Milieu
2003

Journal of the NUI Maynooth Geography Society
28th Edition

Introduction

Welcome to the 28th edition of Milieu, the Geography Society's annual publication. Unlike many publications produced in an academic setting, Milieu allows professional academics, aspiring academics, and interested non-academics to share a common platform. This near unique mix of backgrounds (and motivations) produces an interesting blend of perspectives and approaches, highlighting the varied interests that fall under the complex term of "Geography".

This year's mix of topics range from the serious to the not so serious, yet as a whole, acts as an interesting snap shot of some of the activities that have occurred in the world of geography (centered around Maynooth) over the last year. I hope that you enjoy reading this edition as much as I enjoyed putting it together.

On a personal note, I would like to thank all everyone who contributed to Milieu, those who contributed articles, and those who provided moral support, and sound advice. The list of people I have to thank would probably fill a few dozen pages, but I would like to single out a few of the main individuals who's help has been vital: Dr. Adrian Kavanagh, Conor McCaffery, Prof. Paddy Duffy, and Roxy of Cardinal Press Print Centre. Thank you all!
John O'Byrne

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Front cover photo: Andrew Power

War, Maps and Adverstising
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Westerners have an ambiguous attitude to war. One the one hand, no one will argue with the proposition that war is a terrible thing. People will readily accept that it brings terror, mutilation and death to many whose path it crosses. Nations can be destroyed and economies ruined. Yet it holds a strange fascination and people are drawn to stories about war, to war movies, to novels, to documentaries. Antony Beever's recent book (1998) on the siege of Stalingrad was an international best seller as was his follow-up text *The Fall of Berlin 1945*, published in 2002. This fascination with a bloody activity is validated in a way that other such interests are not because though war is a terrible thing, societies have tended to ennoble it. No one goes to war for petty motives, it is argued. Therefore it is because war is so terrible that it can be glorious. People focus on the sacrifices that it entails, the comradeship that it engenders and the noble ends for which it is pursed. The poet Horace put it succinctly in his Odes when he opined that *dulce et decorum est pro patria mori* - a sweet and noble thing it is to die for the fatherland. It is the noble character of war that justifies it - look at the current arguments in favour of war with Iraq - and because it is noble this gives people licence to indulge their fascination with it.

Fascination with war is not new. Had there been a best sellers list in imperial Rome, it is certain that Caesar's Gallic Wars would have been on it. The advent of mass market printing in the nineteenth century, however, allowed a far greater market to be served than previously. Equally important was the fact that many publications aimed at this mass market were profusely illustrated. In the early 1840s, Herbert Ingram, a young printer and newsagent noticed that when on the rare occasions that newspapers included woodcuts, their sales increased. He came to the conclusion that it would be possible to make a good profit from a magazine that included a large number of illustrations. So the *Illustrated London News* was born in 1842 with a philosophy that 'visual appeal is the essence of drama'. It was a huge success and the Crimean War (1854-56) provided the opportunity to consolidate its position. By 1863 it was selling over 300,000 copies a week. Even the largest selling newspaper, *The Times* only sold 70,000 copies. Success bred imitation as many publishers realised that there was money to be made in adding visual appeal to reports of great events, especially war.

This is where geography enters the fray. War is essentially a geographical phenomenon. Most wars are fought because of territorial disputes and they ebb and flow over the landscape. The map is therefore an essential tool for anyone who wishes to pursue an interest in the progress of war whether historical or contemporary. The commercial potential of war maps was well established by the First World War. The Doubleday publishing company noted that 'every home needs an up-to-date war atlas' as part of the advertising that accompanied their 1917 *Complete War Map of Western Europe*. They continued:

> Is the world moving too fast for you? Are you keeping track of all the important changes being made? ... Do you know where are the American Virgin Islands which we purchased last year from Denmark? Do you know why the Allies sacrificed so much in attempting to get through the Straits of the Dardanelles some time ago. Important divisions of territory have been made which were never recorded in any publications.

> You can't afford to let yourself slip behind the times—being up-to-date and well—informed means too much these trying days. The man who is making his way in the world is the man who knows the way the world is going.

People did not want to slip behind the times and publishers rallied to meet this concern. Magazines such as the *Literary Digest* produced maps for their readers. *Their Liberty Map of the Western Front of the Great World War*, in particular, was a magnificent production, over 4 x 3 feet (1.2m x 0.9m) in size, on waxed paper with a linen backing. The cover to the index suggests the excitement of war depicting a German bi-plane in flames over the heading 'bringing down the raider'. All of the major publishers such as Bacon of London and Rand McNally in the United States exploited the commercial possibilities of these maps. This is all the more remarkable when it is remembered that for much of the First World War, the geography was static; there was little movement by the opposing sides who were content to slug it out over tiny pockets of land. It might be expected therefore that the market for maps would have been rapidly exhausted since there was little new to show for much of the war. However this seems not to have been the case.

During the Second World War, the production of war maps became a major industry with an interesting twist. They were produced in vast numbers by commercial publishers for sale to the public but maps were also adopted as an advertising medium for industry and services. These companies sought to capitalise on the feelings of patriotism generated by the war by associating their product with the war effort. This they did by making maps freely

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available to the public. These maps carried an advertising message that associated the company or product with the map, by extension with the war effort and therefore with the feelings of national solidarity and patriotism.

There is a contrast to be made between Great Britain and the United States. The linkage between advertising and maps was more marked in the USA. Certainly, maps were produced in Britain during the war and they were important marketing tools for newspapers in particular. The *Daily Mail* produced a series of detailed maps and a war atlas; in 1944, the *Daily Express* produced a set of *Second Front War Maps* for 2/6 that offered 'gummed arrows to indicate landing points and the positions of opposing armies from day to day'. Such map production however, was relatively uncommon in comparison to the scale of activities in the United States. There were probably a number of reasons for this. The war had a greater and more immediate impact on the UK economy and paper was scarce. It may also be possible that the distance from the theatres of war to the USA allowed people to take a more detached view of events and treat it more creatively than perhaps would have been possible in Britain at the time.

Commerical publishers such as Geographica, Rand McNally, Hammond, Hagstrom each produced a variety of maps, including war atlases, during this period. Rand McNally, for example, produced a war atlas in 1944 which they offered to update free-of-charge once the post-war shape of the world was fixed. All companies produced at least three different maps, one with a global focus, one with a focus on Europe and a third with a focus on the Far East but most had a variety of lines available at the same time. The Geographica *Invasion Map of Europe* produced in 1944 listed a total of 36 'timely' maps that were available from the company, dealing with some aspect of the war. Perhaps half of these were pre-war maps which simply were opportunistically given a lease of life but the remainder were maps that had been specifically produced to provide news on the war. The map of the *Russian Front*, for example, was described as 'beautifully colored .. with an immense wealth of information'. At a size of 27 x 20.5 inches (69 x 52 cm), it was available for 25 cents. Not to be outdone, the Hammond company had a similar range but it went a little further in that it produced a boxed war map kit. This was a range of resources that provided complete coverage of the war. The kit contained a world-wide war atlas, two world maps showing different aspects of the war, a series of battle maps including maps of Europe and the Far East. These maps had a nice touch in that in the margins were little flags that could be cut out and by the insertion of a pin could be turned into campaign markers. In addition, there was a 'hand vest pocket atlas' and various sheets on which to record important events. It was quite a comprehensive undertaking.

These were maps for sale but many others were designed to be given away for free. Having them for sale would have undermined their value as commercial and advertising media. The range of companies who used the advertising vehicle was enormous. It might be expected that companies with a direct involvement in the war would be obvious candidates and it is certainly true that oil companies and military suppliers figure strongly. But every class and kind of company saw the value in associating their particular product with the war effort.

Some companies produced maps themselves, those from Esso were the most sophisticated, but most availed of the service offered by the commercial publishers such as Rand McNally and Hammond whereby they took a map that was already available and had it customised to be identified with a particular product. Sometimes the customising was crude with no more than a sticky label placed on a generic map but in many cases the maps were specially printed for the companies involved.

There are no data on the number of these maps produced but it must have run into millions. If survival is anything to go by, the Esso maps were the most numerous. These were produced between 1942 and 1944, at about A2 size. A first map dealing with *Transportation* was followed by a map of Europe and then by a map of the Pacific. The map of Europe was updated to reflect the invasion in 1944. The maps set out to educate their users and they introduced to a huge audience concepts such as the 'world island' or 'fortress Europe'. Each map was accompanied by text boxes that explained such things as reading distances on a projection, how projections were used and how the geography of global warfare was going to work out. These were solid geographical essays, obviously well considered and brought geography to the fore in the understanding of these events. The maps themselves were well-drawn with topography shown in hachuring. Towns and cities were located, major oil fields and distances between important locations were shown.

Other maps focused more on tactical matters. The Rand McNally 'Invasion Issue' *Global War Map* showed areas of occupied territory, the maximum range of various aircraft (the continental USA was well out of range of anything flying) and other important data for the armchair general. The British convoy routes were shown, the maximum range of US patrols as well as distances and locations of strategic resources.

It has already been suggested that the motive behind this form of map production was commercial. It was clear that people were very interested in the war. At one level, there were loved-ones fighting and it was interesting at
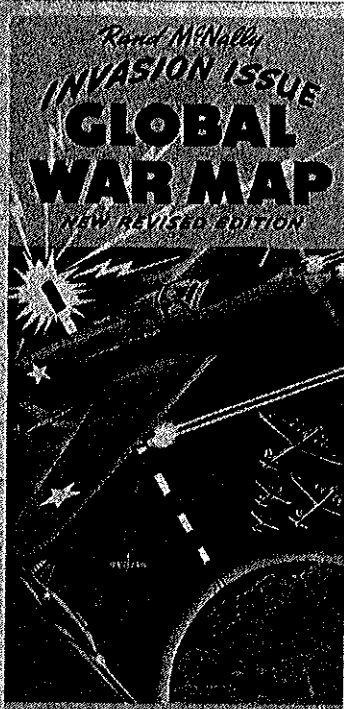
perhaps comforting to know where they were. However there was also the excitement of the war. People wanted to know the details of how the war was being fought, the machinery, the tactics. There was also the patriotic element - this war was a good and noble activity. So from the perspective of a company, it was good to be in a position to meet these various needs. People could be provided with much needed information, their technical hunger could be satisfied while taking the opportunity to capitalise on patriotic fervour and associate a product or service with a noble activity. Then, when the war ended, the theory was that the product or company would enjoy some of the reflected glory that comes to the victors and so prosper.

Radio Stations saw the value of map production immediately. People were anxious for news and what better way to advertise the news services on a particular station than by providing a useful map. A prime example was the 'Invasion Issue' Global War Map; a tactical map produced by the Rand McNally Company. This was tailored to particular radio stations by taking a basic map and overprinting the station's call sign and details of its schedule on spaces left deliberately blank. For example, figure 1 shows in the upper part of the image, an uncustomised map with a blank rear cover. The lower images show how this page was customised for two radio stations, WIBW of Kansas and WJR of Detroit Often the appeal of the map and the radio station was enhanced by reference to a well-known broadcaster. Use of this map was not confined to radio stations. A copy was issued by the Mills Mutual Insurance Company, for example. Nor was this the only map of its type. The Terre Haute Brewing Company of Indiana chose the Rand McNally Battle Map of the Pacific for its advertising. The diversity of maps and advertisers can be indicated by reference to yet another Rand McNally map. This was titled Military and Naval Map of World War II but in reality was little different to the maps mentioned above. Figure 2 shows the uncustomised version of this map on the left of the image while the map produced for 'Staleys Waffle Syrup' is shown on the right. The connection between waffle and the war effort is, of course, immediately obvious.

Maps came in all sizes and shapes. The wall map was very popular with a size of A1 to A3 being common but they also came in tiny sizes. There is a charming pocket atlas; barely larger than a credit card in size but containing 16 full-colour maps of the world. Doubtless it was useful for an emergency discussion when it was necessary to produce a map.

Figure 1: Rand McNally Global War Map.

Figure 2: Rand McNally Military and Naval Map of World War II

The link between the war, maps, advertising and the desire to capitalise on patriotic fervour has been implicit in the maps that have been mentioned. However it can be demonstrated that there was an explicit linkage in the minds of those using this medium. The Esso maps make the point that oil and the products of oil are crucial to the winning of the war. Thus the Esso Company is crucial to the winning of the war. So the Esso Company should be supported. On one of their maps they set out this principle.

> AFTER the last war a British cabinet minister said, "The Allies floated to Victory on a sea of oil." That was true. In the present vast global conflict the same statement can be made—only with even more far-reaching force.
>
> Literally, almost everything that we are using in the struggle toward Victory uses oil: planes, ships, tanks, mechanized equipment, guns, ammunition, and all forms of transportation. Petroleum derivatives, such as synthetic toluol and synthetic rubber, are indispensable in the war effort.
>
> The vast amount of research and development, the untiring achievement of the petroleum industry, have made possible these contributions to Victory. This same research, this same development, this same achievement will be directed to civilian use and a better standard of living for the world when peace comes."

A similar sentiment but this time appealing to the stomach is evident in one of the maps produced by the Fred Harvey Company, which operated a chain of restaurants, dining cars as well as shops and hotels. This map makes the point that special service is given to those in the armed forces and hopes to see them as customers again when the peace has been achieved.

> We hope this pocket folder will be of interest to you. Our managers and employees are proud to serve you and have been requested, in so far as conditions permit, to give you second helpings if you want them.
>
> When the war is won; when food rationing, so essential now, is no longer necessary ... then we hope that you will come back to dine more leisurely and enjoy the hospitality that we like to offer our friends.

The link between war, maps, advertising and business is made crystal clear, however, in a series of maps produced throughout the war by the Gettier Montanye Company of Baltimore in Maryland. Their product was what they called a 'Dated Events' war map. In essence this was a map of the world, about 1m long by 0.5 m high, on a

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Mercator Grid. 'It provided a complete record of the war's historic events as soon as they become history'. The maps could not be called masterpieces of the cartographer's art. The colours were garish, the country outlines generalised but the map displayed a vast amount of material. Figure 3 displays the Western European section of one of these maps. Using text, colour and symbol it provided dates and details for the major events of the war. For example, one map notes that Madagascar was occupied by the British on 4 May, 1942 and Tananarive was occupied on 23 May. The scope for updates was enormous as the war unfolded.

Figure 3: Extract from a Dated Events War Map showing Western Europe.

These maps were explicitly sold as an advertising medium. The covering letter for a late 1944 version that was sent out to potential customers advised that:

> The Greatest War Map Ever Designed — Provides You a Top Flight Goodwill Salesman for Your Business
>
> This is your opportunity to assure customer goodwill and loyalty for your business during the war and after the war. Put your name and your business on 'Dated Events' — the most sensational map of the war.
>
> You simply must see this famous war map to really appreciate it. Unfold the enclosed sample and judge for yourself. Note the exclusive and copyrighted 'Dated Events' feature, found in no other map. Never before have you seen a map just like it.
>
> Colorful, informative, authentic, 'Dated Events' is really more than a map. It is a highly condensed and concise history of the war. Everything that happened on the battlefields of Europe and Asia is recorded right on this map — with names, dates and places. Everything from Munich to D—Day, including the Liberation of France, the surprise attack by Germany, the great Russian advances, America's mighty offensives in Asia and the Pacific (Figure 3).
>
> This isn't all by a long shot! This famous war map also gives you bombing distances between world capitols, naval and air bases, world raw material sources, supply routes, an enlarged map of Nazi Germany. A new edition is just going to press. That's the map you will get.
>
> You will be proud to distribute this new 'Dated Events' war map with your business imprint, among your many good customers and friends — perhaps employees. It will bring you much goodwill and

prestige both now and after the war. At these low direct prices, you can afford to be generous in its distribution. Prices are on the enclosed order form.

The maps were on offer in a special envelope for 10.5 cents each, based on a print-run of 10,000 or more with the price rising to 15.5 cents each if less than 150 were printed.

