crowds that organises the lists of sites on the major commercial research engines. So it does, and in doing so it raises the wider question of how best to accommodate amateur and lay contributions.

From the outset a substantial amount of activity on the Internet has been based around a new gift economy rooted in an ethos of reciprocity. This ethic found its earliest, and arguably its most powerful expression , in the free software movement in which computer programmers collaborated together to develop software applications that were more robust and efficient than those on offer from the major commercial operators, led by Microsoft. This ethos of the free and reciprocal donation of time and expertise was later applied to more general forms of cultural production, most notably Wikipedia, the on-line encyclopaedia compiled entirely form voluntary contributions and continually open to modifications, alterations and additions.

These collaborative initiatives pose two urgent questions about how best to mange the relations between professional and amateur contributions. There are difficult and unresolved questions of value and judgement .There are also questions of reward, which brings us back to the onward march of commercialisation and commodification.

Corporate Captures

Digital technologies offer the prospect of creating an enlarged and more inclusive public cultural commons, but like the original commons, comprised of shared access to land and living resources, the emerging digital commons is subject to strong pressures towards commercial enclosure. This process proceeds through acquisition, integration, and corporatisation.

Commercial corporations have been increasingly active in buying up key web sites and mobilising them as vehicles for marketing and selling. They have also made strenuous efforts to extend copy-right to longer periods of time and to new digital media. These strategies undercut the project for a public digital commons in two ways. They make access to cultural resources conditional on ability to pay or on willingness to tolerate advertising and they restrict the ways existing material can be used as a basis for new creative initiatives. This restriction has not gone unchallenged however. There is increasing support among cultural professionals for types of 'Creative Commons' agreements, which permit free individual use of material for educational or creative purposes and on the condition that any product that eventuates is itself made available for re-use.

Corporations have also been quick to see the potential of synthetic environments and have increas-ingly established a presence in *Second Life*, opening retail outlets, launching marketing initiatives, and co-opting the creative energy of users as cost free research and development. Consumers are reinvented as producer-consumers, 'prosumers', partners in product development.

These initiatives, which are reconfiguring the digital commons around corporate gaols and strategies, are reinforced by the process of corporatisation which cajoles or requires public institutions to think and behave like private corporations. This shift, which has been steadily gathering momentum, combines the stick of reduced funding with the carrots of enhanced provision through public-private partnerships and increased revenues from 'monetising' assets. Both have consequences for the practical business of ensuring open access and for the ethos of public service which underwrites the public funding of cultural activity.

Digitalising major public library collections is clearly desirable since it makes them more widely and easily accessible , but because the costs are beyond the reach of even the major institutions , including Oxford and Harvard universities, they have been obliged to accept the subsidy offered by the Book Search initiative launched by the major commercial internet search engine, Google. Under the terms of this agreement, in return for bearing the costs of producing a comprehensive high quality digital archive Google retains the right to direct users consulting books still covered by copyright to selected sales sites. The outcome is paradoxical. Visitors to the physical library can consult any book they wish and read it in its entirety but those using the virtual library are restricted to looking at brief extracts from copyrighted volumes and pointed to a bookstore where they can buy the complete volume

Universities, and other public cultural institutions however, are not simply subject to commercial strategies determined elsewhere. They have been increasing active in developing their own market oriented strategies. Partly this is to compensate for shortfalls in public funding relative to the range of goals they are expected to achieve. But it also reflects an altered managerial ethos within public institutions, which has replaced the rhetoric of 'service' with the language of 'asset management' and 'value maximisation' In the process publics have become customers.

This is not to say that public institutions have nothing to learn from commercial players. Engaging young people who have grown up in a digitalised environment requires public institutions to rethink their presentational strategies. As one recent report complained 'Few digital library offerings make any real attempt to connect with the larger digital consumer world: they simply do not chime with people's experience of Facebook, YouTube and Amazon. Why, for example, don't academic libraries try to emulate personal/social searching guidance offered so successfully by Amazon for many year?' (UCL 2008:33)

The Struggle for the Digital Commons

So, we are presented with a paradox. As I have argued, innovations in digital technologies have the potential to revivify the project of building an inclusive, cosmopolitan, and participatory public cultural commons. They facilitate the active exploration of histories and practices that both define national boundaries and sensibilities and cut across and dismantle them. By integrating access to thought and expression in different cultural domains and forms they suggest new connections, com-munalities and comparisons. By enabling and extending participation they facilitate new encounters and conversations between specialists working in different areas, between professionals and amateurs, and between researchers and creative personnel and their publics.

The humanities are pivotal to this project. By illuminating the lives of others and encouraging us to take walks in the shoes of strangers, they provide essential resources for the cultivation of the understand-ing and empathy on which democracy ultimately depends. In a time when mental fortresses are being rebuilt and the world remapped in terms of binary oppositions between 'them' *versus* 'us', this commit-ment to illuminating the indivisibility of humanity is arguably more vital than it has ever been.

