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Knowledge Exchange and the university as archive and intellect

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This paper examines Knowledge Exchange (KE) in relation to arts and the human sciences and the role that educational institutions such as universities play in the complex negotiations and interactions around exchange processes. Examining the literature on Knowledge Exchange and relating this to a series of case studies it makes a set of recommendations about how effective exchange and transfer processes can work. The micro-processes and micro-politics of Knowledge Exchange are rooted in topographical spaces and materialities that can frustrate or enable exchange and an effective understanding of that complexity and its dynamic and power-inflected relations could lead to new directions in exchange and policy in UK universities.

Keywords

Knowledge Exchange, memory, archive, intellect, arts, human sciences, university

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Introduction

This paper examines Knowledge Exchange (KE) in relation to arts and the human sciences and the role that educational institutions such as universities play in the complex negotiations and interactions around exchange processes. Examining the literature on Knowledge Exchange and relating this to a series of case studies it makes a set of recommendations about how effective exchange and transfer processes can work. The micro-processes and micro-politics of Knowledge Exchange are rooted in topographical spaces and materialities that can frustrate or enable exchange and an effective understanding of that complexity and its dynamic and power-inflected relations could lead to new directions in exchange and policy in UK universities.

What is knowledge exchange?

In the early to mid 90's the Gulbenkian commission developed a set of ideas that would challenge the whole status of the Humanities and Social Sciences and create discourses, cultures and organisations comparable to those already existing between the sciences and business and communities. Of course, the schism around using knowledge for social or commercial purposes was a continuation of C.P. Snow's observation about two cultures (of arts and sciences) and to some extent the work of the commission and Immanuel Wallerstein specifically created a new way of thinking about the sociology of knowledge, the transference of knowledge from the universities and into communities and the exchange of different types of knowledge between agencies. This can be seen as prefiguring the arrival of Knowledge Transfer (KT) and Knowledge Exchange (KE) and what might be called Knowledge Transfer and Exchange (KTE) into new ways of Higher Education Institutions (HEIs) engaging with communities and thinking about joint or multiple strategies for social change and even radicalisation and not just commerce. Wallenstein, in his report to the Gulbenkian commission reasserted a vision of the 'Convergence' and multi-disciplinarity of the human and social sciences (1996:47) and also reworked the relationship between arts and social sciences and traditional sciences – looking for new ways of thinking about knowledge and its social impact. One particular aspect of this work is crucial to thinking about the nature of knowledge, who has it, who owns it, what they do with it – and the relationship between minority and universalist knowledges (1996:51). This, as we shall see later, demonstrates both a historical and philosophical fracture and a source of huge richness for thinking about knowledge in communities – including knowledge about the practice of visual art and music where we can often assume that knowledge is tacit, context-bound, and, critically, localistic. What then, in the knowledge of minorities, of specific locally

rooted communities, is the relationship with more universalistic, abstract, totalizing knowledges and what does this have to say about issues of relativism and epistemology in terms of that knowledge? The Self-reflection and knowledge exchange (1996:67) within and beyond the arts and human sciences becomes for Wallerstein a locus in which multiple domains of knowledge (1996:69) can be accounted for and expressed without creating an artificial division between partial and more abstract knowledges – a situation in which the local (through art, through music, through ethnographies of localized communities) can become translocal and extraterritorial – often through mediums of intellectual (often university) engagement and digital platforms which create opportunities for wider access to partiality, locality, and singularity. An open arts, an open science, an open social science would then become less sterile, autonomous, abstract and more focused on developing the multiple strategies of change that we have already noted in communities – fostering entrepreneurial activity, the sustainability of localized projects and the exchange of histories, stories and discourses to the mutual benefit of multiple partners.