What was true of this company was doubtless true of others. The war was a business opportunity. Dewey-eyed patriotism could be turned to hard cash and the map was the means to do it. Myriad were the companies that took up this offer. Many offered their customers each updated map as it appeared. Figure 4 shows the advertising message for four companies that used this service. These are an insurance company, a ball bearing company, a building materials company and a geography publisher but there were many more. Maps advertising construction companies, suppliers of hospital linen, sporting goods retailers and airline companies were produced. One that sticks in the mind is for the Pritkin Company who sold 'feathers, egg cases and supplies'.
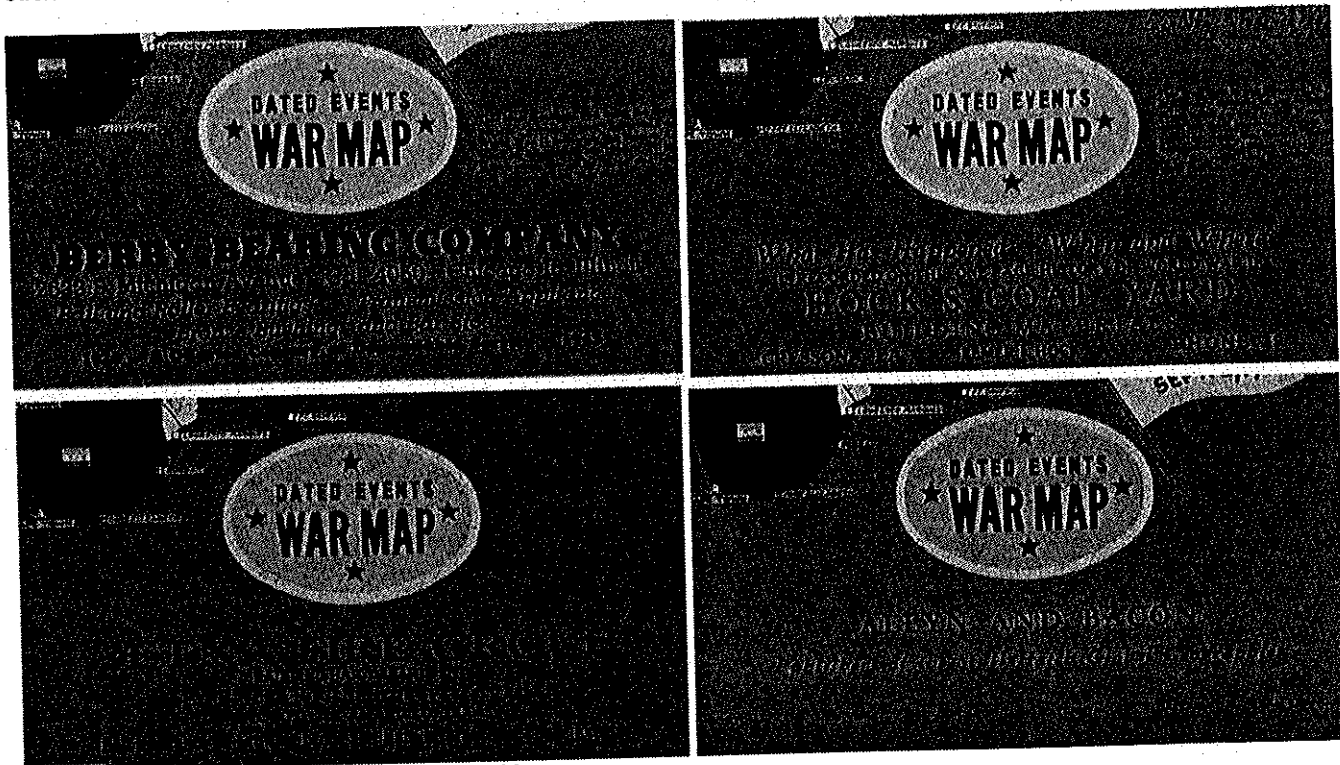
Figure 4: Four customised Dated Events War Maps

There is no research to indicate how effective was this advertising and whether the hoped-for peace dividend was obtained. What is clear is that no subsequent war has produced the same enthusiasm for map production. The Korean War followed quickly after World War II and while there was some use of customised maps by occasional radio stations - the WREN radio station of made use of a Rand McNally *Air Age Map of the Global Crisis*, for instance - such maps were few and far between. It appears that the role of the map as a vehicle for advertising faded after the war. One can speculate as to the reasons. It might have something to do with the growth of television as the dominant medium. Its visual appeal was far greater than anything before and it may have better suited the need for drama than a two-dimensional printed map. Whatever the reason, thus far a thorough search has failed to turn up any such maps for the Vietnam War and none appear to have been produced for the more recent Gulf War, though there are maps from commercial publishers such as Hammond. So it may well be that for a brief period maps achieved a hugely important commercial significant and placed geography in the role of key information provider.

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Who or what shapes the city and to what ends?
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Introduction.
Urban centres have long been thought of as areas on which to base the level of prosperity of a region through an analysis of their ability to efficiently transport goods and ideas and as political, financial and commercial centres. However the journey from medieval rural, tradition and agricultural based economy to the current urban and global economy has brought with it many consequences. In order to attain a clear picture of global cities and the role they play in the global economy and the social consequences of their very existence one must observe the core of capitalist economic standing, and the fragmented periphery of the excluded, simultaneously. In order to address the topic at hand effectively it is necessary to first provide a basis for the role of the city on a global scale and the importance for cities to maintain high stature in their contribution to the global economy. A world city may be defined as a large urbanised area that exercises intense social and economic activity on a local, regional and international level, has a cosmopolitan culture and consumerism ideology (Friedman, 1995).

There exists a somewhat symbiotic relationship between cities and their association with the global economy whereby as the city strives to contribute more globally, it in turn receives economic benefits nationally. It is with this in mind that the global image of a city is portrayed and urban changes are made in order to keep pace with other global competitors. In doing this, agencies on a national and regional level and even internally within a city create urban transformations. These foundations span from those of the central governments, planning authorities, local authorities and local communities and groups, and usually involve private enterprises and development partnerships. The visions for the future of the city or areas of the city of these groups tend to vary greatly however. Agencies at a government level or under the umbrella of the government can focus more on a global economic scale with less emphasis allowed to the social ramifications of developments. Local authorities, local communities and public-private partnerships developed by these groups focus increasingly on social benefits of the area for proposed development or even remarketing.

From a theoretical point of view the causes of these changes and the consequences of any alteration are topics often debated and within three main schools of thought, loosely divided into pre-modern, modern and post-modern. Both the pre-modern and the modern views attempt to ascertain a singular cause for the changing urban landscape both physical and social. Post-modernists, however, reject the idea of the grand theory and adopt an often more realistic pluriform attitude, assigning the causes to various areas. Rather than singularly addressing the individual, the community, the organisational, the political or the structuralist models, the post-modern approach addresses all at once and attributes change in urban areas and the social consequences of such change to each of these models.

In planning, the central government occupies the position of the central agency who's main concern is the long term economic well being of the state as a whole. Consequently, it tends to use the city as a commodity and sells it accordingly. Each city is bidding for an attempt to attain the highest status in the hierarchy of world or global cities, a process that is achieved through the successful marketing of the city as a centre of effective services and infrastructure. In the technology based society that exists today, the city is the most valuable asset and it's successful marketing often has and still does take precedence over more social issues, in a bid to ensure economic achievements.

Perhaps the exception of this is the system in place in Singapore. Here the government controls almost all aspects of planning and development but on account of such high levels of control, social aspects have been given great consideration, although not solely for the benefit of those at risk of segregation. Singapore has successfully marketed and transformed itself into "the" hub of trade and communication in the east. It prides itself on efficiency, smartness and cleanliness, both physical and social. As part of the marketing strategy for the future as a global city, Singapore exercised a removal of all slums and a created a built environment in which crime could not grow. Singapore in turn formed a society that is forced to provide for their future by the government and thus reduced social problems associated with individual financial problems.

The city must be perceived as a node of the global economy, connected to other nodes, particularly those of equal stature, and thus must provide extensive financial services, telecommunications, security (both financial and personal) and a social standing directed at those who are desired, in order to appear prosperous and therefore become prosperous. Such plans and ideals are common to almost every city worldwide and so the resulting levels of competition are intensely high.

In order to achieve such a task, urban generation and regeneration is frequently undertaken usually with the experiences of other prosperous cities first taken into account. Image is everything. The appointment of the UDC (the Custom House Docklands Development Authority, now the Dublin Docklands Development Authority (DDDA)), for the Dublin docklands area by the Irish government was one such project that was drawn from the observations of the London Docklands project. The DDDA was a private executive organisation that was basically unanswerable to any planning or local authority.

In the theme of Irelands position in the global economy, the Dublin Docklands regeneration project was a huge success with the International Financial Services Centre (IFSC) at the heart of the story providing much needed financial services, office space, and global telecommunication services.

However, such projects do not occur without a price to be paid by some elements of society. Here lies the problem with entirely private and unchecked developments for the benefit of the country in general and that is the status of the local residents of such areas and the impact that these schemes have on them. Private enterprises can achieve the end goal, but without local involvement. Integration simply will not occur and the result is largely an island of gentrified land amidst locals who have little chance to reap the benefits of these developments, to acquire more affordable housing, employment in anything other than the lowest-skilled and lowest paid, or any other social necessities or amenities. In short, undertakings of such a global stature rarely allow for the social consequences at a local level.

The involvement of local authorities emerges as a bottom up structure, allowing the involvement and participation of local communities through the employment of public-private partnerships in order to ensure that changes made to the local environment serve the interests of the local population in tandem with state interests i.e. to reduce segregation. Developments undertaken with such partnerships hold economic benefits highly but social consequences are also taken into account in an attempt to minimise social unrest by allowing local communities and prospective investors to benefit equally. The involvement of locals is essential as it is frequently the case that locals will operate on a less global and more territorial scale and feel that should their area be developed for the good of the city as a whole and to enhance international relations, then it should in turn serve them well also. It is through partnerships with those who have connections higher in the political scale that their voice may be heard. This allows for a clear progression of power from 'the sidewalk', to the planning authorities, and thus the locals can shape areas of the city to suit their own social and economic needs.

The role of the media in urban transformations through urban marketing cannot be under-estimated as it is through the media that images of urban areas diffuse globally. The role of the media in the creation of a positive image of the global economy and all that influences in the global economy is essential to a city for it's survival on a local, regional, national and international level. The media influences the status of areas of cities, gives representation of cities at a national and global level, while also conveying ideals of the world economy back to the local level. It therefore serves from a bottom-up perspective in conjunction with the top-down, influencing everyone on all levels about issues or topics from all stages of the local-global spectrum.

Conclusion
This essay has attempted to address the issue of globalisation and the global economy and the manner in which the repercussions of this system shape the urban landscape or simply how it is marketed. Such repercussions include the intra/inter-city competition on a national and international level that encourages urban transformation of all sizes in order to attain or maintain global stature. It has also focused on the influence of agencies from the central government to the local community and their input to urban changes and the motives behind the plans proposed by these different groups. It has also dealt with how the media affects the essential image of a city on a global scale. Finally, the theme of emergent bottom-up behaviour is dealt with through out the essay as it pertains to the shaping of the city from a social point of view.

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Question: What is health geography? Answer: Cool!
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I will normally do my utmost to avoid going to any thing resembling a dinner party. However, periodically one is left with no alternative but to attend or offend. Therefore recently, after a series of polite refusals and one last minute cancellation on my part, my family and I eventually ended up attending a colleague's dinner party.

About two hours into the evening, my host's youngest son (now tired from having spent the entire time running around like a lunatic while playing with my son who had been similarly engaged) came into the dining room and proceeded to ask all present what they did for a living. I was unsure at what level to pitch my answer given that he was only 12 years old. However when my turn came I responded that I was a health geographer and outlined some of the main areas of work in this field. It was clear immediately that my disjointed response covering such topics as investigating disease causation, disease transmission and health service provision was not helping. My attempts to expand this explanation to encompass deprivation and issues of putting 'place' into 'space' deteriorated into mumbles before I eventually gave up.

When my inept outline was complete my host turned to his son and asked if he understood my explanation. His son gave a clear "No", and so after a moments thought I decided to try another tack. "I make maps of where people die," I said. The response of the 12 year old was an immediate and enthusiastic "Cool!"

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Theorising Geography: Dualisms in Geography and the obstacles posed to the unity of theory.
Conor Murphy PhD Research NUIM

Introduction

Theorising Geography is an intellectual pursuit that is becoming more and more central to the subject as a discipline. Without theorising, investigations into all areas of geography become barren. However, in geography the process of constructing theories is extremely complex. Complexities arise due to the fact that geography is seen only in relation to other fields. As a result of this dualisms have emerged within the subject that have posed obstacles to the unity of theories. In this essay I wish to examine these dualisms, aiming at highlighting why dualisms have posed such problems and I proceed to offer one way in which these problems may be overcome.

Theory is a system of interconnected abstractions or ideas that condenses and organises knowledge (Jensen, 1988). From the outset it is important to note that theories operate at different levels ranging from meta philosophies to philosophies to theories. Theory is restricted in scope and as Peet explains is more concerned with trying to account for "occurrences, events and practices of lived reality" (Kitchin, 2001; 2) In this sense theory forms the basis of all philosophies and meta philosophies and essentially governs what we study and what we can know.

Theorising geography is not just an intellectual pursuit but is in fact a necessary discipline as it is through theory making that theoretical tools are constructed, employed and tested. Indeed these tools of investigation are what make geography a unique discipline. Therefore, it seems that it is impossible to approach geography without giving theory the respect that it requires. It is through theorising geography that our understanding of the world is developed and broadened.

When introduced to geography it is immediately noticeable that geography has no obvious place within the traditional classification of the sciences. Indeed some parts of geography have their strongest affiliations with mathematics and the natural sciences, others with history, philosophy and social sciences (Jensen, 1988). The question therefore has to be asked, *"What is Geography?"* Although this seems like a simple question the answer is far from straight forward. Indeed the definition of geography as a disciplinary endeavour is constantly changing as the "focus, content and praxis of geography is continually re-thought" (Kitchin, 2001: 8). Therefore in order to keep pace with this dynamic area of study a close relationship with theory is becoming more and more necessary.

As has been mentioned, geography does not have a distinct position in relation to the sciences but rather it extracts parts from each forming a connection between the natural and the social. As a consequence the work of the geographer involves several types of phenomena, some of which are determined by nature without man and others determined largely by man working with nature. As a result geography, unlike most other sciences has two subjects about which to theorise, the animate and the inanimate. Therefore there exists a divide or rather a dualism within the discipline with which every geographer must come to terms. This dualism is the division of the subject into two broad categories of physical geography and human geography.

For many this dualism within the discipline is somewhat of a false dichotomy. As Hartshorne (1959) suggests, "such cleavage is the very thing that geography exists to bridge, and it is false to its central aim whenever and for whatever reason it recognises or emphasises two different sides in the subject" (Hartshorne, 1959: 63). Nevertheless this unfortunate rift has been the cause of vastly diverging philosophies as well as theories and methods of data collection.

Major differences in theories have resulted due to the subject matters from which each field draws their studies and during a relatively short period of its history the philosophical concept of environmentalism (i.e. specific relationships between human and non-human factors) has divided all elements of the subject into two abstract groups (Hartshorne, 1959). Furthermore, the theories behind how each side is approached also diverged.

Due to the close proximity of physical geography to the natural sciences of chemistry and physics it is fact that came to the fore rather than theory. Facts are part of the empirical world of hard, settled, observable things that are uncontaminated by theories or ideas (Jensen, 1988). In this sense physical geography has a close affinity with the natural sciences in which humans and all human values are removed. As a result physical geography tends to be more concerned with scientific law rather than theorising geography. As Harvey (1969) contends, "scientific explanation was adopted into geography at a cost", the price of which was "a severe limitation of its field of enquiry and a value system which is as ruthless...as the value system of primitive man" (Harvey, 1969: 107). However, the scientific method has presented geographers with a priceless and objective way in which to collect data.

Although scientific laws are primary to physical geography, theory also plays a role. Out of scientific empiricism emerged positivism, a form of scientific thinking which can be traced to the writings of Comte (1798-1857). Unlike empiricism, positivist science assumes that the development of generalisations and deducted laws can only follow on the basis of repeated observations and the testing of hypotheses about the causal relationship between phenomena. Furthermore, generalisations and hypotheses were to be combined into theories and laws to explain how the world works (Kitchin, 2001). Through positivism theorising geography was reduced to a process of systematic falsification, checking a theory against evidence that could disprove it rather than collecting supportive evidence for the theory. In this sense physical geography became a science of consumption, testing the strict laws of science in the process of geographical explanation (Harvey, 1969).

Although the theories of positivism and the laws of empiricism are suited to a geography encompassing just landscape, the world is comprised of both animate and inanimate subjects. As a result the theories of physical geography do not stand as steadily when human activity is introduced. However, having said this, the new scientific paradigm was responsible for ushering in a new empirico-physical conception of space theorising from concepts of distance, direction and connection (Kitchin, 2001). Human activities could be reduced to movements, networks and hierarchies played out on an isotropic plane (Kitchin, 2001). However, the transition to scientific laws did not run so smoothly for those viewing space as social and relational, as positivism did not offer a philosophical basis for the development of theory in human geography.