As I have argued however, this project is at odds with a world view that sees culture primarily as a com-modity rather than a shared inheritance and which invites people to think of themselves as consumers making personal choices in the marketplace rather than members of moral and political communities with a responsibility to contribute the quality of collective life. The struggle between these two ways of looking will determine how digital technologies are deployed and what shape the cultural com-mons will take. It is not a contest that is taking place elsewhere. It is written into every decision we take as researchers, practitioners, and teachers. To practice humanities in digital times is to be continually called upon to decide not only how we will use new technologies but for what purposes.

References

Indiana University (2006) 'MacArthur Foundation grant will enable IU professors to virtually recre-ate the world of Shakespeare' http:// newsinfo.iu.edu/news/page/normal/3599.html [accessed 23 January 2008]

UCL (2008) *Information Behaviour of the Researcher of the Future.* London. University College.

Doctoral students' thematic poster session

Digital edition of late medieval town statutes: Visualising the evolution of text and law
Malte Rehbein
University of Göttingen / National University of Ireland, Galway

Platform Futures
An evaluation of the role of new technology in the creative media practice of young people in informal educational settings
Emma Agusita Collaborative PhD Student

WHERE'S THE ON-SWITCH?
INTEGRATING INFORMATION TECHNOLOGY AND HUMANITIES POSTGRADUATE RESEARCH
Nessa Cronin

USING CORPUS-BASED METHODS IN HUNGARIAN VERBAL ARGUMENT STRUCTURE STUDIES
Kata Gábor

Finding synonyms automatically using parallel corpora
Lonneke van der Plas

Platform Futures. An evaluation of the role of new technology in the creative media practice of young people in informal educational settings.

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Research summary

The research seeks to explore the role of existing, emergent and future technology in facilitated creative media communication activities for young people (ranging in age primarily between 7-19). These activities such as filmmaking, photography and design projects typically occur in locally based, out of school settings and are facilitated by **Community Media** organisations and practitioners.

'Existing, emergent and future technology' includes digital: video, photography, graphic design, publishing and editing technologies and interactive, locative, virtual, mobile technologies such as web, GPS, mobile phone and gaming platforms.

Research Background

Community Media organisations and practitioners traditionally develop and provide informal, educational, creative media communication activities that seek to affect social and cultural change.

Using media technologies as a conduit their practice reflects a commitment "to the principles of free expression and participatory democracy" (Howley, 2005:2).

Policy makers, educationalists and academics are paying increasing attention to the Community

Media sector for a number of reasons:

1) The proliferation and convergence of new digital technologies with computing and media communication systems offers the potential for greater access and opportunity for young people to engage in creative media communication activities. However the rise of 'digital culture' has prompted questions concerning equality of access and inclusion and raised the debate surrounding the development of 'media literacy'. Media literacy is the "result of media education which is concerned with developing young people's critical and creative abilities" in using media forms and processes (Buckingham, 2003:4).

2) There is growing interest across the spectrum of educational providers concerning the types of learning attributes associated with informal learning of this type e.g. learning is frequently self-directed, progressive and personalised, learners commonly develop communication and interpersonal skills and adopt flexible attitudes to learning. An increasing demand for a creative, culturally and technologically adept workforce that can meet the needs of a 'knowledge economy' have expedited this interest.

This research is a result of collaboration between the University of the West of England and Knowle West Media Centre (KWMC). KWMC is an independent charitable organisation based in Bristol, UK that uses video, photography and multimedia as a tool for work with local people in order to foster community regeneration and improvement. KWMC is based in the middle of a housing estate that ranks highly in indicators of deprivation, particularly in housing, health, employment and educational attainment where it ranks in the bottom 10% in the country.

Research Rationale

As a result of this rising tide of interest stemming, mainly, from social and economic imperatives and due increasing agitation from Community Media practitioners, the call for expansion of a body of critical thought in order to extend what is known and understood about the Community Media sector has been pivotal in creating collaborative opportunities to engage in reflective practice of this kind.

Research Aims

The research will inform future policy work and practice by the collaborating organisation, the wider Community Media sector and beyond. It will focus specifically on the way young people participating in media communication activities make creative use of technologies and will aim to establish what platforms will be viable or valuable in terms of investment by KWMC, similar organisations and educational providers (in future disseminations of media content)

The research aims to contribute to debate regarding the role of media in young people's educational achievement, skills development, creative learning, decision-making and participation in community life.

Methods

The research will draw on a programme of activity developed by KWMC to evaluate several projects in relation to the research.

The project embodies key action research elements. Working alongside practitioners the research will focus on the following initiatives:

Activities based on examining the contemporary representation of young people in society, enabling young people to find ways of representing themselves 'on their terms'.

Labs and workshops exploring what technological platforms are most relevant to young people in disseminating their ideas and in facilitating their engagement in local/national debates and decision-making.

The target group for these initiatives are primarily young people disengaged from education, young disabled people, teenage parents, young people at risk of offending and young people 'not reaching their potential'.