The development of a focus on knowledge exchange throughout the 90s was both focused on science and social science and the relevance of open forms of knowledge to communities and HEIs. In their early work on business models of knowledge Davenport and Prusak (1998) defined their sense of Knowledge to Knowledge Exchange –for them it is ‘A fluid mix of framed experience, contextual information, values and expert insight that provides a framework for evaluating and incorporating new experiences and information’. The hybridity of local expertise and abstract, universalizing expertise which can then have an impact on future projects then becomes central to debates on KE and a new strategy for thinking about knowledge networks begins to be developed by HEIs during this period – specifically the identification of stakeholders, communities and problems (within and without the academy) and the assertion that cross-cutting networks need to be developed which postulate the centrality and also repositioning of HEIs to be able to simply be responsive to community and social changes.

Argote and Ingram (2000) have argued more simply that Knowledge transfer is the process by which one unit is affected by the experience of another. The weight of knowledge accumulated within one project – its heritage, its possibilities, its process, its learning becomes useful for those who are situated often in radically differing projects, across disciplines and across borders – physical and imaginary (as we shall see later). Ideas about tacit and minority knowledges then become central to brokers like universities who become interested in the social effects of knowledge and what can be done with it.

Blackler (1995) in a piece which to some extent defined the strategy by which KE began to be assessed argues that knowledge had to be understood as a wide array of different types of activities and knowing – appropriate to different sectors of work and doing. His different types of knowledge including the following; Embrained knowledge dependent on cognitive skills and abilities, Embodied knowledge –

action-oriented contextual practice interpreting context and environment, Encultured knowledge – achieving shared understandings through socialization and acculturation, Embedded knowledge – tacit knowledge locked in to systematic routines and mutually non-expressed situations and Encoded knowledge – info stored in signs, symbols and locations. The tacit knowledges embedded in specific, localized, singular events and situations (a concert, a heritage event, the unveiling of public art) stress different activities and different ways of thinking about the world. It is only when we understand the complexity of differing knowledge forms that we will be able to develop listening and learning strategies for transfer and exchange. But it is often an inability for experts in other fields, in sciences, and universities to understand things like tacit knowledge in practice – often relegating it as an inferior form of knowledge.

Ward et al in a recent article (2012) have stressed that ‘Knowledge translation is underpinned by a dynamic and social knowledge exchange process but there are few descriptions of how this unfolds in practice settings. This has hampered attempts to produce realistic and useful models to help policymakers and researchers understand how knowledge exchange works’. The misunderstandings of knowledge accumulation and knowledge exchange by outside practitioners and an inability to assess its fluid and dynamic nature is a central impulse towards deep ethnographic work and the mapping of complex exchange processes as Ward et al do in medicine and medical record-keeping. When they examined the nature of exchange in those environments they found that ‘knowledge exchange can be understood as a dynamic and fluid process which incorporates distinct forms of knowledge from multiple sources’ (2012:297). These distinct forms of knowledge are often hidden, relegated, or ignored by rival forms of more abstract knowledge and uncovering them is essential for thinking about the reality of practice and strategies for exchange into the future. Capturing the contextual nature of knowledge then becomes the defining process for this - ‘Concepts such as knowledge and context need to be clearly conceptualised. The interpersonal element of the knowledge exchange process, such as the links and ties between individuals and groups of people, could be an important element, as could the ways in which knowledge exchange is contested, resisted or promoted in the context of struggles over resources or status within organizations.’ The elision of the personal, creative, socially dependent understanding and maintenance of knowledge which is so central to that dynamic and fluid process goes hand in hand with a misunderstanding of the situated everyday production of those knowledges leading to not just the perpetuation of untruths and reality-glosses on behalf of the academy and ‘expert’ knowledge practitioners but an inability to create sustained and well-modelled exchange projects. We can see this in the abstraction of globalization theory where the extension of different types of knowledge forms and projects often means the relegation and sometimes extension of more localized, partial knowledges.