This disunity is more than one of dualism and has led to physical geography being considered apart from the rest of geography. Indeed Kirk Bryan even goes so far as to say that when considered on its own, physical geography is "a group of specialist sciences each pursued for its own end" (Hartshorne, 1959: 69). As a result, while theorising geography, obstacles are encountered regarding a coherent unity. As well as in physical geography, the splintering of subjects within human geography has resulted in diversifying theories, each with their own ideas of data collection and the tools used in this process.

However, it is my opinion that the task of overcoming this divide within geography is not impossible. The considerations of phenomena independent of man in the geographic field are lacking in coherence and divorced from the full context of reality. While some phenomena are largely independent of man and others are the products of mans work, few are either purely natural or purely human (Hartshorne, 1956). In recent times the recognition of this has become more frequent and it is through bridging the gap between physical and human sides of geography that theorising the subject can become more accessible.

Although the dualism present within the sphere of geography is the cause of much deliberation when forming theories, it is not the only dualism that requires our attention. Closer to the root of theory formation is the dualism present in the production of knowledge. Indeed while forming basic theories there is a divide that we must confront, that of how knowledge is originally produced. This as we shall see is closely related to the dualism within the subject itself. The dualism evident in theory formation can be characterised by a scientific approach and a situated approach.

This dualism, which underpins geographical discourse, can be viewed in relation to a Cartesian separation between body and mind (Longhurst, 1997: 486). Indeed it can be further broken down into objective science and a subjective human approach in which mind and body cannot be separated. In essence the scientific approach contends that the production of knowledge is a rational, objective and neutral pursuit through which knowledge can be generated by analysing data in a particular fashion (Kitchin, 2001) However, and as is relevant to the earlier discussion, a major problem with the scientific approach is that it deals with nature alone and is not actively involved in constructing theories (Cummings, 1998).

This theory of knowledge production is challenged by the opinion that knowledge is made by actors who are situated within certain contexts. As a result knowledge is deemed as constructed, situated and positioned (Kitchin, 2001). In effect this totally contradicts the standing of the scientific approach and rather than time and space constructing processes it is the social process that produces its own form of time and space.

Because of these dualisms evident within geography, theorising the subject on a holistic level has become difficult and as a consequence the role of the geographer and the definition of the subject seems ambiguous. However, claims can be made for the role of dialectics in overcoming these obstacles.

Dialectical thinking emphasises the understanding of processes, flows, fluxes and relations over the analysis of elements, things, structures and organised systems (Jones, 1999). Furthermore, and as Harvey (1996) contends, dialectical thought can overcome the problems of a static conception of things (Harvey, 1996). Rather than a set of principles, the dialectic is "a process and not a thing and it is ... a process in which the Cartesian separations between mind and matter, between thought and action, between consciousness and materiality, and between theory and practice have no purchase" (Harvey, 1996: 48).

Perhaps the greatest attraction of adopting such an approach into geography is the dynamism of the subject, which is mirrored by the dynamism of the dialectic process. Dialectics, when emphasising the processes of flows and fluxes within systems recognises that persistence and equilibrium are not the natural state. Rather change is characteristic of all systems and all aspects of systems (Harvey, 1996). Such a process enhances the system of the discipline of geography, a discipline that is constantly expanding its boundaries.

It is also important to remember that the process of dialectics is not the answer to every problem. There are many for whom such an approach proves problematic. It is not an easy task to construct theory, especially in the face of such dualisms as described above. Dialectical theory however, offers a way forward because of the way it deals with totalities, particularities, motion, and fixity.

In this way a conclusion can be drawn to the era of studying certain aspects of geography for its own end. Instead the discipline of geography can be seen as a system of opposite parts comprising a whole, in which, if true knowledge is to be gained one cannot exist without the other. This places geography in a central role between the social sciences and the natural sciences and I would even argue that such a dynamic dialectic approach gives geography the tools to bridge the gap between the two.

Geography must be approached in a holistic fashion with regard to theory; it is not enough to construct meta-theoretical frameworks. Dialectical thought as Harvey argues "is the best way to escape the postmodern crisis of theory" (Harvey, 1996: 55).

Conclusion
It is evident that the dualisms within geography have inferred many obstacles when trying to construct theories. Dichotomies like those regarding the production of knowledge and the division of the subject into two opposing camps have provided us with simplistic illusions as to what geography actually is. Indeed Jensen contends that the acceptance of these dualisms is a semantic trap. Jensen goes on to propose that dichotomies such as the assumption that physical and human geography are different branches of the subject, that geography must be inductive or deductive and that geography must be considered either as a science or an art have proven to be extremely detrimental (Jensen, 1988). The damaging effect of these dualisms can be seen in their full extent when considering the obstacles posed to theorising geography.

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ABSTRACTS

Climate Change and Health in Ireland: A National Vulnerability Assessment
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It is anticipated that climate change will significantly affect health. The purpose of the proposed study is to undertake a vulnerability assessment of Ireland to the health effects of climate change. The health effects can be divided into direct and indirect. Direct effects include adverse impacts of extreme heat and cold, which may be exacerbated by air pollution and humidity and injuries sustained in floods, storms and other extreme weather events. Indirect effects include changes in the incidence and prevalence of infectious diseases, both directly and from disruption of infrastructure by extreme weather events, adverse effects sustained from air pollution, increases in allergies (from earlier pollen, spores etc.) and ozone. It will first be necessary to understand the impact that climatic variables, such as temperature, humidity, etc have on morbidity and mortality in Ireland at present, at a regional level. This will pose problems due to limited data availability. It will then be necessary to develop predictive models for three climatic scenarios, at a regional level. The health effects of climate change will be mediated through socio-economic conditions, morbidity, age and gender profiles, which will be incorporated in the assessment. It is expected that recommendations will be made in relation to the development of surveillance systems for the identification of early warning signs of the health effects of climate change and the identification of vulnerable sub-groups for priority surveillance.

Contested Ruralities: Housing in the Irish Countryside
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There has been much debate in recent years about rural settlement patterns in Ireland. Variously described as either environmentally unsustainable, at variance with traditional forms of settlement or damaging to the quality of the Irish rural landscape' there is a range of ambiguities in popular and policy perspectives on rural housing trends, patterns and requirements in the countryside. In view of the current rural housing debate this project focuses attention on the dynamics of the Irish countryside, exploring the mechanisms of contestation in the countryside, particularly in relation to settlement patterns. A review of the diversity of historical and recent rural settlement patterns across regional landscapes in Ireland will inform the current debate and further research. Attention will be paid to the manner in which the Irish rural landscape is perceived by the community at large, by local rural inhabitants (farmers and others) and by the planning authorities, and how this perception aligns itself with comparable European understandings. A comprehensive review will be undertaken of recent trends in rural housing in Ireland, with particular analyses of the location, supply and demand, and decision-making processes which apply to housing development in the countryside. The overall objective of the project is to provide guidelines for the development of rural settlement patterns in the future that are both socially and environmentally sustainable. Ultimately it is intended that a benchmark will be established for a more orderly strategy for future regulation of the Irish settlement landscape.

A spatial analysis of farm-based enterprises in Ireland in 2000, and adjustments since 1991.
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Irish agriculture continues to experience the effects of what is termed the 'post-productivist transition'. This process began in the 1980s with the introduction of quantitative restrictions e.g., milk quotas. It expanded in 1992 when reform of the Common Agricultural Policy (CAP) reduced market price supports for farm products, introduced direct payments to farmers as a form of compensation, and encouraged diversification via 'accompanying measures' e.g., afforestation. Further reforms were introduced through Agenda 2000, which were considered necessary in light of emerging challenges posed by greater competition (trade liberalisation) and EU expansion. Combined, these policy developments have affected the structure and distribution of Irish agricultural production and alternative farm enterprises. Using key indicators from the Census of Agriculture in 1991 and 2000, this project will build on the research of Lafferty (2000)[1] by generating and investigating spatial typologies of agricultural production in Ireland in 2000 using a Geographic Information System. Through comparisons with the 1991 data, it will be possible to explore the effects of the 1992 CAP reforms on agri-enterprises during the 1990s. Given their relevance to an increasing number of farm enterprises, a spatial analysis of alternative or diversified activities such as agri-tourism, afforestation, and the implementation of the Rural Environmental Protection Scheme (REPS) will also be considered. The similarity of enumeration methods between the 1991 and 2000 Census of Agriculture facilitates

the testing of both the methodologies and findings produced by Lafferty (2000) whose work was hampered by data anomalies. Furthermore, it will be possible to produce detailed maps of change at the level of District Electoral Division (DED). We will explore the potential of applying our findings to trends identified by researchers from the Food and Agricultural Policy Research Institute (FAPRI) Ireland, to elucidate spatial scenarios of the future development of Irish agriculture.

[1]Lafferty, S. 2000. The spatial implications of the transformation of production agriculture in the Republic of Ireland, PhD Thesis, National University of Ireland, Maynooth.

Access and Delivery Systems for Public Services in Rural Areas

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This project will investigate the provision of public services in rural areas, focusing in particular on the concepts of access and delivery systems. It will involve an audit of the range of services, and the methods by which these services are currently delivered, in a select number of rural areas. Surveys will be undertaken in these areas to determine the demand for particular services, levels of access, and possible barriers to accessing rural public services. Following analysis, and drawing on relevant literature and experience in other countries, recommendations will be made for improving the delivery systems and enhancing the level of access for rural residents. To date research on geographical aspects of the provision of rural public services has been quite limited, and the need for such research has been highlighted in recent reports from NESC, the White Paper on Rural Development, and in the research programme for the NSS.

Regional Variation In The Policy Of Modernisation Of The Irish Mental Health Service.

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Research for this paper is funded by the National Institute for Regional and Spatial Analysis.

Since the 1950s mental health service delivery across the developed world has undergone dramatic changes aimed towards modernising the service. The main thrust of these modernisation policies has been to bring about a process of "deinstitutionalisation" whereby treatment would move away from the large isolated Mental Hospitals or Asylums towards a new integrated community based service. In Ireland, where hospitalisation rates were seen to be high by international standards, this modernisation policy has been mapped out in documents such as The Commission of Enquiry into Mental Illness (1966) and Planning For The Future (1985). Yet after some four decades evidence indicates that the adoption and implementation of these policies is spatially uneven across the country. Some services are seen to be progressive while others remain more traditional, apparently embracing change more reluctantly. The central aim of this study is to investigate whether an individual with mental health problems can access a similar range and quality of treatments in the publicly funded adult mental health service regardless of where they reside. The study has two aspects; firstly through quantitative analysis to examine in detail the present state of development of the Irish mental health service, (in order to test the extent of the identified regional or spatial variation in the adoption of the policy of modernisation). Secondly, through the use of both quantitative and qualitative methods, the study will examine factors (such as demography, history, epidemiology, clinical cultures or economics), which may explain such regional variation.

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Beyond 'NIMBY' in the age of the world-wide web

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The Not In My Back Yard (NIMBY) syndrome has long been used as a pejorative term to dismiss residents' objections to local developments. The majority of members of the general population, it is often assumed, are only interested in protecting the environmental integrity of their own 'backyard'. However the author's observations of community resistance to a multinational pharmaceutical company building an incinerator in rural County Clare in the Republic of Ireland, may indicate some important changes in this phenomenon. Modern telecommunications, most notably the world wide web and email, are helping to change both the local focus of individuals, as well as globalising action against some multinational companies.

A number of globally scattered communities are now using email and the web to contact other community groups that are currently, or have previously, faced the threat of unwanted industrial developments by multinational companies. Such groups often exchange information on media tactics, as well as revealing all they know about incidents/ accidents in a company's history. Thus such groups become increasing sophisticated in their 'handling of' and dealings with the media. This is an important development given the financial inputs some multinational companies can pour into concerted media and public relations campaigns. These types of links can therefore help to equalise, albeit to a small degree, some of the imbalance between small communities and multinational

corporations. The importance of emotional support in such exchanges should not be underestimated. Many individuals within community groups feel overwhelmed and intimidated by the wealth and size of the organizations that they are trying to resist. However it is clear that the morale of people using such networks is buoyed by support from elsewhere and the distillation of the experience of other groups. Another crucial element of this 'outside' support is the severe degree of internal division that can emerge in communities in respect of industrial expansion, or new industrial developments. Many communities are torn by the divisive debate over the need for new or continuing employment, versus the dangers of environmental pollution. Support therefore from allied individuals also opposed to such industrial developments can be a much-needed spur to continue resistance. These networks can transform isolated, information-poor communities into sites of multinational resistance to multinational companies. New technologies have allowed some members of opposition groups to continue their struggle against multinational companies far beyond their native shores, fostering wider, even global environmental concerns.

This is not to suggest that e-mail, mailing lists, or the world-wide web are necessarily going to transform the struggle faced by communities opposed to industrial developments into some form of David and Goliath encounter. However it is clear that the use of this technology can re-dress some elements of the monumental imbalance in wealth, legitimacy and resources that routinely characterise such encounters. Communities facing such a threat are often inevitably new to such legal and media contests. Multinational corporations however are often veterans of such clashes, and can purchase skilled staff to aid their cause (particularly the hiring of outside 'experts' to justify their case). For community groups however, contact with other groups that have already fought such corporations, unsuccessfully or successfully, can help them to plan future strategies and avoid pit-falls other groups may have already avoided or fallen victim to.

The electronic networks detailed above though perhaps only scrape the surface of the potential of the world wide web to help communities around the globe opposing threats to the environment. Given sufficient education and training, those with access to the web can now access a myriad of databases, tools and information that could greatly aid any attempts to combat incursions by multinational companies. In terms of preparing a case outlining the effects of particular emissions, as well as using general web searches, specific sites such as PubMed (www.ncbi.nlm.nih.gov) can be of critical use. PubMed gives free access to the Medline index (indexing over 11 million citations), as well as offering a host of other services. As well as this an increasing number of health and medical journals offer full-text access for free over the net, with perhaps one the best known of these being the British Medical Journal (www.bmj.com). Many others offer a fee per article rate and the whole exchange can be conducted over the net. In addition training in almost any discipline is now available for free over the net. Numerous university web sites include access to lecture notes, lists of recommended reading, copies of electronic slides used by lecturers and so forth. The gap between those physically attending some campuses and those virtually attending is decreasing rapidly. This applies to courses not even specifically categorized as distance education courses. Topic specific sites such as those belonging to the Centers for Disease Control in the USA offer information and training on health issues over the net (www.cdc.gov). In addition they provide access to free software that could potentially allow residents to mount sophisticated challenges to multinational companies based on local health/illness data. Such packages include *EpiInfo* and *EpiMap*. The first is a relatively easy computerized statistical package, while the second is a basic geographical information system (GIS) designed for mapping health data. The list of software and information now accessible over the web for free is astounding and has the potential to allow rural communities to combat information / disinformation disseminated by multinational companies in a 'professional' manner. However if the complexity of using some of these resources over the web appears over-powering, a brief study of these resources could arm communities with the knowledge to force public health services to carry out meaningful, rather than cursory examinations of the topics in question.

It should not however be forgotten that the outline given above of a rural community developing international links to try and resist the building of an incinerator by a multinational company is not one that could be replicated everywhere. A certain level of literacy and familiarity with computers is a prerequisite for engaging in such electronic dialogue. In addition, even in this age of impending global recession and falling PC prices, access to computers and then subsequently to e-mail and the world wide web remain beyond the reach of communities in many industrialising countries. In addition the different groups involved in the example given above were all able to converse in English. Needless to say language can be a significant barrier in the development and optimal use of such support and communication networks.

This short 'case review' outlines a number of developments in the use of modern telecommunications technologies by communities threatened with potentially toxic industrial developments. Access to email and the web has allowed geographically dispersed communities to call-on and use the skills, experience and knowledge of other groups to try and combat the development plans of multinational companies. In addition the emotional support of such networks may be of considerable worth in such community groups, particularly when there is internal division over

the issue of jobs and unemployment. Some individuals involved in such global networks have adopted a 'broader picture' and are concerned not only to stop unwanted industrial developments in their own backyard, but anywhere on the globe. Although this type of network is reliant on a certain level of resources and education it has the potential to help redress to some degree huge economic imbalances in power inherent in such struggles. However the web has the potential to alter the balance much further in the favour of community groups by giving them free access to health and medical knowledge, as well as appropriate tools. Such gilt-edged knowledge is ascribed as legitimate in mainstream discourse and could be a significant aid in both the legal and media arenas.

