ESRC Research Project on *Knowledge Transfer in HE in Scotland*

Working Paper 3

TRAVELLING AND EMBEDDED POLICY: THE CASE OF KNOWLEDGE TRANSFER

Jenny Ozga and Robert Jones
Centre for Educational Sociology, University of Edinburgh

A revised version of this paper was submitted to the Journal of Education Policy and has been accepted for publication in Spring 2006.

ABSTRACT

*Knowledge Transfer (KT) has entered the higher education arena in the UK as the 'third sector'-along with research and teaching. Its antecedents lie in the commercialisation and technology transfer of the late '80s and 90s, and this business-like orientation remains dominant in the KT policy discourse and in the predominant form of engagement of Universities with KT. This may suggest that Universities (or their managements) and policy-makers share a consensus about the knowledge economy (KE) and its assumed benefits **viz**: economic prosperity, scientific advance, global exchange and social inclusion. In this reading KT is a straightforward process of realisation of these benefits through effective 'transfer' of knowledge gained through research. However these assumptions about the benefits of the new KE underplay or ignore its unstable and unpredictable characteristics, which present high levels of threat to the imagined future. If the risks inherent in the new KE are fully appreciated, then, we suggest, it is both more necessary and more appropriate for universities to engage in KT for a knowledge society. The paper develops its arguments through analysis of KT policy in Scotland in the wider context of policy steering of Universities in the UK and Europe.*

KNOWLEDGE TRANSFER AND EVIDENCE-BASED POLICY-MAKING

This paper offers an analysis of Knowledge Transfer (KT) as an emergent focus of policy in higher education, considers the origins of KT and some current developments in its implementation, and builds on that discussion to consider if there are progressive possibilities in engagement with the KT agenda. KT originates from two main strands of policy development: the first is the current focus on using research evidence to inform policy, and

the second is the (longer standing) search for ways of injecting resources into HE without increasing levels of public funding.

There is a general move towards evidence-based or evidence-informed policy making, and a preoccupation with identifying particular kinds of evidence to inform and support policy-making in a variety of spheres, but perhaps especially in health and education. As policy-makers attempt a closer relationship between research, policy and practice they steer research towards problem-solving and the consolidation of knowledge about 'what works'. Closer attention to research evidence and the difficulties of extracting relatively straightforward messages to inform action have led to a growth of interest in the process of 'transfer'. More and better transfer of the knowledge locked up in research is urgently demanded by policy-makers, perhaps especially where this demand is driven by the need to support improvement in the performance of particular areas of public sector provision-like education- in the face of increased global competition. The evidence-based 'movement' is supported by the apparent freedom of policy from ideological constraint, and the consequent enhanced capacity to act on the basis of evidence rather than prejudice. This then is one of the factors that contributes to the emergence of KT as an element of HE policy.

The second factor is the continued and accelerated *economising* of higher education, which has been in process since the 1980s. (REFS) We cannot offer a comprehensive review of changes to public funding for higher education here: we simply wish to note the trends towards sel Commercialisation and the growth of private sector interest in higher education has been developing and growing since the 1980s in the UK. This has taken several forms, including the creation of private 'universities' by both Unipart, and Anglia Water. More importantly for the present discussion are initiatives such as 'STEP,' the Shell Technology Enterprise Programme (established in 1986, and sponsored by Shell Oil and the DTI, STEP places undergraduates into medium and small sized companies), LINK (with its science and technology focus, this body promotes relationships between businesses and research organisations) and Faraday Partnerships (to encourage firms and research organisations to work together and exploit new science and technology), plus a range of other, smaller schemes, including *Grow Your Business with Graduates* (aimed at work experience and business development), the *Training for Innovation Programme*, and *Enterprising Students*. In 2004 the government's commitment to business engagement with HE resulted in a high profile report, calling for closer working practices between HEIs and business (the *Lambert Review of Business-University Collaboration*). This is the quickly evolving milieu that provides the context for knowledge transfer, and which may inform its development and how institutions and academics engage with it.