Approach

Critically, the research is oriented toward reflecting the ethos and principles of the partner organisation, in other words, reflecting the need for young people to develop and define their own terms of reference and representation. Therefore, part of the approach to this research involves exploring how young people can participate in the development of the research framework and activity, effectively operating as co-researchers.

Indications

Though this research is in its early stages, as a precursor to engaging in specific fieldwork activity I am currently focusing significant attention on a number of key questions and subsequent methodological implications arising from the designated aims and selected approach. For example:

1) To what degree can the research process become participatory for the young people and the practitioners involved? (E.g. in defining the terms of reference, research design and evaluation)

2) Aside from developing improved service provision, how else can the research process be used to benefit participants? (What kind of educational and development opportunities can be incorporated into the action research programme itself?)

3) How can the research be communicated to participants and service users in a community context? More specifically, what communication and dissemination activity can I employ in order to reach young people as a valuable and valued target audience for this research?

Indicative Bibliography

Buckingham, D. (2003). *Media Education – Literacy, Learning & Contemporary Culture.* London: Polity Press.

Cotton, B. (2002). *Futurecasting Digital Media.* Pearson FT.com

Howley, K. (2005). *Community Media: People, Places and Communication Technologies.* Cambridge: University Press.

Green, H. and Hannon, C. (2007).*Their Space – Education for a Digital Generation.* London: Demos.

Finding Synonyms Using Multilingual Parallel Corpora

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1 Introduction

The identification of synonyms is critical for many tasks. In information retrieval the information that people ask for using a set of words may be found in a text snippet that is comprised of an entirely different set of words. In this paper we report on our findings in trying to automatically acquire synonyms for Dutch.

Defining the meaning of a word is difficult to do. Translations are interesting because translators bridge over difficulties relating to the meaning of words. We will use translations of words to acquire synonyms. This is built upon the following idea: words that share a large number of translations are similar. For example both *autumn* and *fall* get the translation *herfst* in Dutch, *Herbst* in German, and *automne* in French. This indicates that *autumn* and *fall* are synonyms.

A straightforward place to start looking for translations of Dutch words is in bilingual dictionaries. However, as these are not always publicly available for all languages, we have chosen to automatically acquire word translations from a multilingual parallel text.

2 Alignment Methods and Data

We have used the freely available Europarl corpus (Koehn, 2003). It includes 11 languages in parallel, it is sentence aligned (Tiedemann and Nygaard, 2004), and is of reasonable size. Thus, for acquiring Dutch synonyms we have 10 language pairs with Dutch as the source language: Danish (DA), German (DE), Greek (EL), English (EN), Spanish (ES), Finnish (FI), French (FR), Italian (IT), Portuguese (PT), and Swedish (SV). The Dutch part includes about 29 million tokens in about 1.2 million sentences.

To retrieve word alignments, we applied standard techniques derived from statistical machine translation using the well-known IBM alignment models (Brown et al., 1993) implemented in the open-source tool GIZA++ (Och, 2003). We applied standard settings of the GIZA++ system (see for more details van der Plas and Tiedemann, 2006).

From the word alignments we can extract vectors such as in Table 1 for all words in the data. The values of the cells indicate the number of times the translation pair is found in the corpus.

	Herbst-DE	automne-FR	autono-PT
herfst ´fall´	17	26	8

Table 1: Feature vector for the headword *herfst*

3 Measures and Feature Weights

The vectors, as seen in Table 1 are used to find synonyms. The more similar the vectors are, the more similar the headwords are. We need a way to compare the vectors for any two headwords to be able to express the similarity between them by means of a score. We have used *Dice*† (Curran and Moens, 2002) to compute the similarity between vectors. *Dice*† is a measure that incorporates weighted frequency counts.

$$Dice\dagger = \frac{2 \sum_f min(I(W_1, f), I(W_2, f))}{\sum_f I(W_1, f) + I(W_2, f)}$$

Where f is a feature, W1 and W2 are the two headwords under comparison, and I is a weight assigned to the frequency counts.

The results of vector-based methods can be improved if we take into account the fact that not all combinations of a word and a translation have the same information value. Very frequent words are often aligned in an incorrect way. We used Pointwise Mutual Information (I) (Church and Hanks, 1989).

$$I(W, f) = log \frac{P(W, f)}{P(W)P(f)}$$

Where W is the headword, P(W) is the probability of seeing the headword, P(f) is the probability of seeing the feature, and P(W,f) is the probability of seeing the headword and the feature together.

4 Evaluation Framework

The output of our system is a ranked list of candidate synonyms. In our experiments we apply automatic evaluation using an existing synonym database, Dutch EuroWordnet (EWN, Vossen (1998)). The gold standard consists of a list of all nouns found in EWN and their corresponding synonyms extracted by taking the union of all synsets for each word.

As out test set we have extracted 1000 words randomly from EWN. Precision is then calculated as the percentage of candidate synonyms that are truly synonyms according to the gold standard.