'Insider' & 'Outsider' Perspectives of the Countryside
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Introduction
One off housing has been at the centre of debate on the countryside in recent times. Rural planning is particularly contentious at present because of the increasing attention drawn to arising environmental issues, the increase in planning refusals for one-off houses (or at least the demand for more refusals from some interest groups), the politicising of rural planning, and the need for sustainable development. Almost on a daily basis the popular media's reportage on the housing debate illustrates how it has crossed over from academic and professional discourse to one that has a resonance for any individual who has ever or will ever apply for planning permission to build their own home in the countryside. In addition to the debate on housing other contentious issues have arisen, including the effect of current farm practices on the rural environment, the increased opposition of farmers to the compulsory purchase of land for road and motorway building, and the promotion of rural development and diversification. What is consistent in these debates is the level of interest and the numerous contributors involved, and the inevitable contestation of the present and future role of the countryside in Ireland.

It is the numerous perceptions of the countryside that have laid the foundations for contestation. Perceptions of the countryside can be distilled into a dialectic of the two concepts of land and landscape. These two concepts are the foundation of varying approaches to policy for rural areas, and can be drawn together to form a dual model of the countryside. Often at odds with each other, the model highlights further the conflicting perception of rural areas as either functional places (land), i.e. places in which to live and work, to utilise, or symbolic spaces (landscape), such as areas of recreation, amenity and scenic beauty.

It is particularly important to recognise that the countryside represents a complex geography of space that can never be addressed as one-dimensional, or as isolated from its surroundings.

Greer and Murray (2000) recognise that the geography of the countryside allows for multiple interpretations. They use one example of a perception of the countryside:
> "For some people it is represented by the open countryside which varies from small farms nestling among drumlin hills ... to the expansive landscapes of lake and upland in Co. Fermanagh. This view of the countryside ... is a partial one"
>
> (Greer and Murray, 2000: 4).

The aim of this paper is to examine sense and perception of place, values of different places and the model of the countryside to which individuals ascribe. The current debate on the use of lay discourses will be examined briefly in the context of rural studies. This conceptual examination is necessary to explore the concepts behind the 'rural' and how these are represented in policy. Implicit in this objective is the exploration of why the countryside tends to evoke such discussion and debate, particularly the issue of housing and rural planning, and to emphasise that such debate tends to be largely emotive.

Perspective & Perception
Lay Discourses
In literature exploring definitions of the rural there has been a call for an examination of the 'ordinary' and the everyday of individuals' experiences (see for example Cloke, 1985; Hoggart, 1990; and Halfacree, 1993; 1995). In other words, that there be a recognition of the need to include lay discourses in research on the countryside. The examination of lay discourses allows the researcher to breakdown the "layers of sedimented assumptions" that act as a barrier to the in depth study of the actors and actions in rural areas:
> "Some of the most cogent criticisms of modern social sciences have focused on the reluctance and/or inability of practitioners to step outside the academic perspective with all its institutionalised, gendered, classed, aged, ethnocentric and scientific baggage. Thus, much of the socially embedded nature of discourse - the processing and contested construction of the social world

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through specific actors in specific spatial and temporal circumstances – has been lost to academic view"

(Jones, 1995: 35)

The extent to which relevance is given to sense of place begins at a subjective level. There is an apparent level of subjectivity from many of the authors in literature on place and sense of place. While exploring 'place', subjectivity is a divide to be confronted or ignored. Such a confrontation is the 'homework' that "any scholar who believes in objectivity should be willing to face: to unearth the 'subjective' element and recognise its influence" (Buttimer, 1980: 172). In order to 'unearth' the subjective many authors introduce the use of the word 'I' and tell 'stories' of their childhood and their resultant associations with place (see for example Buttimer, 1980; Dorling, 2001; MacCabe, 2001). Thus, it is important to address issues of subjectivity when looking at place, but it is equally important to recognise where the subjective ends and the objective begins. The latter is part of Buttimer's (1980) pedagogical challenge to both policy-makers and the public, whereby taken-for-granted ideas, attitudes and practices are brought to the fore so that there can be mutual understanding and learning.

Buttimer (1980) identifies a number of recurring themes in peoples' associations with place and thus their sense of place. Some of these themes include:
- Peoples' sense of personal and cultural identity.
- Loss of home or 'losing one's place', for example through emigration.
- Sense of place is often brought to consciousness when place is threatened.

Place is a strong motif in literature, politics and in popular song, emerging particularly at times of considerable change in society, for example, eighteenth and nineteenth century Romantic literature as a response to Newtonian physics; during periods of industrialisation and urbanisation; or when masses of people emigrated from their native country (Buttimer, 1980). A contemporary equivalent is the debate on the future role of the countryside in the context of increasing pressure from environmental and economic demands.

Buttimer (1980) identifies two fundamental ways or perspectives of viewing place, namely the insiders' perspective and the outsiders' perspective. Fundamental to these two different views is that insiders' 'experience' place and that outsiders' 'observe' place. Language and how dialogue is performed is of key importance to our understanding of place. Understanding place and how people identify with place is an important step in creating a language that everyone can understand and from which everyone can benefit. Depending from which perspective we speak there is a different way of dealing with issues relating to a given place. This is apparent in how rural housing policy is formulated, the different reactions to it, and the desired outcomes from it. The two ways of viewing place (i.e. insider and outsider perspectives) will be developed further below.

Identity is a strong and significant theme in looking at sense of place; as Castells (1997) suggests, identity is peoples' source of meaning and experience. However, in the rural context, identity and sense of identity tend to add to the myths surrounding what it is to 'be rural'. Such myth building manifests itself firstly in an idealisation of the countryside, where rural communities are "warm, human, secure, friendly places" (Pacione, 1984), and secondly in policy where assumptions tend to be made about specific aspects of the rural such as, again community and attachment to agriculture (see for example McDonagh, 1998 and Storey, 1999). In addition, the frequent interchange of the words 'agriculture' and 'rural' has weakened rural studies (McDonagh, 1998) and confused the myths further. Myths of the rural are bound up with personal viewpoints. Very often when the term rural comes to mind it is more about 'what I think the rural is' and 'how I identify with the rural'. While subjectivity inevitably constitutes a factor in research on the rural, it is more important to begin the pedagogical process Buttimer promotes whereby the taken-for-granted is put aside. Personal and societal values are also strongly related to peoples' perception of places. Kaltenborn and Bjerke cite Rokeach in defining values as being:

"general and important life goals or standards which serve as guiding principles in our lives...they are thought to determine attitudes and behaviour towards specific aspects of our environment"

(Kaltenborn and Bjerke, 2002: 2).

Different values come from different life experiences, and those different values will determine different landscape preference. For example, Yu (1995) shows that different personal and societal backgrounds greatly influence landscape preference. Significantly here, one such 'background' identified is that of one living environment i.e. urban versus rural. In a later study in Holland, it was shown that farmers' beauty ratings of various landscape differed from the ratings of visitors and non-farming residents (van den Berg et al, 1998). This illustrates that different relationships with the land are reflected and represented in different expectations of what that land or landscape should look like and, most importantly, what its function is. Milton (1993) extends this point further by identifying a conflicting model of the countryside based on how we perceive the countryside (which will be discussed in further detail below).

Kaltenborn and Bjerke (2002) suggest that two different motives or reasons can be identified for peoples' concern or perception of the environment. They come to this conclusion based on studies over previous decades whereby, for example Stern and Dietz (cited in Kaltenborn and Bjerke, 2002) identified three distinct environmental value orientations namely:

- Egoistic value orientation – environmental problems may harm the individual
- Social-altruistic value orientation – problem may harm other people
- Biocentric value orientation – nature has intrinsic rights, independent of human interests

Thompson and Barton (1994) developed this further by proposing that the egoistic and social-altruistic value orientation should be grouped together as one type named the 'anthropocentric attitude', and the biocentric value orientation be the 'ecocentric attitude' type. Kaltenborn and Bjerke's analysis of the relationship between environmental value orientations and landscape preferences highlights the challenge to future land use planning by "expanding the perspective from considerations of the functional capabilities of the landscape to values and socio-cultural meanings" (2002: 2).

The recognition of personal perspective, and individual perception and experience can allow a significant insight into how people relate to the countryside and can contribute to the further formulation of policy for rural areas. The inclusion of lay discourse in academic research illustrates the taken-for-granted assumptions about the everyday lives of individuals who 'live the experience' of the rural, and seeks to include otherwise ignored sections of society taking into account the local and area specific. Most importantly, the use of lay discourse recognises that (academic) knowledge can be blinkered. In other words that the 'professional knows best'. The increasing recognition of the lay in rural studies is reflected in policy formulation at national and local levels in the form of public participation in Local Authorities, for example in Strategic Policy Committees and the planning system (Department of Environment, 1996), and in bottom-up rural development processes, among others.

The Creation of 'Insiders' & 'Outsiders'?
Sustainable development "… seeks to reconcile the socio-economic aspirations of society with the ability of the natural environment and its resources to accommodate those aspirations" (Department of Environment, 1995). In seeking this reconciliation, there is a need for *consultation, consensus building* and the reflection of *local dialogue*. This need recognises that differences exist, as regards needs, demands and expectations of sustainable development.

The role of the public in the formulation of policy is of increasing importance particularly in the wake of policy guidelines on Sustainable Development. The National Sustainable Development Strategy for Ireland (Government of Ireland) was published in 1997 in response to the Brundtland Commission and the Rio de Janeiro Earth Summit. The Strategy promotes the notion of planning in sustainable development as playing a mediation-type role whereby *competing needs* are balanced, *adverse impacts* are prevented and mitigated against, and the *needs of society* are met, be they basic human needs (i.e. food and shelter), economic and social, or recreational and cultural. The main planning tools in the achievement of sustainable development are the Development Plan and in Development Control processes (Department of Environment, 1995).

Rural Change
There is a clear identification in EU documents and guidelines that rural areas are undergoing increasing and continual change due to changing (development) pressures and the changing role of the countryside in what is becoming a more urbanised society. The countryside represents a contested landscape where different perspectives highlight its various roles. Problems arise, however, when these roles come into conflict, which is increasingly more unavoidable. Thus, while the countryside is 'vital' to maintain an ecological equilibrium, it also assumes the role as a place of residence and work, as a 'buffer zone' between urban centres, and as a location for recreation. As a consequence, the balance between the rural areas' various functions has become less secure (Commission of the European Communities, 1988). The fundamental principle in any objective to address the pressures of modern development in rural areas is the protection of the rural environment. The characteristic change of intra-regional migration has significant effects on settlement. Such migratory movements have created economic subpoles resulting in fewer people living in the countryside proper (Commission of the European Communities, 1988). This reflects the situation in Ireland where people, enabled by a greater reliance on car-ownership, travel to work from rural areas and outlying small towns to larger urban centres. Due to this changing pattern of settlement and movement, and new development pressures, town and country planning is required to improve in order to enable the regions to make the most of growing demand from urban dwellers for access to the countryside (Commission of the European Communities, 1988). Furthermore, there is a demand on planning to:
> "enable the regions in question to take full advantage of the growing demand of urban dwellers for green spaces" where "the crux of the problem is to keep the countryside intact from an environmental point of view, not only so that it can fulfil its function as an ecological buffer and

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source of natural reproduction, but also to provide it with a new and lasting scope for development as an area providing recreation and leisure for city-dwellers"

(Commission of the European Communities, 1988: 32).

Despite initial recognition that the countryside is a place in which people live and work, the conflicting roles of the countryside as an ecological buffer zone and place of recreation for urban dwellers takes precedence in policy This prioritisation on one level acknowledges that the countryside in many areas of the EU no longer has agriculture as its primary land use. While economic diversification is promoted as an alternative to and within agriculture in order to reverse rural decline, the primary concern is with urban demands on rural areas, reflecting the *outsider* and *landscape* representations of the countryside. However, the recognition of different problems characterising these areas allows for a 'differentiated approach' to rural policy that addresses local circumstances at local level.

Europe 2000+ (European Commission, 1994) recognises the influx of 'new country-dwellers' from urban areas and their influence on rural settlements. The policy document views the countryside as an area that can support its population through the processes of spatial planning, the provision of services and infrastructure, and through economic diversification. It is only in the context of tourism that the environment and landscape is addressed. In this context the landscape is seen as a resource within the *land* that can be used to fulfil the wider objectives of spatial planning.

Towards a Model of the Countryside

" 'The new technology fuelled from afar' evokes ... (an) essential motor for change during the latter half of the twentieth century: the vastly extended horizons of reach now taken for granted by a car-owning and increasingly self-confident mobile population. Ready access to information, new ideas, commodities and experience, technology and trade have all brought changes in values, attitudes and aspirations; perception of distance and space have all brought been altered. As local realities are now touched by influences emanating from national, continental and even global sources, new challenges arise concerning the sense of identity and belonging to place – home and reach – for virtually all sections of the population"

(Buttimer, 2001: 2).

The level of change experienced in rural Ireland since the mid-twentieth century is strongly represented in the large number, and increasingly diverse views, of the countryside and in what its function is today. Changes in agricultural practices, in house design and in settlement are represented in the increasing level of views about the countryside. Perspectives that perhaps would not have existed fifty years ago are prevalent today. It is clear that the countryside is now a big issue. From the discussion above, the various perspectives can be grouped into two categories. This is illustrated in Fig.1, a synthesis of the literature. The model is formulated based on the work of Buttimer, Milton and Kaltenborn and Bjerke.

Dual Model of the Countryside

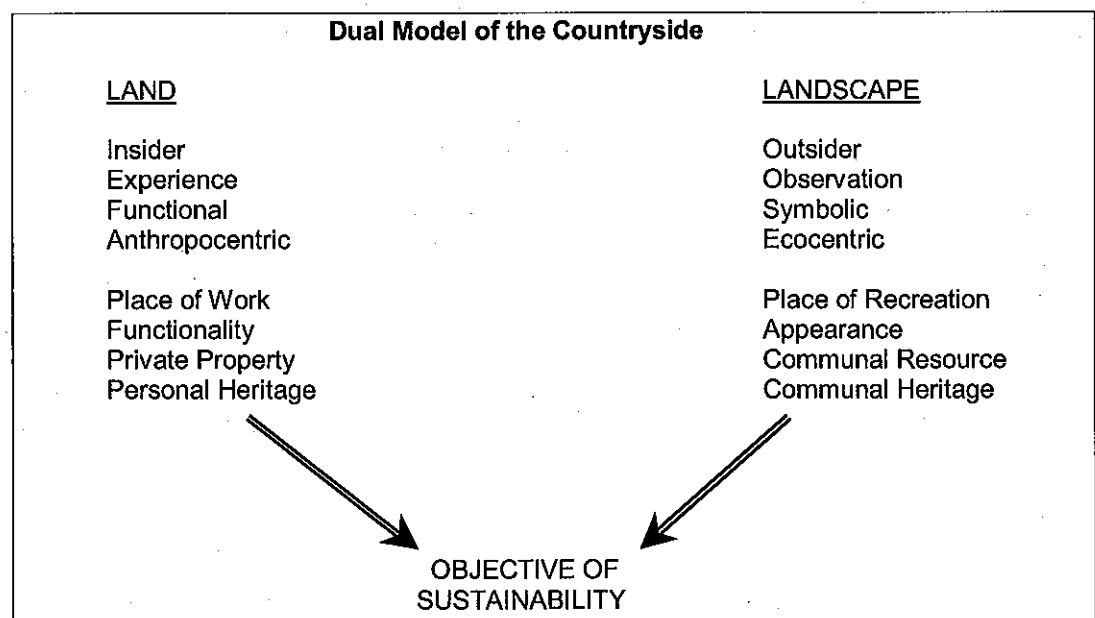| LAND	LANDSCAPE
Insider	Outsider
Experience	Observation
Functional	Symbolic
Anthropocentric	Ecocentric
Place of Work	Place of Recreation
Functionality	Appearance
Private Property	Communal Resource
Personal Heritage	Communal Heritage

OBJECTIVE OF SUSTAINABILITY

Fig. 1 Synthesis of Literature (from Milton, Buttimer, & Kaltenborn & Bjerke)

Milton (1993) identifies two models of the countryside. The first model is that of countryside as land and secondly countryside as landscape. Milton traces the historical context of the countryside in Northern Ireland through policy and planning, and thus re-opens the debate about how the countryside is viewed. Land and landscape are identified as the two models of the countryside and it is according to this distinction that the following discussion on perception of place and the environment will be based.