Problematising the new knowledge economy

Pursuit of the new KE drives education policy across the globe. The constituent nations of the EU declare that they are attempting to become 'knowledge economies'. The OECD and the World Bank stress that education and training provide the entry requirements to participation

in the new KE. Education and Training dominate policy agendas focussed on upskilling new knowledge workers and developing research and thus the knowledge that will secure success (OECD 1994, 1996). Productive knowledge is believed to be the basis for national competitive advantage within the international marketplace. This policy discourse promotes a wide range of activity and justifies major shifts in national, institutional and individual practices and processes, yet is remains, for the most part, unexamined and unspecific. The invocation of the new KE in policy discourse has all the characteristics of what Simola et al (2002) have called *'topoi'* that is 'banalities that are universally accepted as truths and do not need to be explained or justified: they thus act as a substitute for serious analysis'. The term was used to describe the responses of policy makers in a major European study of Education Governance and Social Inclusion and Exclusion (EGSIE) who, when asked to explain changes in governance and regulation of education, justified change by invoking the need to be responsive to global, knowledge based economies (Lindblad et al 2002).

The Knowledge Economy is a policy meta-narrative that assumes the commodification of knowledge in a system of global production, distribution and exchange. Michael Peters has analysed the contributory strands of this narrative that bring together ideas from economics, organisation theory and sociology (Peters 2001:4-6). He argues that there are three main elements. The first element is new growth theory/economics of human capital. This is a revived human capital theory but with a twist that stresses the production of new knowledge. The second main strand derives from management and organisation theory as part of the development of new forms of work organisation (performance measurement/management, team work, flexibility, benchmarking, core/peripheral workforces). This element supports effective knowledge management and exchange. Finally the new KE draws on ideas derived from the sociology of knowledge: these include the argument that knowledge will replace labour and property as the key building blocks in society. Possession of knowledge rather than property will define distinction and allocate status. Together these elements produce a powerful set of assumptions that enable policy makers to position themselves as successful managers of rapid change and development (modernisation). This positioning promotes an agenda for the future in which potentially disruptive energies are harnessed to promote entrepreneurship and continuous scientific and technical advance.

There are, however, very considerable risks in the new KE that follow from two key factors: firstly the assumption that such energies and their accompanying tendencies can be managed, and secondly the elimination of uncommodified knowledge relations and exchanges from the spaces of governance, research and learning, and the consequences of that elimination. Thus these risks are not confined to conventional competitive risk in knowledge production but extend to relationships and resources in the social, political and cultural spheres. The failure of policy makers to acknowledge the ambivalent and unstable nature of the KE contributes to a limited view of knowledge and loses sight of its capacity to create meaning and value beyond the marketplace.

We want to focus in the remainder of the discussion on KT itself, but we do not mean to suggest that KT is the only element of policy for HE that is economised. Indeed it is apparent that commercialisation and the growth of private sector interest in higher education has been developing and growing since the 1980s in the UK. However we suggest that KT offers a particularly interesting area in which to explore the risks and tensions discussed above. KT raises issues about the kinds of knowledge that can be 'transferred' and about the processes of 'transfer'. There is a risk that KT is perceived as a purely technical process so that discussion of its scope and purposes is lacking within the academy, and a further risk that dominant discourses promote KT in such a way as to marginalize aesthetic knowledges and knowledges that promote critical political and social awareness and understanding or that these are reconfigured in such a way as to have potential for exploitation.

Let us now turn to scrutiny of the policy texts that promote KT.

Knowledge Transfer and Policy Transfer: Europe-UK-Scotland

The UK government has promoted the responsiveness of UK Universities to the new KE through a variety of mechanisms. A clear thread of commercialisation and exploitation runs through this policy discourse. For example, the Department for Trade and Industry's flagship policy document **'Our Competitive Future: building the knowledge-driven economy**' states that:

> *'[a knowledge based economy] is one in which the generation and exploitation of knowledge has come to play the predominant part in the creation of wealth. It is not simply about pushing back the frontiers of knowledge; it is also about the more effective use and exploitation of all types of knowledge in all manner of activity'.* (Department of Trade and Industry 1998)

The 2003 White Paper on the Future of Higher Education justifies the reform of research in the following way:

> *'Research lays the long-term foundations for innovation, which is central to improved growth, productivity and quality of life. This applies not only to scientific and technical knowledge. Research in the social sciences, and in the arts and humanities can also benefit the economy-for example in tourism, social and economic trends, design, law and the performing arts-not to speak of enriching our culture more widely'.* (DfES 2003:23)

The discussion that follows looks more closely at policy texts on KT in Scotland.