The drawback of using such a resource is that coverage is often a problem. Not all the words that our system proposes as synonyms can be found in Dutch EWN. These words are discarded. It is important to note that EWN's synsets are not exhaustive. A pair of words, that are not found in one synset, might still be synonyms. This is the reason why we conducted a manual evaluation.

5 Results and Discussion

Rank	k=1	k=2	k=3
% synonyms	22.5(+28.7%)	16.6	13.7

Table 2: Average percentage of synonyms

Table 2 shows the precision scores of several candidate synonyms. These scores were too pessimistic in our view. Hence, we decided to conduct a human evaluation on a sample of candidate synonyms that were classified as incorrect by EWN. Ten evaluators (authors excluded) were asked to classify the pairs of words as synonyms or non-synonyms or '*don't know*'. With 37 of the 100 pairs more than half of the evaluators agreed that they were synonyms. We can conclude from this that the scores provided in our evaluations based on EWN are too pessimistic. We believe that the percentage of errors is in fact approximately 37% less. This essentially indicates that we are able to find synonyms that are not yet covered by available resources.

consensus ´consensus´	*eensgezindheid* ´consnsus
herfst ´fall´	*najaar* ´autumn´
armoede ´poverty	*armoedebestrijding* ´poverty
verlamming ´paralysis´	*lam* ´paralysis´

Table 3: Example candidate synonyms at 1st rank

In Table 3 some example output is given. These examples illustrate two problems that arise. Firstly, compounds pose a problem for the alignment method as Dutch is a compound-rich language. Many languages in our corpus are not. The alignment method we have chosen only allows one-to-one links. That is why Dutch compounds are linked to parts of multi-word expression in languages

such as French. This has a negative effect on the quality of the candidate synonyms. An example is given in row 3 of Table 3.

Secondly, the alignment-based method often gives back related words that belong to different syntactic category. The adjective *lam* 'paralysed' is related to the word *verlamming* 'paralysis', but it belongs to another syntactic category and can therefore never be a synonym of *verlamming*.

6 Conclusions

This paper shows that multilingual word alignments can be applied to acquire synonyms automatically without the need for resources such as bilingual dictionaries. Taking the difficulty of the task into account, the scores are more than reasonable. Moreover, we are able to discover synonyms absent in Dutch EuroWordnet. Many errors are due to the partial alignment of Dutch compounds. In future work we would like to use multiword detection for languages that use multiword expressions (where Dutch would normally use compounds) to take care of the problem that compounding poses.

7 Acknowledgements

References

Brown, P. F., Della Pietra, S. A., Della Pietra, V. J. and Mercer, R. L. (1993). *The mathematics of statistical machine translation: Parameter estimation*. Computational Linguistics, 19(2), 263–296.

Church, K.W. and Hanks, P. (1989). *Word association norms, mutual information and lexicography.* Proceedings of the 27th annual conference of the Association of Computational Linguistics, 76–82.

Curran, J.R. and Moens, M. (2002). *Improvements in automatic thesaurus extraction*. Proceedings of the Workshop on Unsupervised Lexical Acquisition, 59–67.

Koehn, P. (2003). *Europarl: A multilingual corpus for evaluation of machine translation*. unpublished draft, available from http://people.csail.mit.edu/koehn/publications/europarl/.

Och, F. J. (2003). *GIZA++: Training of statistical translation models*. Available from http://www.isi.edu/˜och/GIZA++.html.

Tiedemann, J.   and Nygaard, L. (2004). *The OPUS corpus - parallel & free*. Proceedings of the Fourth International Conference on Language Resources and Evaluation (LREC'04*)*. Lisbon.

Plas van der, L. and Tiedemann, J. (2006). *Finding synonyms using automatic word alignment and measures of distributional similarity. Proceedings of Coling/ACL*.

Vossen, P. (1998). *Eurowordnet a multilingual database with lexical semantic networks*. Dordrecht: Kluwer Academic.

Using Corpus-based Methods in Hungarian Verbal Argument Structure Studies

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Ever since Ferdinand de Saussure made the distinction between *langue* and *parole* (Saussure, 1916), the theoretical study of language has been centred on the investigation of natural language as a synchronic system of signs. The *parole*, i.e. the observable utterances made by language speakers was by and large excluded from general linguistics research, as it was considered unfit to reflect language in a systematic way due to its eventuality. The appearance of generative linguistics reinforced this direction, as Chomsky's foundational theory heavily relies on the same opposition. As the main research interest of generative linguists is to explore native speakers' competence and the universal grammar, it follows that data are obtained by introspection as grammaticality judgements, instead of relying on collections of language performance. However, the latest developments in computer technology, and especially the growth in computer memory and storage capacities makes it possible to collect vast amounts of natural language texts and to automatically analyse them. The availability of language corpora, in tandem with the growing need to automate text processing tools, brought data-oriented approaches to the front. Corpus linguistics is gaining more and more attention, while finding its place as a tool used for setting and testing linguistic hypotheses. Moreover, new methods in investigating large quantities of data may reveal hidden connections in a language system. In what follows, I would like to demonstrate how the analysis of the Hungarian verbal argument structure can be promoted by applying statistical methods to Hungarian language corpora.