Countryside as Land
When countryside is seen as 'land' it is a functional space to be used for the benefit of those living in it. As land, the countryside comprises a series of private properties, in which people live and work (Milton, 1993). Traditionally it would be farmers and those with farming connections that would take this attitude. To view the countryside as land resists the notion that rural areas are a communal resource, and instead sees them as a place of work and functionality. Thus, the view of the countryside as 'land' is generally held by those who live or have lived in rural areas. Therefore, they are experiencing the 'place' as insiders. Kaltenborn and Bjerke's (2002) distinction of the anthropocentric attitude whereby concern is placed on the individual rather than the environment, draws a parallel with Milton's model of the countryside as 'land', and Buttimer's notion of insider equating with experience (1980) and the model of environment as functional (1998). Milton expands this model further by highlighting themes of countryside as land, namely place of work, functionality, private property and personal heritage (see Fig. 1).

In the concept of countryside as land there is a stronger emphasis on social fabric, community and economic needs. In other words, the needs of people come first. This attitude does not abandon the need to protect the environment, however. There is still a respect for the environment as a place from which a livelihood is gained and from which people can survive. The environment is an integral part of human need, but just not the main priority in this case.

Countryside as Landscape
Viewing the countryside as landscape is based on an aesthetic attitude (Milton, 1993). Instead of being comprised of private property the countryside is seen as a communal resources where there is a public right to access and recreation. The countryside as an environment to be protected is of priority in this case. Countryside as landscape equates to ecocentric attitude type whereby natures' rights come first, independent of human interests. Thus the ecocentric attitude to housing in the countryside would be that it should not occur unless of absolute necessity and despite societal or economic needs. Buttimer would see the countryside when viewed as landscape as being a symbolic construction of the rural (1998) whereby an outsider stance is taken of observation (1980).

Conclusion
The idea that language and dialogue is of key importance in how planning is carried out in general is one that has been discussed and debated in recent decades. Notably, the theory of Collaborative Planning identifies the need for stronger and more embracing communication in the formulation of planning policy (often referred to as the 'Communicative Turn in Planning' (see Healey, 1992)). The use of language and dialogue, and the ensuing political discourse, are strong themes running through Milton (1993) and Buttimer (1980 and 1998). Language is fundamental in how planning is initially presented, and in the long term accepted or rejected. Depending on what kind of language is used people can either be shut out or included, be ignored or acknowledged. Creating the language that will facilitate a dialogue of understanding and learning between 'insiders' and outsiders' should be the objective of rural housing policy. The more controversial and contentious a plan or strategy then the more open and embracing the language should be. So what does this have to do with conflicting models of the countryside? Depending on which perspective a person comes from their language of description and understanding will be different: "the observer who explores place speaks of housing, whereas the resident of that place lives the process of dwelling" (Buttimer, 1980). Language highlights difference – difference in experience, perceptions and values. Buttimer equates those who 'observe' to outsiders and those who 'experience' to insiders. It is the planner's role to find the middle ground upon which reconciliation and beneficial negotiation can be achieved:

> " … to do justice to the fundamental life interests which could be evoked by the question of place identity today, one needs to probe to a deeper level of meaning, there hopefully to find some common denominators for a dialogue between those who wish to live in places and those who wish to plan for places"

(Buttimer, 1980; 171).

In other words planning policy should not be about pushing our 'knowledgeable' ideas on those who know no better. It should instead be an activity that recognises different perspectives, addresses those perspectives as best as it can, and produce a plan or strategy that is sustainable in every sense. In order to reconcile the divide between insider and outsider worlds the conventional 'nouns' or 'picture' language should include the 'verbs' and

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'process' languages of lived experience (Buttimer, 1980). One way of carrying this out is to call to consciousness our taken-for-granted notions in order to partake in a pedagogical process.

Although the concepts of Land and Landscape are often at odds with each other, planning policy does not have to take one stance over the other. Instead, the dual model of the countryside should be used to firstly, recognise that competition and conflict exist, and then secondly, use this conflict as the basis for communication and collaboration among stakeholders so that a plan or policy can be formulated that will suit all needs and circumstances as best as is possible. The model developed from the synthesis of literature illustrates that although stakeholders may have conflicting needs, they have a common vision for the future of their area. When the common vision of sustainability is consistently given priority, all stakeholders can be involved in the planning process, and recognition will be given to diverse needs and demands.

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Health/ Medical Geographers in Public Health: Developing Opportunities
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Departments of Public Health were established in each of the (then existing) eight Health Boards in the Republic of Ireland in the mid 1990s. Since then a substantial number of these departments have employed geographers often as research officers. The relevance of geography to public/population health is obvious. However to date in Ireland there has been the lack of an adequate career structure for non-medically trained staff within Departments of Public Health. To be appointed as a Director of Public Health, or a Specialist in Public Health in the Republic of Ireland one has to be medically trained. This is in contrast to recent developments with the UK.

Leadership of Departments of Public Health in the UK has ceased to be a purely medical affair. UK Government support for the development of *multidisciplinary public health* can be seen in recent documents from the (UK's) Department of Health. The Report of the Chief Medical Officer's Project to Strengthen the Public Health Function calls for the development of multidisciplinary public health and agreed core competencies for staff from different

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backgrounds. The CMO also states that the development of Specialist posts in Public Health, open to those from all public health disciplines, will allow non-medical staff to *'progress to become Directors of Public Health'* (Donaldson, 2001: 27). Several appointments of non-medically trained Specialists to Directors of Public Health positions have recently occurred in Primary Care Trusts in the UK.

The (UK) Faculty of Public Health Medicine has taken an important step towards encouraging the development of multidisciplinary public health by introducing a new Diploma in Public Health, which is open to public health professionals from all disciplines. This Diploma is identical to the Part 1 membership of the Faculty (Donaldson, 2001). The White Paper, Saving Lives: Our Healthier Nation has acknowledged that there is an *'absence of a true multi-disciplinary basis to public health practice'*. This Paper also accepts that non-medically trained staff *'often had relatively low status and recognition for their skills and expertise'*.

The UK is certainly not the first country to progress down this road. In New Zealand leadership of Public Health Units has been open to all relevant disciplines for some time. At present there are thirteen Public Health Units in New Zealand, of which only two are currently managed by medically trained staff (Auckland and Hutt which covers Wellington and environs). New Zealand moved to having professional managers lead Public Health Units approximately ten years ago. However in recent years there has been a tendency to appoint managers from a variety of clinical backgrounds.

The end of the medical monopoly of leadership in Public Health is seen by many as long overdue. Despite these developments some authors (Eskin, 2002) feel that only medics are trained to be the *'conductors of the public health orchestras'*. The reality however is that medicine must now accept its status as a former pedestal profession and move forward on the basis of mutual respect.

Some unease can be seen developing in recent years over the strictly medical/ epidemiological approach in Public Health, with suggestions that perhaps this practitioners in this field need to become more politically aware (Kelleher, 2000). At the most recent Summer Scientific Meeting of the Faculty of Public Health Medicine of the Royal College of Physicians of Ireland, Scally & Denyer (2002) presented a paper arguing for the development of both a recognised training scheme for non-medical staff working in Public Health in the Republic of Ireland and the development of a proper career development path for non-medics in Public Health. In discussion following their paper the authors admitted that they saw the introduction of non-medical leadership of Public Health in Ireland as 'inevitable'. Further support and impetus for the establishment of formal advanced training and career development structures for non-medics working in Public Health is also coming from University College Cork which aims to introduce an undergraduate degree in public health in the near future (Perry, 2002).

Scally & Denyer (2002) emphasised two key points in their paper. The first was that multidisciplinary public health was infinitely stronger and more relevant to the health of the population than an isolated and strictly medical approach. Secondly they stressed the need to move forward in unity on the development of a significant and equal role for non-medics within Public Health to prevent critical fractures within these Departments.

Public Health in Ireland will be strengthened by the development of a truly multidisciplinary approach. This advance would benefit not only the public at large, but also staff working in such departments. It is imperative that Specialist training is introduced into Ireland for all public health disciplines (including medical/ health geography). Only when this has been introduced and the requirement for a Director of Public Health to be medically trained been removed, will any possibility of partnership based on mutual respect between different disciplines be a real possibility in Public Health.

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The Miner's Way
Brian Leyden

Any writer will tell you that crafting stories from local material is a delicate business. But having been asked to promote a national 'Way-marked' walk in the coal-mining valley of Arigna in County Roscommon my job was to convey practical information only. Establish at the outset that the Miners' Way and Historical Trail extends over 118 Kilometres or 74 miles of North Roscommon, Leitrim and East Sligo. Accessed from the N4 and serviced by Carrick-on-Shannon or Boyle train stations and Sligo airport, the Miner's Way arises out of a 400-year-old native iron-ore and coal-mining tradition. All very straightforward, only I hadn't allowed for the way old ghosts would trespass on the journey.

With the Miner's Way passing through the farm on the mountain where I was reared my home place was a natural starting point. There in her kitchen my mother had a fresh St Brighid's Cross; its spears of green rush latticed to honour the Saint and protect the household. We had tea and hot-cross buns. And in her garden the flowering crocuses were the colour of Easter vestments. The daffodil bulbs by the path shooting up like youngsters, green, hardy and resilient.

Starting out, the first thing that struck me was the number of new houses going up and young families moving into the locality. Though I understood that for the most part this was dormitory housing in the countryside for a labour force servicing new industries based in the bigger towns. The older homesteads were falling derelict, the hill farming and coalmining skills of the original tenants no longer required or desirable in the modern Irish economy.

A state of affairs that brought to mind a lifelong coalminer called Jim Joe. Returning to the schoolhouse in Arigna one day, Jim Joe noticed a spider spinning a web under the lid of his old school desk. Watching the spider add a new strut after every five weaves Jim Joe reckoned the spider had learned his arithmetic from the teacher – something Jim Joe himself had never managed. The spider also had a trade, Jim Joe concluded, more than he got before he left the same school.

There were many others like Jim Joe who got their education in the coalmines and the hayfields, where raw blisters on young hands were toughened into calluses cutting mineral coal with a pickaxe or shaking out swards of hay with a pitchfork. Skills in their own right, handed down by previous generations: the facility to hone the blade of a scythe with an emery stone to cut steeply sloping meadows inaccessible to machinery, or sharpen a bow-saw blade to mend whitethorn hedge fencing. The ability to dig a straight ridge for potatoes, split and space the seed properly and use a besom made from sprigs of heather to sprinkle a bluestone and soda crystal spray on the mature stalks. The expertise to deliver a lamb or a calf or a foal, mend a dry-stone wall or make a hay rope with a hand-twister, or build and trim and head off a haycock to keep out summer rain until the final gathering in September.

Walking the 'top road' out of the valley these reflections occupied me until I reached the coalmine. Entry to the actual shaft was barred, but I could look down the tunnel to its dark conclusion. The roof leaked. Split. Splat. Plop. I listened to the seepage through the rock, like a disembodied tapping at the coalface.

In 1990, the closing of the Arigna mines had struck the community like bereavement. But this section of tunnel was about to reopen. And beside it stood the angular iron structure of the Mining Museum, intended to given a context to the experience of working in this showcase segment of drift mine. Not being open yet I left the museum site and hiked back across the open mountain, following the yellow backpacker and arrow symbols on stakes until I meet the bog lane. It was at the start of this cart track that our donkey always put on a powerful burst of speed, hoping to escape the long haul to the turf banks.

Saving the year's supply of turf was another fondly remembered but redundant proficiency; from the initial heeling up of the cart, tethering the donkey on a long rope and starting a fire in a ring of stones on arrival, to the systematic cutting and scattering of the turf on dry ground, then footing and building the seasoned turf into weatherproof reeks until it could be brought home again by cart with our reluctant donkey once more harnessed between the shafts.

The wind was as sharp as an icicle with snow between the rocks and I did not linger. But working by yourself on the bog in glorious weather, I knew, could be the most agreeable of jobs, provided you could work at your own pace, and the midges left you alone. A thought that brought to mind our neighbours working on the turf bank opposite ours one summer evening years before. The midges attacked in squadrons and we overheard John William Flynn complain to his wife that he was being eaten alive. More intelligent and resourceful than the man she married, she asked, "Did you not use the repellent I gave you?" And John William said, "I wouldn't give them the satisfaction."

Back on the mountain road again the first living soul I met was a hardy farmer carrying a rope full of hay on his back. He tossed the hay over the ditch, allowing the white and red shorthorn cattle to eat under the shelter of the hedge, wintering out in mud up to their fetlocks.

Animals were largely housed and the work mechanised and directed from the cosy cab of a tractor nowadays. But here was one man ready to toughen it out on the mountain, rooted to what he knew until the day he keeled over and died. Retirement was out of the question. Even as we spoke he kept a proud eye on his few head of cattle matching feed with weight gain.

And I had to keep to myself a story told locally about the same man. A priest called at his door one time collecting money for a Missionary Order. But a fine 'blue polly' cow had fallen sick with red water and died, and the price of a replacement would have to be gathered up before any other money left the house. "Make a donation now," the Missionary Father urged, "and the Lord will provide you with a new cow." To which our friend said, "The Lord could have left me the one I had."

Hard nosed and hard working, down-to-earth and steeped in the lore of place and farming know-how he was for me the embodiment of everything that would end up being left out of the ultimate information based venture. His knowledge and existence did not fit the larger purpose. But I asked him, in any case, if he thought that life here had changed for the better or the worse. Looking out over the valley he said, "The people that's gone is the biggest change."

Brian Leyden's most recent book is The Home Place: a memoir, published by New Island Books, €13:99.

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Rhetoric Reunion
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"Is that you?" was the shout from the sitting room as the front door closed with a thud.
"Well of course it's me, sure who were you expecting? As if you've seen anyone different come in that door since last Christmas."
James and Sheila were brother and sister, now living together in the house of their childhood. However, today they were far from children. Shuffling off to the Post Office each Friday to collect their pensions. James hated travelling places. He had grown up in the area and never had he strayed from his native parish. He now spent his mornings walking along the shore collecting plastic treasures washed in by the sea. Sheila often cajoled him about his passtime, but he continued on anyway. When she came in he was reading under the window in the sitting room. It was some book on the changes in agriculture, changes that he could see around the little village outside the window.
"Ah for the love of God James, I thought I asked you to peel those spuds after you got back from your *Treasure Hunt?*"
"Look Sheila, don't be at me, I've enough on my plate today with this bloody family reunion. I'd rather get a summons for the court from Sergeant Gibson down in the barracks. All it'll be is another of those get togethers when every one of them gets drunk and starts singing, like the last Christmas party this family had."
"Won't it be a chance for you to see Francis and Patrick again? You haven't seen them since they came down with that Councillor Bartley who wanted to build the new road. That fella would have the place covered in concrete if he got the chance, socially excluding the lot of us down here. Let them go and built their offices somewhere else. Who in their right mind would go in for all that regeneration nonsense around here? This isn't the Docklands or anywhere like it."
Patrick and Francis were cousins, and nephews of James and Sheila. At the time they had tried to convince Sheila that they may receive one or two of the houses that were to be included in the development plans for the area. It would be a good chance for a new house they thought. But Sheila was very wary of developing the rural idyll. The nephews had two small farms beside each other and lived with their families on the other side of the village. They never needed a clock as the train that went by their houses twice a day let them know exactly when to get up and when to return home for dinner. They were always with each other, usually on two high mahogany barstools.
That night the extended family of James, Sheila, Patrick and Francis were set to meet up for the annual "*Family Reunion*" as James so mockingly put it. They would have to travel twenty miles to the next town for their get together. James and Sheila would catch the seven o' clock bus, much to the protest of "Uncle Pirate" as his nephews called him. Relations between Uncle and nephews had become frayed since they sang a song about him at the Christmas party in the local pub.
"Won't it be full of aul women dragging their husbands off to Bingo?" James never thought he was getting old at all.

"Come on Pat, get that into ya, we'll have to be home soon to get ready." Francis was eager not to be late home that evening due to the warning he had received from his wife.

"Good luck lads, see ye later." The Barman collected their glasses.

"Suppose you will", Francis said as he slapped his tweed cap down on his head walking out the door. The cousins usually walked out the railway track from the village to their houses – one behind the other, a foot on each sleeper to guide them home. It proved to be the best method when vision was somewhat blurred.

By now the evening was creeping in and the torrents of rain began to fall.