During the 1980s and much of the 1990s KT was largely defined across the UK as a search for greater commercialisation; this also held for developments in Scotland. However by 2001 the broader agenda of developing a 'Smart, Successful Scotland' (SHEFC 2001) with some attention to the dangers of social exclusion for the unsuccessful, begins to appear. The relevant policy texts from 2000-when the Scottish parliament began to operate-onwards

contain both commercial and social agendas for KT. The Scottish Executive recognised early in its existence the heightened significance and broader relevance of KT in strategic thinking for post-Devolution Scotland. (SE 2000) and identified additional KT funding through two routes: **Promotion of Knowledge Transfer**, to support infrastructure and awareness-raising, and the **Knowledge Transfer Grant**, enabling institutional developments. The KT grant was not confined to conventional commercialisation activities; its purposes were wider:

> *'To disseminate the outcomes of research to promote their application and commercialisation for the wider economic, educational, social, healthcare and cultural benefit of society'*. (SHEFC 2001:4)

The KT grant will increase by 100% by 2005-06, and the enhanced status of knowledge transfer is further indicated by its positioning on an equal footing alongside research in the **Higher Education Review** Report which identifies the key challenges of ensuring competitiveness and ensuring that research:

> *'plays an increasing part in Scotland's economic and social well-being, delivering the most gains possible for the Scottish economy and quality of life'*. (Scottish Executive 2003:40)

The review goes on to stress the importance of:

> *'exploitation of social science research … [that] plays a vital role in helping to improve quality of life and improving social justice'* . (Scottish Executive 2003:41)

Policy texts from the Scottish Higher Education Funding Council are less preoccupied with the social agenda, and more concerned with relevance and the building of KE. In 2000 SHEFC produced a consultation paper on the future funding of research, *Research and the Knowledge Age.* That paper considers the tension between funding excellence and funding relevance in the context of the role of the research base in creating a knowledge based-economy. The discussion seeks to identify ways of finding an appropriate balance between 'the funding of excellent research and the funding of research that is both excellent and relevant' (SHEFC 2000: 19). The discussion there leads directly to a discussion of knowledge transfer, innovation and commercialisation. Scotland's particular needs for growth and development are emphasised, and the relatively poor performance of Scottish R and D as a percentage of value-added in manufacturing is underlined. The consultation paper notes a 'pressing need to transfer ideas and knowledge from the research base into the marketplace'. The new KE agenda is also very dominant in SHEFC's report on '**Research and Knowledge Transfer in Scotland':**

> *An efficient and productive knowledge economy is one in which commercial organizations have access to a wide range of innovative solutions to exploit market opportunities. Such economies depend upon strong interactions between companies, the knowledge base (HEIs and research institutes), investment finance and*

entrepreneurial individuals with market awareness, technical knowledge and access to venture capital. (SHEFC 2002:2)

SHEFC elaborates on the nature of the new knowledge-orientated economy, contextualizing it in a global arena, marked by continuous (and continuously more competitive) changes (in other words, *topoi*.) Higher education has a pivotal role to play here:

…….governments internationally have recognised the dramatic increase in the rate at which new knowledge is translated into commercial innovation in the market and the role of research and skilled graduates in an innovative knowledge economy. This has led to more proactive policies for the involvement of universities in the processes of economic development. The Higher Education Funding Council for England (HEFCE) has developed a "third leg" of funding to promote university involvement in economic development, and SHEFC has established a Knowledge Transfer Grant designed to create infrastructure to support university activity in commercialisation. (SHEFC, ibid: 3)