The work I present is founded upon the Semantic Base Hypothesis (Levin 1993) which states that verbs' argument structure and the way their arguments are syntactically realised is widely determined by their meaning. The most extensive description as yet in this field is (Levin 1993). She classifies over 5,000 verbs according to the set of syntactic alternations they participate in, and investigates which

meaning components verbs in the same group share. Her further goal was to determine which verbal meaning components contribute to the surface realization of complement structure. Decomposing verbal meaning on the basis of syntactic correlates is a productive approach to the syntax-semantics interface; however, it presupposes the manual grouping of thousands of verbs, which has only been done so far for English. This time and resource consuming task can be assisted, not replaced, by automated methods. As opposed to meaning, syntactic behaviour of words is directly observable; hence, corresponding information is available to investigation, provided we have a large corpus of texts in the given language.

Corpus-based studies of semantic verb classes are directed in two different ways. While Merlo and Stevenson (2001) and Joanis and Stevenson (2003) experiment in classifying English verbs into the classes defined by Levin, Schulte im Walde and Brew (2002) are interested in transporting the method to the German language, without previous expectations on which classes of verbs they should obtain. Both research directions presuppose the completion of the following tasks:

- Extraction of **relevant** information about verbs' syntactic contexts as found in the corpus,
- Calculating the similarity between verbs by applying a statistical distance measure,
- Grouping verbs by applying a clustering method suitable to the task,
- Analysis/evaluation of the resulting classes.

While the choice of the similarity measure and the clustering method mostly depend on the quantity and amount of disposable statistical data, the syntactic information to be taken into account is largely language-dependent, as it reflects the linguist's view on how particular verbs' lexical properties affect the syntactic realization of their arguments. Hungarian differs from most European languages with respect to the free constituent order in the sentence, on one hand, and to its very rich morphology on the other. Any representation of verbs' syntactic properties has to take these peculiarities into consideration.

 I propose to apply the methodology used by Schulte im Walde and Brew (2002) to Hungarian data, while using an extended representation of verbs, which includes not only complement structure but every noun phrase in the verb's context. I apply this method to an extract of texts from the Hungarian National Corpus (Váradi, 2002) to categorize the most frequent Hungarian verbs, in order to obtain the basic semantic verb classes which characterize the Hungarian language. I assume that the set of meaning components shared by class members make up the basic syntactic feature set determining argument realization in Hungarian syntax.

The table below shows a sample of the resulting verb classes with their English translation.

C1	akar, fog, szeret, kíván	want, will, like, wish
C2	megpróbál, próbál, elkezd, szokik	try out, try, start, used to
C3	jelent, jelez, állít, ír	report, indicate, affirm, write
C4	megérkezik, elindul, elmegy, hazamegy	arrive, take off, leave, go home
C5	biztosít, ad, nyújt, készít	provide, give, offer, prepare

References:

Chomsky, N. (1965). *Aspects of the Theory of Syntax*. Cambridge, Mass. : M.I.T. Press.

Joanis, E. and Stevenson, S. (2003). *A General Feature Space for Automatic Verb Classification.* Proceedings of the 10th Conference of the EACL, Budapest.

Merlo, P. and Stevenson, S. (2001) *Automatic Verb Classification based on Statistical Distributions of Argument Structure.* Computational Linguistics, 27(3), 373-408.

Saussure de, F. (1916). *Cours de Linguistique générale.* Lausanne: Payot.

Schulte im Walde, S. and Brew, C. (2002). *Inducing German Semantic Verb Classes from Purely Syntactic Subcategorization Information.* Proceedings of the 40th Annual Meeting of the Association for Computational Linguistics. Philadeplhia. PA.

Váradi, T. (2002). *The Hungarian National Corpus.* Proceedings of the 3rd International Conference on Language Resources and Evaluation. Las Palmas.

Digital edition of late medieval town statutes: Visualising the evolution of text and law

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Abstract

The work on *kundige bok 2* shows how an electronic and historic-critical edition of a multilayer text can be created and used a) to make the genesis of the text itself visible and b) with the text as a witness to display the development of urban law and urban life in the Late Middle Ages. It focusses on the description of and linkage between the two dimensions "law" and "time" and presents techniques for text mark-up and data modelling

Kundige bok 2*: A study of medieval town law*

One important source for the study of urban life (economy, society, administration) all over Europe from the 12th century to (early) modern times is provided by municipal statutes. It was the law by which the city council reacted to social and economic changes.

The fact that law was everything else than fixed and unchangeable is shown by the analysis of *kundige bok 2*, one of a series of administrative records of late medieval Göttingen. It contains statutes about the regulation of everyday life which were approved by the city council and read aloud to an assembly of the "buren" (citizens, fellow inhabitants). These so called "burspraken" took place regularly to remind the people of the regulations and to provide them with up-to-date information.