"We'll be drowned wet by the time we get home!" Patrick roared at Francis as they scurried along the railway track.

"I've an idea", Francis replied as he ran down the slope at the side of the track to a gate in a field. Patrick followed, wondering what he was going to do. They eventually climbed over the gate and found themselves in Pringles' field.

"There", said Francis, pointing at two donkeys tied under a tree at the end of the field.

"He won't miss them until the morning, he'll think they broke free."

They would leave them in a neighbour's garden when they got close to home. It would probably be Councillors Bartley's rose garden as punishment for wanting to build that new road near their farms and for not allocating them new homes in the social plan.

"Much quicker", thought Francis as they trotted along the track. Patrick wasn't so sure this was the right thing to do, but he was happy not to be trying to run in the rain.

Just as they were about halfway home they passed a stream and the two donkeys stopped to quench the thirst gained from their unexpected workout. However, the two donkeys decided that they had gone far enough and refused point-blank to go *any* further.

"God blast them anyway", roared Francis as he again began down the track on foot. Not long until they would be home now.

James and Sheila had arrived in *The Perch Bar* well ahead of schedule. Sheila was a practical woman and she liked to demonstrate her punctuality. James just waited for the news to come on to hear the details of just how much the Budget was going to cut his pension spending. Slowly but surely other guests began to arrive.

"Look Francis!" said the shocked Patrick as he pointed to Sergeant Gibson's patrol car outside his house. They ran quickly into the kitchen of Patrick's house to find his wife and the Sergeant drinking tea at the table.

"What's wrong Rosemary?" Patrick said frantically.

"Is someone hurt?" Francis followed up.

"Oh not at all lads, I just received a call down at the station from Denny Pringle to say that two of his donkeys had gone missing. I was just wonderin' if ye had seen them around?"

Now Patrick was an honest sort of a fella and he was just about to put his two wrists out for the handcuffs and confess all when he received a swift elbow in the ribs from Francis.

"Oh not at all Sergeant, we just came out the line there now and we didn't see a thing. *Did we Pat?*"

"No. Devil a bit" as he began to turn white.

"Well, my business is done here and thanks for the tea Rosemary, I'll be seeing ye."

As the Sergeant walked out of the house Rosemary knew she had donkeys with two legs instead of four right in front of her. Francis was quickly dispatched home to his own house as they were now running late. His wife would also be waiting for him.

However, the two families made it to the Perch Bar, not too late after all. There Francis and Patrick stood by the bar laughing about their Donkey Derby earlier that evening. It was another tale to tell the locals in the public house in their village. No doubt they would be stopping there on the way home.

As the night went on it became more and more enjoyable for all concerned. It was one of the few times each year when they could all get together and talk about things other than family business. Eventually, Patrick and Francis decided that it was time to bury the hatchet and they approached James to see how he was feeling. The merriment from all the laughing and porter had given them courage to set the record straight. James knew he couldn't run the farm without the help of his nephews, so he accepted their apology. He signalled this by letting out a loud roar at Rob the guitarist to start playing and get the party going.

The family were again together and everything was going fine. As James sat back in his chair he thought to himself that they weren't a bad bunch after all and he even looked forward to next year's "*Family Reunion.*"

Geography Man II: Beyond Spatiality
THE GEO-PEN.
(Editors note: Mystery surrounds the true identity of "The Geo-Pen", you are all suspects!!)

PREVIOUSLY (CF: MILIEU 1992):
Geography Man, part time Geography student, part time super hero, full time geek, had gone forward in time to try and quell a vicious conflict between the 2042 Maynooth Geography Department and a bunch of revisionist logical positivists. Keeping his composure in the face of gibes about the cross sectional approach, chants of "2 graphs good! 4 maps bad!" and the horrific state of Irish agricultural geography in that year, Geography Man's diplomatic skills brokered peace amongst the belligerent geographers. Unfortunately, just about the time when he was to reveal his true identity, the world ended due to the cumulative effects of social break-down and environmental catastrophe...which was a bit of a bummer.

39 YEARS EARLIER – ARTS BLOCK, NUI MAYNOOTH

"What was that word again?" cried a befuddled 3rd Year student, "ph-ph-phenomeno-whatsit?" "Phenomenology" said the class swot. "It makes my head hurt" said the other student, sadly. "This pain must stop!" said another student, who was obviously operating out of a radical approach, "We have to critique these oppressive deep structures and put forward a new vision of society that empowers..." "Huh?" asked another student, "What are you on about?" "Dunno really" she said, "I'm just reading what it says on the handout. Hey, here's an idea, I hear they have a time machine over in the Department, why don't we go back in time and like kill the guy that founded Geography so we can like end up studying something easy like "Introduction To Pies" and not ph-ph-phenomenology!" "But what will this do to Kuhn's paradigm shifts!" cried the swot, but then realised that this would actually be the equivalent of a fieldtrip and good for a few more credits and so decided to go along with the scheme.

SAME TIME, RHETORIC HOUSE

With a hiss of smoke (not from bituminous coal of course, because of the air pollution regulations) our hero, Geography Man re-emerged after having just escaped the Apocalypse in his time machine by about a nanosecond. To his shock, he was now 11 years older and no longer a 3rd Year student but a postgraduate student. "You're back!" said his supervisor enthusiastically, "Wow, it must have been great to, you know, have a discourse with the spatiality of 2042!" "I nearly died" said Geography Man, in his usual solemn, dead-pan tone. "Eeek!" cried his superior. "What! What! Is it Sociology Man?" cried Geography Man, "let me at him!" "No, that horrible dark green and bright purple ensemble of yours, it's so modernist and 1960's! Come on, Rag Week ended weeks ago." cried his supervisor. "Er, the green is meant to depict the environment," protested our hero. "It's alright, we have a new suit here, all black" said his supervisor, "The sort that is de rigeur for the brooding postmodern spatial superhero!" "This, erm, appears to be quite, erm...how will in say...very tight in the front" stammered Geography Man. "Blame Hollywood" snapped his supervisor.

BACK IN THE PAST

The students found themselves in the 1990s. "Knew we should have given this thing a bit more gas!" growled one student, but was reprimanded by cold stares from the more environmentally aware students. They looked over and saw David Harvey in discourse with some post-structuralist geographers. The post-structuralists were shimmering, disappearing from view and then reappearing again. *"Post-structuralist thinking suggests that that the world comes to take on the illusion of solidity through acts of enunciation, even though it is infinitely complex, fractured and complex"* explained the brainy one, quoting from *Thinking Geographically* (Hubbard et al., 2002: 85 actually fact fans). "I just picked up "Saturday Night" by Wheatfield!" said another student. "OK, let's leave now" groaned the brainy one.

They moved back in time and now found themselves in the early 1970s. "This thing moves slower than CIE!" growled the frustrated student. "Hey! Look there's David Harvey again!" cried another student, "Look! He's throttling some capitalists!!!" "Ah Vive la Revolution!" cried the radical student. "Yeah, right, in another decade or so, this lot will probably all be smoked salmon socialists!" snapped the angry student. Then the student realised that the Marxist geographers were looking at them and their petit-bourgeois time machine. And were getting more and more angry. "Let's get out here!" the students cried.

They now found themselves in 1969. "Look, it's David Harvey again!" said the student, "And he's got a calculator!" "It's his quantitative period!" said the brainy one. "Hey!" shouted the radical student, storming up to Harvey, "What are you wasting your time with statistics, when you could be doing something useful like Marxist analysis!" "Stop!!!" cried the brainy one, "We must not change the past!" and dragged her away. "Erm, wasn't that the general idea of this plan?" growled the frustrated one. The time machine disappeared in front of Harvey's eyes. "Definitely not in

keeping with isotropic plains and the rational human with perfect knowledge assumption of quantitative geograph
he thought, throwing his statistics books out the window, "Maybe that student was right after all!"

2003, RHETORIC HOUSE
"This is terrible!" said Geography Man's supervisor, "Some 3rd Year students have gone back into the past to k
the founders of modern Geography!" "Oh no!" said Geography Man, showing his concern by raising an eyebro
"That's another thing, this deadpan act was OK in modernity" snapped his supervisor, "But angst ridde
superheroes are what the public wants today! Drag up some traumatic childhood event and brood over it!!!" "We
there isn't any really" said Geography Man. "Try!" snapped his boss, "And get after those students. Some of the
still have to hand in projects!" "But how, we have only one time machine!" said Geography Man. "No, time-spa
compression means the same machine is still here" said his boss, "Now go get 'em...and by the way gi
Sociology Man a lift, he wants to go back and do some research on the founders of Sociology!" "Sociology Mar
growled Geography Man and dark (cumulonimbus) clouds formed over his head. "That's much better" said h
boss.

USA, 1953
"OK, I've decided" said the frustrated one, "According to Richard Hartshorne, all the geography that emerge
before him was wrong, as was the geography that came after. Ergo, he must be the founder of Geography. Let
get 'im!" The students stormed into Hartshorne's office to see the great man playing darts, with a picture of Ca
Sauer on the dartboard. "Before we kill you" said a student, "Can you tell us this? Your type of geography? Why?
mean it's all just description of regions, isn't it!" "Are you critiquing me!" growled Hartshorne and immediate
launched into a fevered defence of regional geography, in between bashing the student's head off his table. "E
thanks" said the other scared students, backing away. "Mr. Hartshorne Sir" said the brainy one, "Have you rea
Fred Schaefer's "Exceptionalism in Geography" yet?" The thunderous look on Hartshorne's face told the stude
that he had! Muttering darkly about *"palpable frauds"* and *"obvious omissions"*, Hartshorne got angrier and angrie
"Get out of here!" cried a student and everyone ran to the time machine just as the steam started coming out
Hartshorne's ears.

1969
"Thanks for the help Professor Harvey" said Geography Man, as he left the office, "and I agree with you, down wi
those bourgeois capitalist pigs, and their manipulation and subversion and all that..." "Could you be any more of
sycophant?" groaned Sociology Man, "Although, at least it's better than you lot plagiarising more of our theory
Geography Man gritted his teeth. "Let's just drop you off in the 18th century, shall we?" he said tensely.

GERMANY, 19TH CENTURY
"Look, it's Humboldt and Ritter, looked on as the first professional geographers!" said a student, "Can we k
them?" "Er, guess so" said the radical student, "like it is what we're here for, I suppose." "But they look so hapr
with their German beer and sausages and their categorising of area based data!" said another student. "Yea
don't they" said another, "And like, I suppose they aren't really the founders of geography, huh?" said another. Th
students walked over. "Allo Irisher Weihnachtsmänner!!!" cried the German pair. "Er, what!!!" cried the student
"Like, bonjour and that" growled the frustrated students, as the Germans rolled their eyebrows, "Are you two th
founders of geography and if so, can we kill you?" "Gott in Himmel schweinhund!" snapped Humboldt, "Der re
founder of geography is from 2003, it is..."

1953
Geography Man raced into Hartshorne's office. "Professor Hartshorne. Are you alright?" he cried, "Did thos
students hurt you?" "What is with that outfit!" snapped Hartshorne, "It looks like the garb of a quantitativ
geographer...a crazy quantitative geographer!" and he smashed his fist through his table. "I'm more into th
agricultural side of things myself" said Geography Man, "And did you know that the entire of agriculture of Europ
is going to be carried out in two warehouses 6km north-west of Castlebar in about 50...er 100 years time'
Hartshorne gasped. "Positively shocking!" he said, "Almost as shocking as an isotropic land surface. Time for th
brandy, I think!" "Well, just a little one for me..." said Geography Man.

ONE HOUR LATER...
"...and I'sh really hateshhh Ssshocosshiology Manshh" slurred Geography Man. "'E sshoundssh like a righh
sssshausage" said Hartshorne, "Even worse than Sssschaefer! And you knowssh! Regionalsh
classshificationsssh. 'E'sssh bloody right! It'sshhh really boring..."

2003
The students stood nervously a room on the top floor of Rhetoric House. "You do it!" hissed the frustrated studer
at the radical student. "No way!" she spat. "Trying to decide who's going to bell the cat?" asked Geography Man

back and sobered up after 1953 and a quick detour to 18th Century Germany – as he walked up behind them. "Geography Man!!!" gasped the students. ("Remember to brood!" hissed his supervisor from behind another door.) Geography Man rubbed his forehead pensively, then gave it up as a bad idea. "Surely all you've learned on your travels through time no longer necessitates your need to eliminate the father of modern geography!" he said. "You know what, he's right!" said the students, "Although we might think of killing our lecturer if Humboldt, Ritter, Hartshorne, Harvey and the post-structuralists don't come up on the exam!" Geography Man raised his left eyebrow. "OK, OK, no more murder!" snapped the students, "But tell us this, what's that outfit like?" "Well, it actually chafes a little! Damn you, tight fitting leather!" groaned Geography Man. "I've got to get to a sociology lecture!" said a student, running off then. Geography Man growled, "Damn, I forgot about bloody Sociology Man…"

18th CENTURY
Geography Man was busy thinking about how much he hated Sociology Man as he made to land the machine beside Sociology Man, who was in deep discussion with Weber and Durkheim. Alas, he wasn't paying attention, possibly due to the alcohol in his system, and his reverie was interrupted by a gruesome squishing noise. Geography Man looked out the window to see three pair of feet underneath the time machine. "Er, Sociology Man? Durkheim? Weber? Guys?…"

BACK IN 2003
Geography Man knocked gingerly on the door of his supervisor and walked in to see him eating a cherry pie. "Ah, I was just in a discourse with this pie!" said his boss. "Er, what?" gasped Geography Man. "Come on, Introduction to Pies is the largest subject in NUI Maynooth!" said his supervisor. "What happened to Sociology?" asked Geography Man. "Yeah, right, as if anyone would be bothered to study society" snapped his boss, "Listen, we have to open up lines of communication with it to remain a relevant discipline. Now I must write my next paper on "spatial aspects of apple tarts! And what about you." "I actually fancy a bit of that inter-disciplinary discourse too!" said Geography Man. "Good" said his boss. "Yeah" said Geography Man, "Anthropology Gal was admiring the new outfit, so I've finally managed to get her out on a date!"

TUNE IN AGAIN FOR GEOGRAPHY MAN III – DUE TO APPEAR IN MILIEU 2014…

DISCLAIMERS: Most characters are non fictional. There are no grounds for believing that real life characters who appear in this piece would actually behave like this in real life. Post-structuralist geographers do not have weird, magical powers. David Harvey does not go around throttling capitalists and throwing mathematical equipment out through windows. Richard Hartshorne was an eminent geographer in the mid 20th Century who did not have a picture of Carl Sauer on his dartboard and did not a temper reminiscent of Lou Ferringo's take on the Incredible Hulk. Neither did Humboldt and Ritter spend all their time swilling German beer and sausages and calling Irish students posers and Santa Clauses.

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The beginnings of the infamous roof debate

The roof obviously didn't impress everybody

We're a tight bunch, us Geographers!

Getting to grips with Mr. Geography 2002®
(Identities altered to protect the innocent)

The power goes to his head!
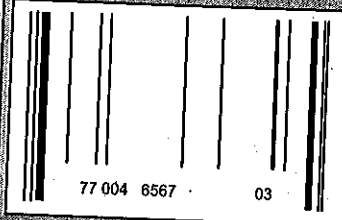
GOODBYE, HAL-O

"Mr. GEOGRAPHY CONTEST" BLOWN WIDE OPEN
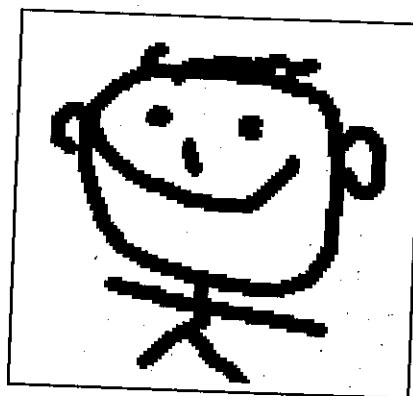
By Amanda Huginkiss, Chief Columnist

The infamous NUI Maynooth "Mr. Geography 2003®" Contest was blown wide open last night with shocking revelations being made against campaign frontrunner Hal "PETER" Frampton. The stunning revelations were made by the reigning "Mr. Geography 2002®" Conor "Rough" Murphy and have left a trail of emotional wreckage in their wake. Last nights grotesque revelations that the contests former front runner's campaign had exploded into a fiery fireball of fire has left his arch rival feeling "smug and smarmy". Continued on Page two

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Mr Geography 2003 contest in crisis

Last night shocking disclosures have appalled many leading political figures, with many leading public commentators now wondering about the credibility
and worth of the "Mr. Geography 2003®" contest. Karen "PP" Keaveney, campaign manager for "Rough" Murphy said last night that she couldn't remember the last time she "felt so belligerent" while Frampton's campaign manager, Brian "Knee Breaker" Conway countered saying the oppositions comments were "credulous as hell". Leading commentators anticipate the war on words to continue.