The KT grant is part of a range of policies to support engagement with the new KE, and the vocationalised nature of some HE provision in Scotland is emphasised:

As we move towards a knowledge based economy and the need for an ever more skilled and flexible workforce, higher education has an important role to play in delivering the science, knowledge and skills to sustain this. The vocational nature of higher education is often undervalued in debates on specific labour market needs – for example, when it is argued that an increase in participation in higher education reduces the level of relevant vocational skills in the population. A significant proportion of higher education is focussed on meeting local and wider labour market needs, on delivering degree and other vocational courses ranging across all industry groups from engineering and construction to hospitality and the performing arts, architectural technology and computing to journalism and communication studies. (2003: 25)

Furthermore, SHEFC points out that there must be a general orientation from HE towards developing approaches and aptitudes which will have applicability in the workplace. In particular, HE must contribute to fostering entrepreneurship which is said to be lacking in Scotland:

Vocational skills are about more than specific job-related skills – they are about not only knowledge, but also attitudes and behaviour. A critical need in Scotland is to develop entrepreneurial skills in the workforce. Higher education has a crucial role to play in developing these attitudes, behaviours and skills.

UNIVERSITIES AND KT: A WEB REVIEW

What are universities doing? Universities' websites report a considerable degree of activity under the heading 'knowledge transfer' and according to these sites such activity is almost always of a commercial type. The emphasis is on technology, science and business. The key, recurring terms are 'Industry' and 'Business'; 'Knowledge Transfer Partnerships' and 'Leading Edge Technology' supporting 'spin out companies'. These terms suggest a financial and economic orientation towards KT but HEIs: the general tenor of the universities' web-materials is straightforwardly commercial, seeking to publicise opportunities and incentives for businesses and SMEs (small and medium enterprises). Moreover, web content, almost without exception, evokes a sense of up-to-the-minute newness and hi-spec capacity. Typical fields of research positioned in this hyper-modern fashion are bio-chemistry, engineering, medicine and computer-based research.

There is occasionally a tendency to talk simultaneously of 'technology transfer' and 'knowledge transfer' and there is also a focus on the practice of patents and licensing. The connection of KT to new technology and enterprise is associated with the need to protect ideas and ensure ownership of the products of research-a slightly ironic development. The issue of intellectual property also constitutes an important part of the impetus behind the emergence of 'spin out companies.' Such ventures are often held to be potentially more lucrative than established licensing agreements (and/ or royalty based arrangements) because they involve the university becoming an active, on-going partner in the creation and maintenance of a separate, external body. This is seen to give the HEI an "equity stake."

Such organisational developments are increasingly underpinned by "knowledge transfer partnerships," which – given the satisfaction of various criteria – are eligible for earmarked funding from central government under the aegis of the KTP scheme.

The transition from the Training Companies Scheme to that of Knowledge Transfer Partnerships may help to explain why there is an overt and ubiquitous focus on commercial and industrial activity in the broader context of KT, as espoused on HEIs' websites. Given that the brief and remit of the TCS was to encourage companies to view universities as potential sources of innovative and profitable knowledge, it is possible that this emphasis has simply been carried over during the 'rebranding' of the TCS to KTPs. Crudely, HEIs have simply been geared up to interpret notions of applied research according to the terms of reference of the TCS, and are now merely grafting KT on to this old framework.

Whilst the idea of a 'joint venture' could be interpreted in a wider sense (as indeed, could 'consultancy'), the general tenor of the universities' web-blurb is roundly commercial, seeking to publicise opportunities and incentives for businesses and the small and medium enterprises (SMEs). The web materials are characterised by elisions: there is occasionally a tendency to refer simultaneously to 'technology transfer' and 'knowledge transfer'. This perhaps reflects a compacting of any available space in which to conceptualise knowledge in a wider sense: knowledge is translated into technology. There is a coupling of 'research and

innovation' and a similar, perhaps more worrying linkage of 'research and enterprise'. Once again, knowledge production is yoked to a signifier already shot through with commercial connotations.