As Fardon notes in an early and key book on knowledge debates (1995) 'Globalization is often described as the spread of western culture to other parts of the world. How accurate is the depiction of 'cultural flow'? And to what extent is there a multiple cultural flow which does not privilege one form of totalizing knowledge which does not take account of more partial knowledges. This is not to argue for some form of epistemological relativism but to argue that knowledge is a social struggle for a truer account of the diversity of global knowledges. Fardon's collection demonstrates the ways in which anthropologists have accounted for globalizing process in the localities where they have practiced and reassert an anthropological process which has at its centre the connection between localized and more universal knowledges. The diverse histories and traditions of knowledge that are then accounted for then become central to thinking about the cultural and global culture specifically.

If this relationship between differing types of knowledge is so important – how then do we account for the power relations of knowledge and how far does this affect the transfer of knowledge between different projects and entities? Owen and Wahl (2010) have noted that there exist many accepted definitions and working variations to the theme of exchange and transfer. KT, for them is 'accepted as the process through which knowledge held by one entity (often referred to as the knowledge base) is passed to another entity (often referred to as the recipient). Effective Knowledge Transfer being deemed to have taken place only once knowledge has been embedded within the recipient and whereby the recipient is sufficiently enabled to be able to make use of and employ the knowledge for themselves' (2010:83). An example might be community vaccination programmes in Guinea which use transferred knowledge from global health programmes or the learning of Sitar through a digital platform such as You Tube – in the one we see the transfer of knowledge from the global to the local and in the other, the opposite process. But a focus on transfer leaves us with a number of specific problems argue Owen and Wahl. The first lies in a lack of understanding of knowledge forms in their diversity and difference by practitioners who might seek to use them. Secondly, there can often be a scarcity of enablement and behavior change for productive use of knowledge forms. Thirdly there can be a lack of clear measurable objectives in terms of the transfer process and what the form is to be used for. Finally there is often an inability to adapt to evolving landscapes outside of the locality in which the knowledge was developed or to use the knowledge in different time periods (2010:85).

Owen and Wahl, in their examination of different programmes have noted that successful delivery of transfer and exchange rest upon the following. Firstly that practitioners have a proper analysis and understanding of the transfer and exchange process and the appropriateness of differing forms of knowledge in different localities. Secondly that there is effective strategic programme management of the process. Thirdly that there is an 'enablement through engagement' of stakeholders, businesses, community partners. Finally that the knowledge management itself must

generate new knowledge in the new context. Often KTE programmes have had little success because they haven't been able to successfully demonstrate transfer or because, partnerships have broken down and projects not sustained.

This is a central factor in Ennals et al (2010) account of why transfer and exchange projects are not effective. They argue that conventional models of knowledge transfer are confused and mistaken – 'Books can be transferred between people. Knowledge is more complex. Knowledge transfer is not a linear process managed by administrators. It is a matter of culture change, with knowledge as integral to the culture. Knowledge is socially constituted, and not simply held by individuals. Explicit knowledge is only the tip of the iceberg. We need to address implicit knowledge, and most importantly, tacit knowledge. Knowledge is acquired through shared experience, typically by involvement in a particular form of life, with distinctive language games,' (2013:3). A key question for Ennals et al lies in the situations and environments where exchange happens and knowledge shared in what we might call communities of practice. These have the potential to then creative innovative projects in which ideas are tested and developed (2012:3).

Ennals et al point to four practical, formal situations in which exchange can be developed and which they tested out in their practice and research; Students Quality Circles, Senior Quality Circles, Forum theatres and Network Consultancy. These practical structures then have the capacity to empower individuals, extend dialogue and broaden participation. They also recommend the key role of university participation in this – specifically around academic learning about communities of practice outside HEIs (2012:4). Quality Circles can give real insights into practice 'Quality Circles have a role at transitional points, such as at the beginning and end of working life, where logics and discourses suddenly change. Transitions are not always neat and clean, and individuals follow different paths. It can help to add delaying functions, introducing diverse perspectives and experience, through Circle members' (2012:6). Student and senior circles give a diverse sense to the narratives that can be collected from them. Forum theatre finds different ways of engaging actors and thinking about and presenting knowledge; 'In Forum Theatre the actors are also researchers who investigate a case study situation, and develop a piece of drama. This is presented in the workplace, in such a way that workers and managers can respond, relate to the stories and relationships which are being presented, and eventually intervene in the drama, directing proceedings from the audience. Such interventions can lead to ongoing change processes, jointly owned by audience members' (2012:8). Networks of consultancy also develop stakeholders, partnerships and expert knowledges in order to cohere an idea or solution to a problem or engage new members. Of course another way of relating tacit to more universalizing knowledges is through digital platforms which are essential to thinking about exchange and the relationship of the HEI to the community – specifically rural communities and rural connections.