War conversation turns to detailed debate on Coronation Street!

By Al Dente, Middle East Correspondent

Two of this country's top future thinkers quickly and skilfully changed a brief conversation on the effects of the war on "Araq" into a detailed conversation on what was Gail (a key character in the popular soap) thinking when she married Richard.

This debate followed a brief discussion on a comment one of the group had heard on the news last night when searching for the latest episode of Footballers Wives. Linda Beets (19) noted that a war would be "terrible". Her best friend Sinead Walsh (20) agreed, yet also noted that everything on TV these days seemed "full of depressing stuff". Both women then launched into one of the most in-depth conversations independent observers have seen to date on the "terrible" relationship between Gail and Richard.

In the end, a consensus was reached, where both women declared that Gail was an "ejit" to marry Richard, and to have ignored Deirdre for so long. When questioned after the conclusion of the debate, Ms. Beets commented that "Gail got what she got 'cos she is such a muppet". Both Beets and Walsh have agreed to reconvene their debate tomorrow after Sociology.

Safety First: Are YOU safe?

By Duane Pipe, Safety Columnist

Safety is often taken for granted. Often, we only acknowledge safety when we cross over the line of safety. Often we only acknowledge safety when the line of safety is only a dot in the distance reminding us of how unsafe we are! Safety is a daily constant reminder of how unsafe this world is, and our lives are! Safety saves lives. Non-safety-ness costs lives. Are YOU safe?

Politician promises new promise

By Ella Vator, Political Corresponder

In an interview to be broadcast tonight, leading politician Freda Innocent promised new, improved political promises.

Ms. Innocent commented that "people are getting fed up with all the old material, i is time to move on" and has proposed to up date her "usual promises" to make them more relevant to today's changing society.

The interview finished with Ms. Innocent commenting: "I think the public deserves more...its time to give something back".
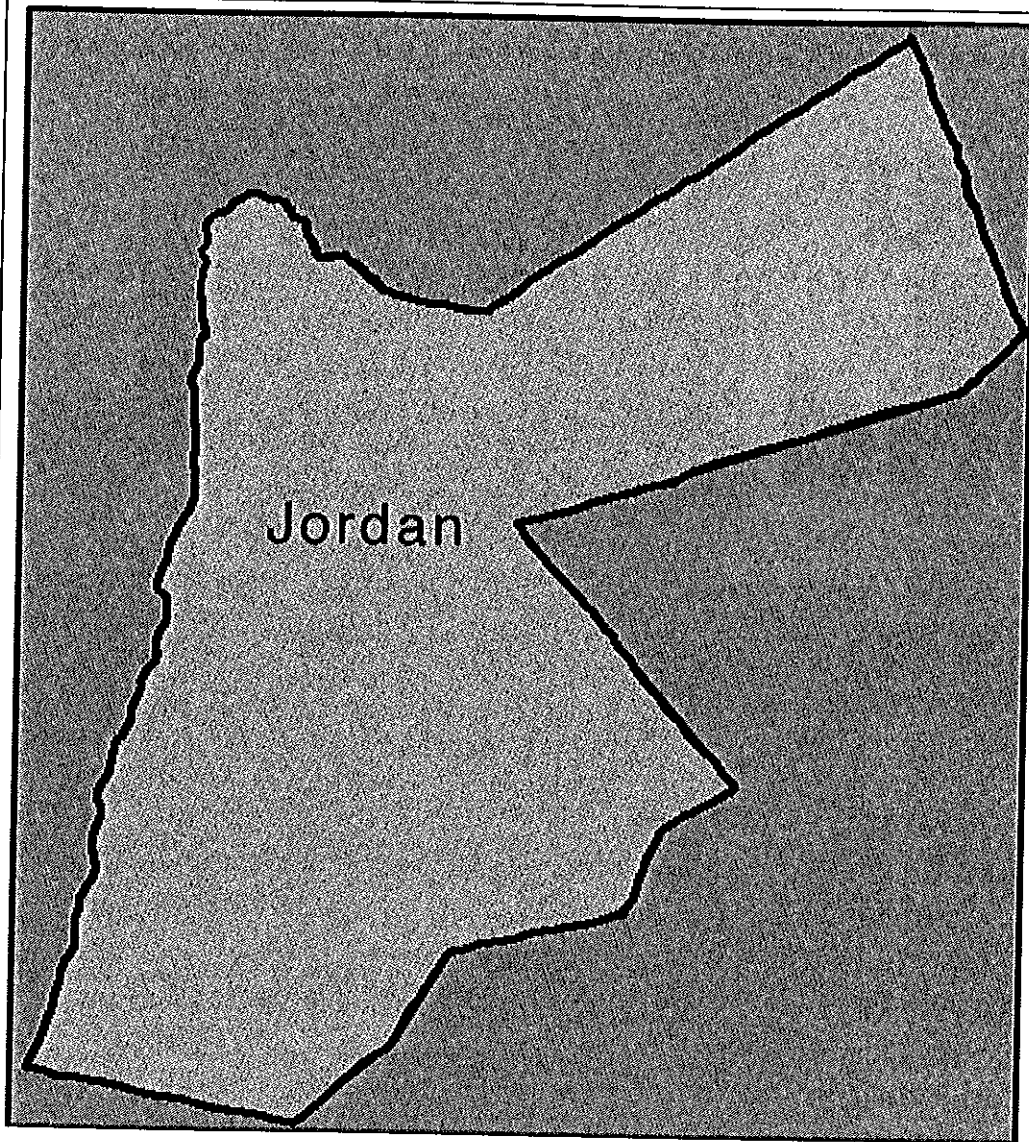
Jordan

JORDAN

Inside this edition of

Mil-u:

New report into the average attention span shows that...em...

Also:

In or Out? The great Hokey-Cokey debate: On which side do you stand?

Biffo says Hello!

MIL-U FUNNY HA HA-S!!
Colorado resident, Lynn C. Doyle, has become a local celebrity due to her inability to pronounce the word asparagus! Ms. Doyle pronounces it as "aspar-goose"!!!

Hybrid rules Shock
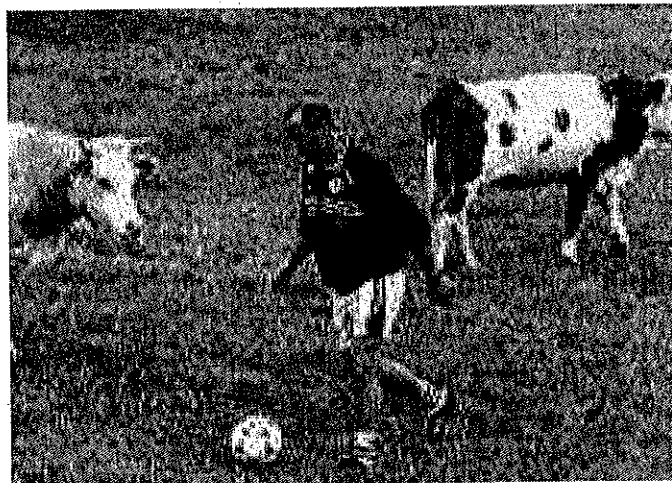
Debate still rages over who actually won last nights match

Do the new hybrid Bull Fighting/Soccer rules work!?!

By Oliver Sudden, Sports Columnist

The recently introduced hybrid rules "Bull/Ball" game has come under criticism following a confused ending to last nights rules debut. Stunned spectators were left confused and angry following the final whistle. One spectator, Anne Teak, commented "What was that all about? I came to see man fight beast in a gladiator style combat, but instead all we got to see was a pack of confused bulls eating grass while the players dribbled around them!"

Hybrid game organiser, Will Wynn, last night defended the contest saying "Last nights match was the first in what is planned to be an international event. We experienced teething troubles, we will sort them all out by the next match. That I promise!"

Leading Soccer commentators have pointed out that the Soccer players were not wearing red and that the Bulls may have been "in heat", so they wouldn't have been that aggressive.

INSIDE:
FOOTBALL: Kerry man forgets facts of 1970 final.
SOCCER: Ferguson angry at proposed gum ban
RUGBY: "Hit him! Hit him!" But did he really?
HORSE RACING: The horrible terrible truth exposed!

Filler

Feelings ran high as the roof debate progressed

Getting a bit caught up in the moment

Getting across his message loud and clear!

Maybe he took too much enjoyment from his job
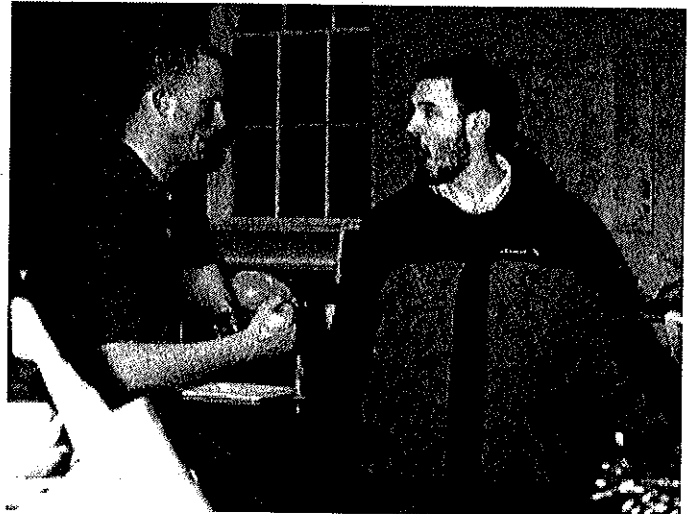
His unique dance moves shocked all who witnessed them

Milieu breaks the US pampering media mould.
Cornel James Wilmerthing III (Mrs.)

The more traditional wars over geographical boundaries have recently been overshadowed by actions and rhetori[c] which threatens the very safety of individual nations and of the entire planet. The well-documented war on terro[r] has greatly overshadowed more worrying developments which have the potential to threaten the health and ver[y] basic standards of living of all. The US is using all of its power to convince its potential allies, through the exampl[e] of the Bri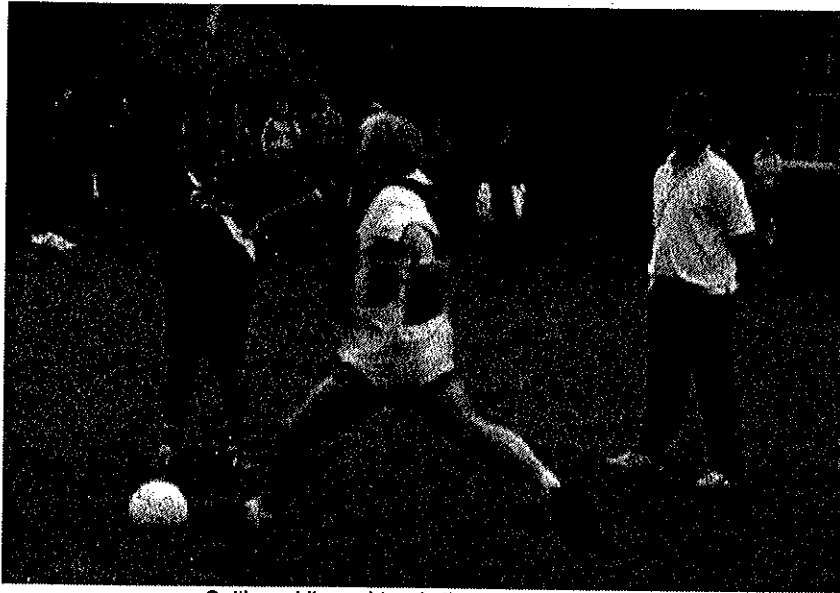tish, that being a lap dog to president Bush is the only way to safeguard the world from the threat [of] terrorism. The overriding problem is that the US is deciding what the threat is and where it can be found with it[s] own concerns taking precedence. Playing upon the justified fears of those post-September 11, and disguise[d] within the curtain of a war on terrorism, is the fact that at the heart of the campaign is a need the US has for oil t[o] fuel its thirst for the lifestyle of over consumption to which its citizens have become addicted to.

The choice of the media in general to overlook more worrying developments has to be tackled. In a world exclusiv[e] Milieu will uncover a very dangerous new threat. The BBC world service recently reported that Signal Intelligenc[e] (Sigint) satellites, designed to intercept radio and mobile phone traffic, have been "retasked" to take high-resolutio[n] images. The use of Sigint satellites marks a departure from normal procedure, as they are not usually used t[o] gather intelligence about dissident groups. Up to now, the US military have only released pictures they hope wi[ll] fuel public opinion towards supporting the war on terror. However, top Milieu researcher, Harry Caray, ha[s] obtained images previously kept out of the public domain. It is undeniable proof of a more menacing developmen[t] than any falling under the US definition of a threat.

In a feud similar to the Korean conflict, the two great empires of Lilliput and Blefuscu, discovered by the explore[r] Gulliver, have obtained weapons of mass destruction and are locked in a dangerous war of words. The war begar[n] as documented in the historical treasure, known as the Gullivers travels' logbook, due to...

> "...the primitive way of breaking eggs, before we eat them, was upon the larger end; but his presen[t] majesty's grandfather...happened to cut one of his fingers. Whereupon the emperor his father publishe[d] an edict, commanding all his subjects, upon great penalties, to break the smaller end of their eggs. . . . Th[is] people so highly resented this law, that our histories tell us, there have been six rebellions raised on tha[t] account...one emperor lost his life...It is computed that eleven thousand persons have at several time[s] suffered death, rather than submit to break their eggs at the smaller end."

One can only imagine how this situation has escalated in the many years since. Both have become quit[e] technically advanced and time has only fuelled their passions. The Blefuscu and Lilliputian Empire hav[e] undertaken a costly campaign of chemical warfare inflicting many deaths upon innocent civilians. With weapons [of] mass destruction at their disposal, the rest of the world could be affected in many ways.

The main concern is that the weapons are designed for the mass destruction of eggs. While the loss of eithe[r] empires stock of eggs would not directly affect the major world powers, the range of the missiles is far beyond U[N] eggulations. An overreaction by either side could involve the whole world in their war. The fact is that the US an[d] British have been providing these unstable nations with what they term 'Next Generation Poultry Class' (NGP[)] weapons, further fuelling a highly volatile situation. Everything in their power has been done to prevent it becomin[g] common knowledge. To simply propose the possible ramifications of such dealing strikes sheer terror upon thi[s] reporter. Whatever about traditional arms dealing, ignorance towards these 'super' powers' actions has gone to[o] far this time.

Leaked documents from the BIA (Blefuscu Intelligence Agency) have revealed that the final requirement for thes[e] NGPs have in fact been obtained by these two powers. The official line taken by the White House and Downing St[reet] is that neither knows of the other selling each of the components (apparently harmless used in specialise[d] machinery such as chicken milking enablers). However, the documents reveale that the final major componen[t] required, the guidance systems, have been obtained. The Lazer Yolk Detection (LYD) warhead is far beyond eithe[r] powers technological capabilities so we can only presume either the US or Great Britain have provided them.

Other nations, which have had some contact with weapons of this kind, such as France and Russia could not hav[e] supplied them as research into NGPs ceased during 'First Generation Poultry Class' (FGP) weapons experiment[s] Testing of FGPs was outlawed by the military in these countries after several, near catastrophic, blunders. Th[e] under funded Russian army with its FGPs dating back to the cold war nearly wiped out its domestic egg suppl[y] while the French caused irreparable damage on the Mururoa Atol in the South Pacific during experiments on gian[t] dinosaur eggs they had created during nuclear experiments. Neither power has had anything to do with this clas[s] of weapon since.

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How exactly the weapons operate is unclear but various leeks have revealed just what they do. The LYD warhead can lock on a designated target and from astonishing distances have devastating results. Upon contact with an egg the missile sends out a microwave signal along the same frequency that the eggs communicate on, which literally scrambles their mind. The exact radius of such an explosion has not been verified but Dr. Edd Balder, an egg technical warfare analyst at Trinity College Dublin, believes a two-mile radius would be selling short the weapons capabilities. With this much power at their disposal, the terror which could be unleashed should they be locked in an all or nothing military campaign is unfathomable. Not handling this development with the severity it deserves could spell the end of any credibility remaining which the Security Council, and indeed the United Nations, has been clinging onto.