Given this, it is perhaps not surprising that there is also a focus on the practice of patents and licensing. The connection of KT to new technology and enterprise can quickly become associated with the need to protect ideas and ensure ownership of the products of research. This quickly gives rise to concerns around intellectual property, leading to an ironic strand within the KT agenda. For all the surface level trumpeting of the benefits of the transference of ideas, bodies of evidence and expertise, a slightly deeper examination reveals very real concerns to guard knowledge. There is, succinctly, a swift transition from a stress upon knowledge transfer to one of knowledge control.

Such a change of tone is probably to be expected, however. Given the atmosphere of commerciality and marketing, it follows that products of the utmost marketability will require the protection afforded by formal registration and licensing arrangements. Universities in this context are in a potentially quite difficult position, needing to appear open and inviting to external interests, whilst also possessing the wherewithal to ensure that their knowledge cannot be taken from them at will. Moreover, it is surely pertinent to address the question of appropriateness regarding arrangements that lead to publicly funded universities subsidising the endeavours of the private sector. The conceptions and accompanying legal practices of intellectual property may therefore help to establish and sustain appropriate relationships between these two very separate spheres.

The issue of intellectual property also constitutes an important part of the impetus behind the emergence of 'spin out companies.' Such ventures are often held to be potentially more lucrative than established licensing agreements (and, or, royalty based arrangements) because they involve the university becoming an active, on-going partner in the creation and maintenance of a separate, external body. This is seen to give the HEI an "equity stake."

Such organisational developments are becomingly increasingly underpinned by "knowledge transfer partnerships," which – given the satisfaction of various criteria – are eligible for earmarked funding from central government under the aegis of the KTP scheme (see above, p1). The question of whether such arrangements can be classified as instances of public sector subsidising of private sector activity must remain a moot point at this juncture. One of the problems inherent in addressing this area of development in (and, simultaneously, outwith) the HE sector would probably entail some quite in-depth accountancy work, balancing out the time and resources invested by institutions in spin out companies against the returns generated. Possibly one of the more problematic quandaries would relate to time-scales, i.e. how long can a university be embroiled in such activity before profits accrue? This, surely, is the crux of the matter when attempting to assess the point at which potentially symbiotic commercial endeavours become on-going subsidisation.

On another level, the transition from the Training Companies Scheme to that of Knowledge Transfer Partnerships may help to explain – at least in historic terms – why there is an overt and ubiquitous focus on commercial and industrial activity in the broader context of KT, as espoused on HEIs' websites. Given that the brief and remit of the TCS was to encourage companies to view universities as potential sources of innovative and profitable knowledge, it is possible that this emphasis has simply been carried over during the 'rebranding' of the TCS to KTPs. Crudely, HEIs have simply been geared up to interpret notions of applied research according to the terms of reference of the TCS, and are now merely grafting KT on to this old framework. Not that the literature on the KTPs gives a great deal of scope to interpret KT in a broader, cultural, non-commercial sense, however. Indeed, the primary differences seem to be with respect to the increased flexibility introduced by the latter arrangements, mainly in relation to the time-scale of partnered linkages. KTPs allow universities to link with commercial bodies for longer. Which brings the discussion back to the thorny question of on-going private sector subsidisation.

At any rate, it is worth pointing to 2 minor exceptions to a commercial focus on HEIs' websites. The former is to be found on the Glasgow Caledonian University site. It states:

> *A knowledge society and economy is also characterized by multidirectional exchanges of information, ideas and innovation between academics, business, Government, organizations, communities, and individuals.*

Although this reference to a knowledge society (as distinct from a knowledge economy) and the place of communities in KT is - to all intents and purposes – negligible, it is nevertheless one of the few instances that signifies some other means of conceptualising the role and purpose of KT other than in stark financial and commercial terms. It was not possible to identify any aspects of associated practices from the information provided on the GCU website. To identify a second example it is necessary to cite an extract from a university in England, namely King's College London:

> *King's has been working with this aim for over ten years and with highly successful partnerships with institutions such as RADA, The Royal Academy of Music, Shakespeare's Globe, the ENO and the National Film Theatre, we have the experience and expertise to develop other such partnerships to mutual benefit. And with a location in the heart of London, in the centre of the ever developing cultural and creative industries and surrounded by world-class theatres, concert halls, galleries and opera houses, we are the natural partner for such institutions who wish to put together innovative, imaginative and educational projects.*

Gives one possible alternative means of interpreting the scope of the KT agenda, demonstrating – in practical terms - that it is not necessarily wholly restricted to industry and technology.