What is the role of the university?

In KE processes the role of the university has been seen as the identification of projects and funding, the assertion of ethical guidelines for exchange processes and the identification and securing of 'third space' practitioners. The complexity of exchange processes mean that universities have to examine the microscopic processes of how exchange works in practice; negotiating trust, identifying knowledges and using those knowledges in a reciprocal and collaborative manner.

In an important article for thinking about university-community collaborations Johnston et al (2010) undertook a study on exchange between academy and industry which also has implications for thinking about the rural. Their findings note the critical understanding that partners must have of the social processes underwriting exchange and transfer. The study identified some emerging themes which are important to HEI-industry relationships; the importance of network intermediaries; flexibility, openness and connectivity of network structures; encouraging network participation; building trust in relationships through mutual understanding (2010:1). For Johnston et al 'Since the 1990s, in the UK, ideas of technology and knowledge transfer have underpinned government attempts to stimulate greater HEI-industry interaction in order to enhance local and regional economic productivity. The focus of such policy has simultaneously shifted away from traditional linear models of knowledge transfer and towards "open innovation" or "collaborative innovation",' (2010:3). After surveying issues around non-linear, open exchange they develop a set of emerging questions that are of absolutely critical importance for thinking about rural exchanges – these rest on the following; developing fluid networks to assist knowledge sharing, the creation of a knowledge sharing culture, how to effectively share good practice across organizational and physical boundaries, how to strengthen HEI and industry interaction, how to construct shared learning spaces, and how we decide the momentum and origination of HEI partnerships (2010:15). The role of universities in creating and maintaining networks and partnerships is a core feature of the success of knowledge exchange relationships - 'In recent years, UK HEI's have undergone significant transformation and have sought to enhance KTE activities in line with government policy that places HEI's at the centre of regional and national economic growth agendas. As this agenda progresses, there is a need to pay attention to regional, national and international institutional infrastructures setup to facilitate this but also to the social processes underpinning such change which will be central to determining the success or otherwise, of knowledge communities in facilitating open innovation' (2010:16).

Benneworth and Jongbloed (2010) argue that there are different kinds of stakeholders to be engaged in any Knowledge Exchange practice. They refer to 'well configured lead stakeholders' who can shape university concerns and strategy (2010:580), but also much weaker and more amorphous community groups and interests. A central part of any process is the engagement of groups and how far they can manage and shape research trajectories in partnership with the university.

There are different HEI approaches to social engagement and these can really impact on the nature and development of a KE process (2010:580).

Bicknell et al (2010) have looked at measurements of success of university and community KE partnerships and in their data, several thematic areas were uncovered. The first lies in our values-in-practice, motivations and 'buzz moments' – those moments of excitement which engage stakeholders in wanting to be part of or continue in the process. There is also the focus on purposive activities, the pedagogy of the project and perceptions of risk. A critical finding looked at the 'pull factors' for getting engaged and what the barriers might be for community and industry engagement. Crucially is the partnerships vision and how they think about knowledge - 'For increasing recruitment of KTAs hearing positive stories like those presented in this paper will generate curiosity and the recognition of an interesting, if unanticipated career move. The KTA, like many creative role incumbents, may turn out to be their own best advocates and something of a self-selecting sample among academics, for whom "pull" factors and the presence of "opportunity" will be much more powerful motivators than "push" factors. It is therefore recommended that HEIs publicise "case studies" focusing on these positive aspects rather than on the operational barriers of KT work as these appear to demonstrate merit in use as models for future engagement' (2010:12).