This codex (*kundige bok 2*) is a compilation of various texts and has been revised many times thus giving evidence of its active use and reuse over a period of 150 years.

A multilayer text

The city council reacted permanently on economic, social or political changes by adopting the town law. And so did consequently the scribes: they frequently modified the written statutes by either altering the existing text or adding completely new versions.

Every change made by the medieval scribes in *kundige bok 2* has to be regarded as a new layer of the text since it had produced an "update" of the law by replacing its predecessor. Thus, each text layer represents a certain stage of the law: text became law or law turned into text.

The frequent changes of the text give, therefore, evidence for a consistency of the town law with evolutionary modifications. Research so far has, however, mostly regarded the Göttingen statutes as singularities and overseen the process in which the city council was very active to adopt the regulations to new needs.

How come this misunderstanding? The codex that has come to us is a multilayer text that is difficult to read and understand without any deep investigation (see sample page). The medieval scribes knew that. From time to time, when the text got too confusing, a complete new version of it was written down, mostly by scribes that have just begun their work in the city's office.

Conventionally editing a text like *kundige bok 2*, i.e. creating a printed edition of it, meant to decide about which layer of the text to regard as the most important version. And consequently to devalue all other layers and to ban information about them into the apparatus. The user of such an edition will likely follow the editor's decision and might easily oversee that all text layers have to be regarded equally, that they are just as important as any other – only at a different point in history.
What is required is a reconstruction and an userfriendly visualisation of the evolution of *kundige bok 2* that allows to regard all versions of the text equally without any presumption by the editor that might lead to improper results.

Thus, the project aims at providing a dynamic digital edition of *kundige bok 2* allowing the user to interact and to adapt the output to his own research interests.

Methodology

The digital edition of the codex is based on a web application that is processing XML data on a user's request and producing a dynamic representation of the text out of the data and the individual research requirements.

The preparation of the data has started with the digitisation of the material, i.e. scanning 330 pages of a late medieval codex. All following editorial work is based on the digitised texts which reduces the time consuming recourse to the municipal archives to a minimum.
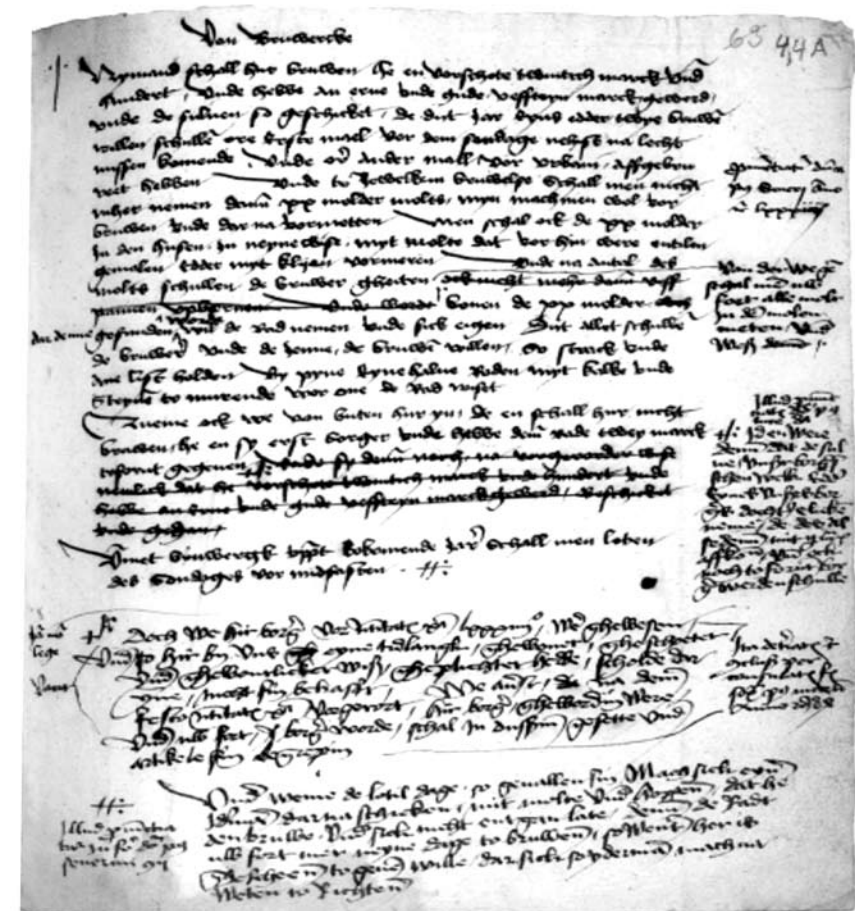
Brewery statutes from 1484, 1487 and 1495 (StdAGött, Ms 2,2, ka04_4r).

In the first step, the text is transcribed and, together with all its alterations, marked up using the TEI (Text Encoding Initiative) standard. In the second step of preparation, the text layers are identified and described. The alterations of the text can now be assigned to a certain text layer where possible.