Given that the above map is culled exclusively from HEIs' websites it cannot, ultimately, be taken to represent a comprehensive picture of actual KT activity.

CONCLUSIONS

It could be argued that it is in the definition of civil society that a new post-devolution, post-welfarist 'collective narrative' may be constructed, to provide energy to 'embedding' policy, including policy for KT. The account given here is intended, at least partly, to reiterate the importance of the local in responding to, and mediating globalising pressures and travelling policies. One of the fundamental characteristics of globalisation is that it can revitalise local institutions and formations, including those based in major civic institutions such as Scotland's universities. Faced with homogenising travelling policy, including policy that commercialises education, new energy may be produced within social and cultural institutions in defence of particular traditions and practices. Such agendas may need to be written against what seem to us to be some of the more insidious forms of travelling policy: for example those that link knowledge to the economy within a wholly commercialising framework. In the work of defining and developing KT there is perhaps, possibility of greater divergence from England because of emergent definitions there of 'the public', which seems to be a space that has been sucked into the market. Resisting that definition may be enabled by judicious use of existing resources that re-engage with some of the older Scottish traditions of civil society. Scottish Enlightenment traditions envisaged civil society as a foundation for reciprocity, mutuality and co-operation beyond the calculus of pure exchange: in other words, for knowledge transfer.

REFERENCES

Department for Trade and Industry (DTI) (1998) The Competitiveness White Paper: Our Competitive Future; building the knowledge driven economy**,** London: HMSO. Also available from: http://www.dti.gov.uk/comp/competitive/wh_int1.htm

Howells J. Nevada, M. and Georghiou, L. (1998) Industry-Academic Links in the UK. Bristol, Higher Education Funding Council for England.

Lindblad, S. and Popkewitz, T.S. (2000) (eds) **Public Discourses on Educational Governance and social integration and exclusion: analyses of policy texts in European contexts** Uppsala**,** Uppsala Reports on Education 36

Mowery, D., C., Oxley, J., E. & Silverman, B., S. (1996) Strategic Alliances and Inter-firm Knowledge Transfer, *Strategic Management Journal*, Winter Special Issue **17,** pp77-91.

Organisation for Economic Co-operation and Development (OECD) (1996) The Knowledge-based Economy. Paris, OECD.

Organisation for Economic Cooperation and Development (OECD) 2000 Knowledge Management in the Learning Society, Paris: Centre of Educational Research and Innovation OECD.

Peters, M (2001) 'National Education Policy Constructions of the Knowledge Economy' *Journal of Educational Enquiry* 2(1) (http://www.education.unisa.edu.au/JEE/)

Scottish Executive (2000) Report on the Knowledge Economy Cross-Cutting Initiative (http://www.scotland.gov.uk/government/ketf_ccr.pdf)

Scottish Executive (2003) A Framework for Higher Education in Scotland, Edinburgh, Scottish Executive.

Scottish Higher Education Funding Council (SHEFC) (2001) Knowledge Transfer Grant Circular Letter HE/24/01 (http://www.shefc.ac.uk/library/)

Scottish Higher Education Funding Council (SHEFC) and Scottish Executive (2001) Research and Knowledge Transfer in Scotland: Report of the Scottish Higher Education Funding Council and the Scottish Executive Joint Task Force. (http://www.shefc.ac.uk/library/06854fc203db2fbd000000f527623199/report.pdf)

World Bank (2002) Constructing Knowledge Societies: new challenges for tertiary education World Bank, Washington DC