The role of academics as entrepreneurs is critical. Bicknell et al point to a number of thematic areas including issues about ways of doing work and differing ethical standpoints, why we do the work and the differing pull factors to the work, developing common objectives, looking at barriers and opportunities, the role of serendipity and natural evolution, and the importance of telling the story afterwards of how it all worked. Absolutely central to the whole process is the essential role of communities of practice within HEIs.

Peer and Stoeglehner (2012) point out in their recent study of the role of university and industry in environmental knowledge sharing and production that the it is not enough that the university be established as a 'change-agent' – the ownership of knowledge in local and regional communities has to be achieved. This ownership has a significant impact on the values and ethics and shared vision of a project but also the facts and reality of project implementation and joint knowledge production. Universities have to take seriously their role of social change-agents certainly but it has to be achieved in collaborative partnerships of knowledge production which are negotiated between the university and its partners. In engaging with rural communities specifically communities have to be aware of how to get information and 'knowhow' which is relevant for action and decision-making, they have to have support to overcome mental barriers for inclusion in decision-making processes (like rural planning), there have to be proposals for topics and problems that emerge from the rural into the university, there have to be innovative ways to participate in lifelong learning through prototypes of 'rural universities', there have to be awareness raising initiatives, and finally the overcoming of spatial dislocations and

barriers between the rural and the university. For the university itself it has to understand the local knowledge demand, develop exchanges of knowledge between 'science' and locality, generate knowledge through discussions, overcome the barriers of the scientific 'ivory tower' and transfer and multiply scientific, universal knowledge to make it relevant for localities and local decision-making processes. Peer and Stoeglehner argue that in order to determine the scope of action for universities as 'change-agents' the university has to look at four generic pathways for KE; the university as casual knowledge provider through workshops and discussions, the university as provider of expert opinion independent of localities, the university as provider of customized education programmes supported by localities and the university as provider of co-research jointly elaborated between localities and the academy.

Phillipson et al (2012) have looked at this central question of co-research and the engagement of stakeholders looking at how stakeholders are identified and engaged using different models and typology of practice. For them the relationship between science and localities is crucial for effective exchange and they warn of the dangers if 'science' does not achieve an innovative practice – 'There is therefore an emerging realisation, albeit not commonly reflected in practice, that effective research uptake in policy and practice may be built upon a foundation of active knowledge exchange and stakeholder engagement during the process of knowledge production itself. This realisation revives a long-established discussion regarding contrasting ways of conceiving of the relationship between science and society. On the one hand, the scientific process may be viewed as hermetic and self-referring, albeit shaped at its beginning and end by wider societal preferences and contexts. Knowledge production and its application should therefore be conceived of as logically distinct and separate. From this perspective, the prospect of stakeholder engagement in knowledge production is typically viewed, at best, as a distraction and, at worst, as undermining scientific integrity.' For the authors it is clear that scientific knowledge production has done and necessarily does depend on 'localities' or 'minority' discourses and knowledge and it is important to see the relationship between the academy and the locality as fluid and permeable. KE depends on 'adaptations, innovations and exchange of expertise from multiple sources' in which a more adaptive, fuller knowledge, if not more totalizing knowledge is produced.

Often the role of technology is decisive in effective KE procedures. In their study of medical processes Househ et al (2011) they argue that new ways of using technology for exchange and collaboration are necessary to be able to practice effectively as medics and prescribers and it is also useful in terms of developing innovative knowledge of new ideas and practices. The inputs into new technologies can shape the kinds of knowledges that emerge.

Hughes and Kitson (2012) in their study and analysis of university exchange networks found that most of the 'common' knowledge or conventional wisdom about KE is 'narrowly confined or misinformed'. They argue that although commercial and

entrepreneurial factors do exist there are many other diverse KE mechanism at work including 'hidden' connections between academy and locality. They also point out that the excessive focus on science evades the fact that KE is present across multiple disciplines and that there are many partners from communities and localities which are not rooted in profit making enterprises. The failure of knowledge exchange networks is largely a consequence of lack of time resources and an incapacity to manage effective relationships. They argue that the myth of an 'ivory tower' is just that – many academics and disciplines are actively involved in KE and this is shaping university strategies of research and engagement.