To handle the well structured but still not very comfortably readable data, a web application has been developed which provides an user interface for access to the edition. The application mainly bases on an algorithm that is able to calculate the text layers and their chronological relation out of the prepared data.
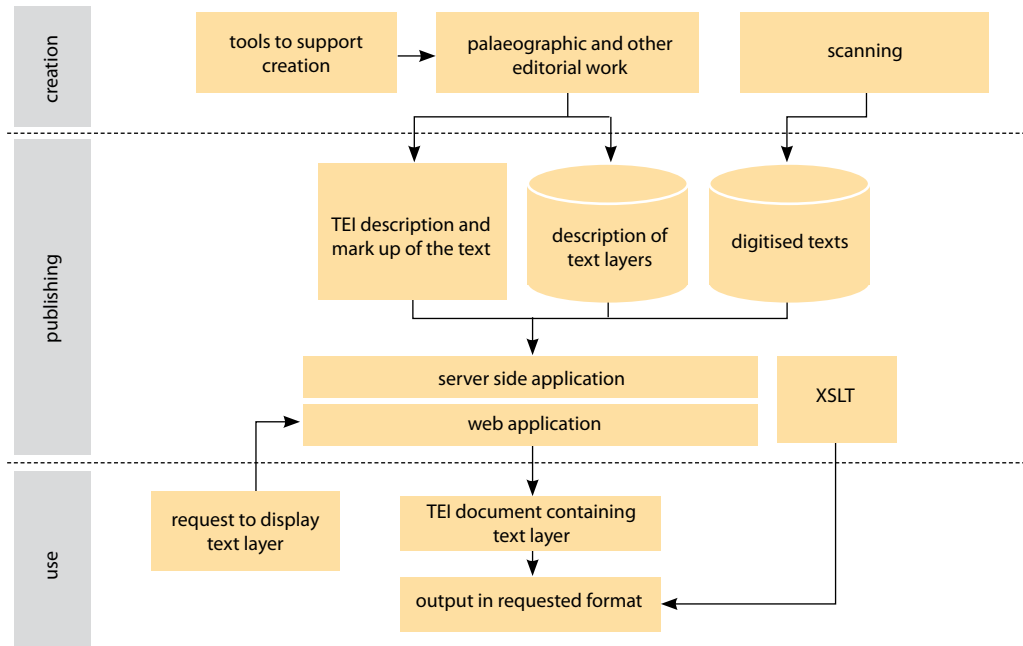
General concept of the kundige bok 2 digital edition.

Results and outlook

Within the digital edition of **kundige bok 2** the town statutes are reconstructed and easily retrievable and readable for each individual year. The access is granted by a two-dimensional overview which represents the codex in thematic as well as in chronological structure.

The edition provides two main views: the "single text layer view" representing the critical edition of a user chosen text layer, allowing navigation through the different layers and granting access to the digitised sources. The "comparison mode" visualises the textual evolution among layers that can be chosen by the user according to his own research interest interactively without any presumption made by the editor. Thus, any variants of the law can be compared and e.g. put into their economic, social or political context.

The digital edition of **kundige bok 2** will be publicly available on the internet. Within the TEXTE programme at NUIG, a tool set for similar texts is in preparation.

Where's the On-Switch?
Integrating Information Technology and Humanities Postgraduate Research

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Background and Purpose of Doctoral Study

Spatiality of Maps: This interdisciplinary research project investigates how the concept of *spatiality* (where space is conceived as being socially constructed, and not just regarded as an 'empty container' through which time and history passes) can add to our understanding of how colonial and metropolitan cultures and societies are constructed within a dialectic of space and time. [1]

Re-inscribing Space: This study is concerned with spatialising the Irish colonial context with a particular focus on the critical examination of how cartography, as a specific form of spatial thinking that illustrates the colonial contact zone, is involved in the effective desocialisation of Gaelic Irish space.

Figure 1: Detail, 'East Part of Ulster', NMM MS P45 29. Illustrating a late 16th century depiction of the Ó Néill royal inauguration site. The inscription reads: 'Tullogh oge. On this hill the Irish Create their O Neale'.

Carto-*graphy*: The study therefore examines the general concept of spatiality in an Irish colonial context primarily through the figure of the map. The *graphos* of cartography is interpreted as the making of images and the writings associated with them. Other documents that engage with the construction of the colonial map of Ireland are also studied, where images contain texts, and texts engage with such visual representations. This involves an integrated examination of letters, treatises, literary texts and paintings in conjunction with the maps under discussion.

Title of Doctoral Thesis:

'The Eye of History: Spatiality and Colonial Cartography in Ireland'.

Maps and Methods

Interdisciplinary Research: The interdisciplinary nature of this research means that it is more 'problem-orientated' rather than disciplinary based. As such, critical methodologies from the following disciplines were employed in the course of this project: History, Geography, Historical Cartography, Literary Studies. In addition to this, interpretive insights from the areas of Irish Studies and Translation Studies also informed the theoretical framework of the project.