Reichenfeld (2010) in a similar manner has pointed to the idea that Social sciences and humanities have traditionally been resistant to KT initiatives seeing it as consumerist and undermining community and collegial values (2010:163) but they argue that enterprise however, can provide a spur to research and teaching in terms of innovation and can offer new types of internships or student work experiences (2010:164).

Creative academics have to confront the issues that KT brings and change their culture, thinking about economics and new kinds of identities. It is not just a defection to the 'dark side' (2010:165). The KT debate repositions the university as socially and economically relevant (2010:166) and the author argues that there are threats to university autonomy but these can be overcome (2010:168). One central problem that remains is how to sustain collaborative partnerships into the future beyond the bounds of a project (2010:171). The absolute key to success is the employment of 'third space professionals' who have had experience of project management in the sector where the partnership is happening and employed by the universities as researchers and programme managers (2010:172).

For Reichenfeld 'it is apparent that knowledge transfer partnerships are a valid application of academic research and do not necessarily require the academic to shift to a new business identity. University-business collaboration does require of the academic, though, an ability to be entrepreneurial in terms of subject creativity, to be managerial in respect of negotiating roles within the partnership, and above all to be effective in negotiating the seemingly endless bureaucracy for which universities are renowned. There are undoubted rewards for academics involved in knowledge transfer, but they are hard-won and this means that the partnership must demonstrate significant impacts. Those of us fortunate to work in partnerships in the world of public and social benefit have no doubt that knowledge transfer is worthwhile, but this does not make the activity or indeed the partnerships easy to sustain (2010:173).

Johnston et al in their study of open knowledge and 'open innovation' have noted that one solution to sustainability is universities acting as knowledge hubs and clusters (2010:4) and universities taking seriously the idea of tacit knowledges and collaborative work (2010:6) that are present within knowledge localities.

Smith et al (2010) have critically developed this concept of locality in their study of the sociology of translation by initiating and developing the critical concept of translocality. This develops the literature on Knowledge Exchange from within the discourses and practice of Actor Network theory – specifically the work of Laws, Latour and Callon. The central question, for the authors, is how does Knowledge Exchange happen and what descriptions can we provide of it? Smith et al look at the relationships between the human and the social and also between those and non-human entities such as materials and texts and objects in terms of knowledge exchange (2010:505).

They look at the stages of problematizing and thinking about a specific research trajectory developing Callon's work in particular and note the differing stages in the development of the research practice. These include the identification of the problem to be examined (2010:507), the Interressement period where interest is developed and actor roles are chosen (2010:508), the enrolment of actors into the process (2010:509), and the mobilisation of allies to develop and extend the exchange process (2010:510).

Sparrow (2010) has developed a similar set of ideas in trying to understand university and community competences to develop strategies and initiatives (2010:73) and the kinds of resources that are utilized in order to do this. Sparrow argues that the universities have a set of key roles in the exchange process; they are sources of innovation, the support regional development through specialist research units, they engage in joint cooperative ventures, they have staff working on interdisciplinary projects, the university plays both a 'generative' and 'developmental' approach to innovation and knowledge exchange (2010:79).

Similarly, Stevie Upton (2012) has examined the drivers for knowledge in the research-intensive university, and the benefits and value systems of engaged academics. Upton argues that 'Academics' commitments having been described as occupying a single bounded space, this enhanced understanding of the motivations and needs of academics as they engage in knowledge exchange points to a new way of approaching the facilitation and promotion of knowledge exchange activity'.

In summary we can identify a series of themes in the literature. Firstly, the complexity of exchange processes and the importance of micro-mapping how exchange might take place. Secondly, the critical role of the university in developing effective exchange. Thirdly, the complexity of knowledge and what knowledge extraction and use might entail.

Thinking through KE: Some conclusions

The embodied and embedded knowledges of communities and practitioners, as we have seen, are often tacit, unacknowledged, and partial. The question of how then we exchange knowledge becomes problematic. It might be that knowledge is not framed or recognised as knowledge so defining knowledge becomes central as a first step to thinking about exchange. The minority practices of individuals and communities are often unperceived by other agents and by universities until the university receives funding or new directives that something is actually worth knowing or at least trying to find out if there is something there at all. These definitions about knowledge define and construct the knowledge object as an object or subjective knowing or material practice that frustrates or enables use or narratives to be constructed from it. The defining process is something that often begins in observations about practice or opinions and ensuing conversations about it – the very fact that the ‘something worth knowing’ is about to be defined is often the consequence of a long series of negotiations to identify and interest potential knowledge holders and exchangers.

Negotiations about knowledge – what it is, who owns it and so on – has to be entwined with discussions about the validity and utility of knowledge but if, knowledge exchange is truly a multiple and not a one way process, then that negotiation has to involve the sharing of knowledge from universities. This has often been on the basis of providing funding, spaces, expertise but more often than not the knowledge to come from academia has not been defined and is often presented as an amorphous and unfixed ‘capital’ which the university offers in exchange. Often trusting relationships are undermined by ideas of predatory university structures uninterested in and unwilling to do exchange whilst extracting knowledge from minority partners. Often relationships break down on the use of knowledge for either commerce or activism often displaying the differing power networks involved or the different capital enhancement that individuals, agencies or universities can develop.

Extracting knowledge, after definition, identification and negotiation processes have taken place, is often a complex and divisive project – certainly if the utility of a variety of knowledges are embedded in complex power relationships and differing intentions towards use. But it is important to be aware of issues around knowledge extinction if not knowledge is not exchanged or used – particularly around practices in communities that are archaic and under threat. Perhaps, then, this is the decisive role of the university – to archive and specifically digitally archive knowledges and practices from communities of knowledge and practice. In this sense the university becomes the memory of practice and knowledge or the intellect hub of a diffuse and massed series of practices and knowledges. The significance of this lies in the following.

Firstly, that far from exchange being situated in exchanging micro-knowledges for university expertise or 'amorphous' capital, or in fact exchanging little at all from the part of the university, exchange takes place on the grounds of exchanging knowledge with archive capacity.

Secondly, this exchange of partialized, minority knowledges for an archive basis or collection centre held digitally (and including film, sound, interviews and so on) is seen as the digital memory of sets of diffused and complex projects.

Thirdly, and in order to enhance exchange practice and processes a central part of the 'memory archive' could be a record of the complex series of negotiations and extractions and appropriate ethnographies captured in film, text and sound. Sound and film archives do this to some extent already but if arts and the human sciences are to think about knowledge exchange effectively this aspect of the work is essential and can be built in to funding and procurement processes.

Fourthly, the development of 'third spaces' can be a critical part of the archive and the archive itself can be a third space in itself – one which exists in a space of but separate from the institutions and processes of the university but galvanised and owned by the networks of individuals and agencies from which knowledge has emerged.

Fifthly, the development of archival structures hint at the not a totalization of knowledge or a mythical will towards comprehensiveness but a serious attempt to collect and record as much knowledge in as many differing formats as possible. The actual status of this would be decided as part of the exchange process itself but it would be rooted in a rethinking of the nature of research institutes and their intentions, civic responsibilities, and community impact. Within this not only we would we have the development of minority knowledges situated within what we might call a 'knowledge-universalizing' discourse where we might be able to discern a peculiar and rich dialectic between multiple knowledge formations but if the existence of the archive is perpetuated into the future we would have a material resource for a multiplicity of different intellectual pursuits and scientific projects which are opaque and proto-embryonic at the moment of knowledge extraction, collection and archiving. The material investment of archiving knowledge then becomes one of urgency for universities and one which is of deep concern to educational development and the social futures of knowledge and practice itself.

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