Archival Research: Digital databases, digital image libraries, cartobibliographies, incorporation of digital material (maps, paintings) from national libraries, museums, galleries (Ireland, England).

Digital Reproduction of Map Images: The conversion of material only available by photograph to digital (JPEG) files. The use of document imaging software programmes to construct high resolution digital images. The integration of 'details' from map-images into the overall research project, while maintaining integrity of original composition. (See Figures 1, 2).

Figure 2: 'East Part of Ulster', Dartmouth Collection, NMM MS P45 29.

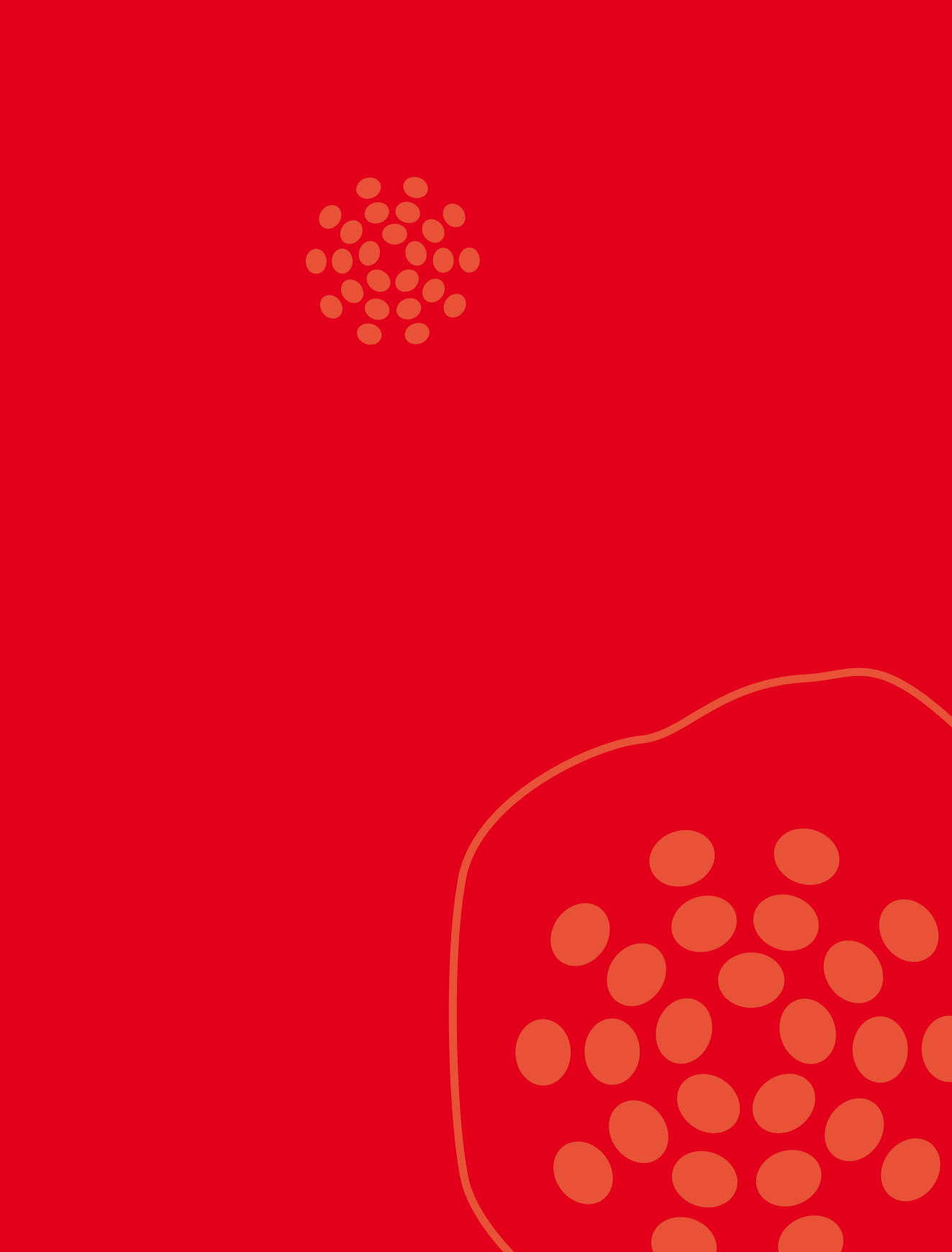**Switching On: New Technologies and Humanities Postgraduate Research**

- Aids the *integrated* and *cross-disciplinary* study of material cultures that complements more traditional, documentary or textually-based research.
- Presumes an existing amount of IT competency in the postgraduate student.
- Continued IT training needed (workshops, seminars, summer schools) for the updating, upskilling and continuous professional development, especially as many Arts and Humanities students may have a limited understanding and experience of how the application of IT programmes can enhance research findings and outcomes.

References:

Soja, Ed. W. (1990 [1989]). *Postmodern Geographies: The Reassertion of Space in Critical Social Theory.* London: Verso.

Acknowle:
Map images reproduced with kind permission, National Maritime Museum, London.