In addition to this, the uncovering of this threat could result in a full Bush Administration collapse. All of their hard work put into their trademark rhetoric would cease to be relevant. This will stretch the spin-doctors behind the national puppets public image too far. With these developments in the public sphere, to continue falsely presenting the Bush Administration as having any intelligence within it would be next to impossible. With it losing any credibility, along with The New Labour Party, the Bush Administration will lose all credibility.

Politics aside, the effect such a war will have on ordinary citizens is the most troubling aspect. In the long run, diets will suffer. No government, NGO or charity organisation has the ability to provide aid for a disaster of this magnitude. Such a drop in the protein intake of the world population could not be supplemented. Even if it could, the dangerous explosions will result in the deaths of many innocent civilians. Picture this: a person is driving home with the shopping in a bag beside them in the car. A NGP warhead hits two miles away and, without any warning, the eggs in the bag explode violently. Covered in egg entrails the driver cannot see a thing, swerves and crashes. In isolation this might not be to serious but on a road, motorway or even a shop car park it could result in the needless death of many. Think for a minute and consider this. Do you know of anywhere where there is a populated area with no eggs within a two-mile radius? You would be hard pushed to find it!

With explosions worldwide the carnage will be horrific. As infrastructures and emergency services are overstretched the problem will escalate. How far this could go is beyond any estimations. Even if many survive, the geography of the world (physical, social, economic, and political) will be changed forever resulting in utter chaos. However, at least we can live, albeit for a short time, in a world where the argument of 'which came first, the chicken or the egg?' can finally be put to rest as it fades into insignificance.

—

Nice Fieldtrip
Dr. Adrian Kavanagh NUIM

Day 1, Monday 24th February
The moonlight that lit our way to bed was the same moonlight that lit our path to the main gates of the college at four o'clock in the morning. The feeling of excitement had overcome the feeling of exhaustion as we waited to board our flight. We all arrived at Dublin Airport, bright eyed and bushy tailed (NOT!!!) to check in at 5.20am, apart from Shane and Denise who still managed to be late even though they lived the closest to the airport. We don't remember much about take-off as we were unconscious. Unfortunately we can't say the same for Adrian who was clinging to his sick-bag for dear life, along with Garry who was popping valium pills like Smarties! The first shock of our trip came when our flight broke through the cloud cover on its descent into Nice Airport. We were expecting a sun-drenched coastline to greet us, but what we saw was the Alpes Maritimes stretching as far as we could see. The first indication of Nice's true character became evident when we pulled up outside our hotel – or should I say Ford dealership? So highly developed is this area that no ground floor space is left free. Our hotel started on the third floor. Below us was a car park and a large car showroom! Premiere classe, ma derriere! In English we associate premier class with the best there is, cream of the crop, top of the range, nothing better. However, in French they seem to mean just your average, mediocre, the basic of basics. Soon enough the hard work began, we were split into groups and sent into different parts of Nice. Some of the different group reports are included here:

Avenue Jean Medecin: After an hour of walking in a straight line we reached our destination. Just a little tip, if John tells you it's a half hour trip, then don't forget the tent, you'll probably need it! The area itself is the retail centre of the city. Mainly dealing with higher market goods. We even had the chance to play around with a Ferrari. Practically all the businesses are on the ground floor, with the rest of the five to seven storey buildings used for residential purposes. The buildings have great character, with classic Mediterranean balconies and shutters. This area has very little American influence – an obvious attempt by the French to protect indigenous and European businesses, but at the same time they are buying into the tourist trade. Most of the people were retirees and elderly people, and there we were, a bunch of Irish with short-sleeves, while all the old ladies were wearing their fur. The

people generally have an Italian influence, no doubt due to their past as part of the Italian state. So for all of yc
going on a shopping trip to Nice, remember, if you are walking from the airport bring plenty of water, patience, you
wits and watch out for the dogs, they leave nasty little surprises for you!

Fifi's view of La Vielle Ville: Bonjour, ceci est le journal de Fifi, un trés petit Poodle Francais. Today we drove fro
my home in Cannes with Madame, my mistress, and George, le chauffeur, so that I might promenade on th
Chateau Mount in Nice. As we passed le airport, we saw a bus unloading a group of scruffy students into a hot
over a garage and car show room (cheap imported cars too – Ford!). Continuing on down the Promenade de
Anglais into Nice, we parked so that Madame could visit the cemetery on the ancient citadel. I was to promenac
avec George. I was looking forward to the cascade over the grotto – et entre nous – I was dying to poop. Furth
within the old town are the art nouveau and art deco buildings and further still the modern high rise of the 1960:
But now I see the students from earlier, mais mon Dieu, they cannot be students, they are ancient. One man –
strange man in a green jersey – is trying to avoid the poop that I have freshly deposited. He walks straight into
bollard. Ouch, that must have hurt! Now he accuses the authorities of a conspiracy! With the bollards at a strateg
height, as you avoid the poop, you are in danger of castration! Later that night as we return home, I see the ancie
ones sitting outside at a late night snack bar. Close by are ladies in very short skirts, long boots and heaps of
make-up standing at street corners. What could be going on?

St. Sylvestre: "Group E, your mission, should you choose to accept it is to find your way to St. Sylvestre. Here's
map. Off ya go!" Confused, tired and with some sketchy French we hopped on a bus and asked for the *cent*
administratif, which according to Susan, was without doubt the city centre. Finding ourselves outside governmer
buildings and on the motorway to Cannes, we concluded that Susan was shit at French and decided to trust th
German speaking members of our group from here on in. Finally heading in the right direction, we encountere
Adrian and Sweeney, but they were too busy scoffing magnums to notice us four pissed off students. After a bri
chat with Adrian, he enlightened us to the fact that St. Sylvestre was in fact the ghetto of Nice. We knew they had
in for us from Day One! Eight buses later, we arrived in St. Sylvestre, where we experienced local art first han
which was displayed all over shop fronts and houses. The graffiti was the most modern thing in the place! We g
the next bus home.

Cimiez: Cimiez was our destination of the day. Where was that? How did we get there? Was it far? We were lo:
already! Time to tackle the French language, maps and the bus routes of the city. After four bus journeys, whic
should have taken two, we arrived in Cimiez. Cimiez posh, ancient Roman, upper class, residential city subur
Home to the rich and wealthy city dwellers. Museums, public gardens, amphitheatre; we saw it all! Yet another bu
journey back downhill to *la centre ville*. Just enough time to stop off for a bite to eat at good old McDonalds an
exercise the credit cards in Armani, Gucci and Chanel. Early to bed, all wrecked.

Day 2, Tuesday 25th February
All thirty-three of us had our first taste of a continental breakfast – for most it was our last! There was a picture on
card on the tables in les salles de dejeuner – a picture of an appetising breakfast – not of the white cornflakes an
pureed fruit that we received. After the scrumptious breakfast, we headed off to glitzy and glamorous Cannes. W
were ejected from the bus on "La Croissette", the premium beach-front area of the city and near the Palais d
Festival, which is best know for hosting the Cannes Film Festival. From here the city's top hotels could be seer
stretching down the Boulevard de la Croiseete. The personal favourite of Group F (not the group formerly know
as Group F, one must hasten to add) was the Carlton, whose architecture, local rumour has it, was partly inspire
by the breasts of the mistress of the architect, Lady Vianney. We noticed that a basic hotel room in the Majecti
Barriere Hotel and the Carlton Hotel would cost an amazing €1385 per night. Adrian told us that the price of a bu
and a cup of tea in the Noga Hilton Hotel was €16!!! As we wandered down the aforementioned boulevard, we fe
somewhat like an Eskimo on safari, such was the grandeur and wealth of the area, which we were certainly n
used to! Then again the girls of Group B, as they strolled along La Croisette with its trendy shops, art galleries, an
private beaches, said that they no longer felt like country lassies! After being refused entry to some of the mor
expensive sea-front shops (mais pas Group B?), poor old Group E had to realise their social status and hea
inwards. After a brief shopping spell, hunger set in and they decided to sample some French cuisine. They stoppe
off at a small corner restaurant where Shane "Rob" Kiely opted for some steak. The group was stunned to silenc
when the steak appeared, 'well done' just as ordered, but oozing it's natural fluids when Shane cut into it. He ate
regardless!

"Prochain stop!" – after much ear-popping on the autoroute – Monaco et Monte Carlo. Monaco is a principality
independent of France. The region is a tax-free area and is a haven for wealthy people, who do not want to give u
large taxes to a national government. The area had a greater density of buildings than Cannes – probably due t
the restrictive topography. Monaco is home to many celebrities, including tennis player Boris Becker and Formula
driver Jenson Button. Attractions to Monaco include the staging of a Formula 1 race on the streets and the casino

in Monte Carlo, in which the lifestyles of the rich and famous can be observed. And yes, the lads did get to see a real life Ferrari outside the casino! Some of the group headed straight for the ice-rink. At €5.20 a go it was a bargain. Five minutes later the novelty had worn off the skaters were left to nurse their grazed hands and sore arses. Poor old Catherine Duffy developed wet trousers syndrome.

Unwinding in the hotel that night, certain fieldtrippers may, or may not, have opened a pub in one bedroom (aka Geo's Tavern) depending on who is reading this, it certainly didn't have fifteen people in a toilet in a Guinness World Record attempt, as the rumours stated…it was only thirteen! All were welcome, even cross-dressers – not mentioning any names…OK then…Niall!

Day 3, Wednesday 26th February

Day 3 started off with a few sore heads after the getting to know you antics of the night before. Awoken to the sound of the screeching alarm clock, we jumped up, got dressed and just made the bus in time. The day was spent in the rural hinterland of Nice, specifically in the *villages perches*, or 'perched villages', located on hilltops overlooking the Var valley to the north-west of the city of Nice. In the morning the bus abandoned the various groups at a number of equally remote and apparently depopulated outposts of civilisation. Some of the different group reports are included here:

Fifi's view of La Gaude: We go to the mountains and I meet mes amour, Jacques, a dachshund of impeccable taste and he mentions meeting a group of ancient students. In a village du peche called La Gaude they are inflicted on a retired British ex-pat that saves the natives from their appalling French. He entertains the most beautiful of the ancient ones with stories of the village. She valiantly accepts his attention for the sake of the group project. The one with the green shirt and the strange accent keeps saying to the barman "I'm Irish" as he tries to cure his sore head. According to Jacques, who risked blood poisoning by biting a large red headed student from another group, they were amazed to find the populations increasing. I mean, darlings things were so bad in the villages in 1996 that when the last invasion of Irish students were dropped off in a village there was no-one left and it was three hours before they were collected. Jacques also heard Jeffrey say to the ancient beautiful student, "Don't mention the war!" No, not a quote from Fawlty Towers, this was Vichy territory and memories and sensibilities are long.

St. Jeanette: Wednesday allowed us to truly experience the rural life of France. Coming from a small area in Mayo, I have been knee deep in rural stenches and have seen many a cultural cow, but after being left in the unknown with only Robert's French skills as our weapon we were hypnotised by the beauty of St. Jeannette. We found that it is one of the villages in the Var valley that has been experiencing a definite period of in-migration. With the help of the patient villagers (as some of our French didn't go beyond *voulez-vous couches avec moi*) we found that the main reason for rejuvenation and also its proximity to nearby areas of employment such as Sophia Antipolis making St. Jeannette a commuter village.

Gattiéres: Adrian and Sweeney abandoned us up in the mountains of Nice. We were assured there was people out there somewhere and told to find them to complete our surveys. We split up in search of life and two of our group came across two characters, who proceeded to offer Fiona anything she desired in return for a cigarette. She thought they had a strange French accent – turns out they were Algerian! One of our companions, Cian, befriended a sausage dog only to find that he didn't appreciate being turned on his back and scratched vigorously (the dog, that is!!!) The few people we did find appeared to have seen better days, but were more than happy to help our cause when told we were Irish not English – "non Anglais" became a useful phrase!

Carros: Group G – formerly known as Group F – were taken to Carros, *"entre mer et montagne"*. Five Irish Paddies must have seemed like a colony of lepers – when approaching the locals with our surveys they ran quite fast in the opposite direction. We ended up in the artist studio of Dominique Landucci and learned that he is a famous Italian artist, who loves the Irish. He provided us with useful information on the area and proceeded to play a traditional Irish jig on the fiddle. To close a chapter on a momentous day we sampled a traditional onion tart in one of the cafes. While sitting in the café – reminiscent of a scene from Hansel and Gretel – John and Adrian were insistent that we sample the local cuisine before taking us down to the large, old traditional stone baked ovens directly beneath us. As we gazed into the hot stony furnace, one swift push would have spelled a fiery end indeed!

Our punishment for enjoying the fieldtrip so far was a stopover at the Sophia Antipolis billboard and the entrance to what we thought was an industrial park. This was not one of the highlights of the trip to say the least.

The final stop of the day was Biot. The only sign of life was the "Over 80's boules championship". Shane took a fancy to one of the participants and his comment of "ooh la la" was greeted with a wink of an eye and a nod towards the nearest bush. Little old French women are far from shy!

Day 4, Thurday 27th February
After another late night in the bar, sore heads and queasy stomachs were on the menu again. A nine hour b
journey was the last thing we needed, but onwards and upwards to the gorges of Grand Verdon we went. Nec
stretched, cameras ready and plenty of scenery to see. Despite the long treacherous trip up the mountains
Monsieur Bus Driver must have had ambitions to be a rally driver in former years but never quite made it – t
spectacular sights of the contrast between the heights of the mountains and the depths of the gorges were sim
breath-taking. The coach took us around a narrow, winding road along (and very close to) the edge of the canyc
Thankfully it was not the middle of the tourist season and we met only a few other vehicles on the road. V
stopped for lunch at a small 'village' that appeared to guard the entrance to the gorge. The only shop open
'seasonally' and the only movement on the streets was the balls of tumbleweed passing by. The boys decided
display their manliness in a competition of strength – they played on a kid's climbing frame. Shane, Gearóid a
Cormac were the most persistent of the group, with Cormac being crowned 'monkey man' due to his skill
climbing.

We decided to head for lower land toward the town of Grasse. Grasse is the perfumes capital and hosts over t
dozen scent companies. Fragonard perfumery, with its whirlwind tour and its noses, was somewhat different –
change for us all. As the group formerly known as F noted, there was only one female amongst them and four
them were definitely going to smell like idiots for the remainder of the day. The lads continued to behave like fi
year olds by having perfume fights with the display bottles. Little did they know that what they were spraying w
pure perfume and they all got on the bus smelling like a hoor's handbag.

Nine hours later and with the economy class syndrome really kicking in, we arrived back to our decompressie
chamber, known as Hotel Premiere Classe. After the Annual Geography Awards, hosted by the lovely Adria
Kavanagh, Group B ventured into the *Carnivale de Nice* in the city centre. When they thought all hope of findir
wealthy men had failed, they stumbled across four wealthy young Englishmen, commonly known British boy ban
"Blue". Luckily cameras were at the ready for a Kodak moment! Most of the others ended up eventually in the b
of the nearby Hotel Ibis. Good night was had by all.

Day 5, Friday 28th February
Just made it back to the hotel in time to go home. On the one hand we were cheerful to be saying goodbye to Hot
Premiere Classe, but on the other we were sad because we had such a great time; we had made new friend
broken many rules ("What???" – Fieldtrip Leader), learned something new everyday and got to taste Frenc
culture. We finally arrived back at Dublin Airport on Friday afternoon, where pouring rain brought us right back
the more mundane reality of college life in Ireland.

People who live in France don't boast about it. People who visit it will never forget it. The excursion to Nice and i
surrounding area was definitely an experience which we will never forget. It's hard to sum up in words; let is suffi
to say Nice was nice!!!

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Cloning the Celtic Tiger: Can Biotechnology create its own Irish economic miracle?
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Research funded by the Irish Research Council for the Humanities and Social Sciences and the National
Institute for Regional and Spatial Analysis

Introduction
Ireland's economy transformed from being on the verge of collapse in the late 1980s to being the envy of mo
developing countries around the world during the 1990s with the emergence of the Celtic Tiger economy in 199:
This was a time of unprecedented economic growth and development in Ireland. The economic transformation th
country under went was based on the Information and Communication Technology (ICT) firms that had set u
operations in Ireland in order to service the European markets.

The Celtic Tiger period has come to an end. Yet, what are the possibilities of Ireland repeating this econom
miracle? This article asks whether the emerging biotechnology industry (which has been earmarked by mar
countries as being a leading industry of the future) can repeat Irelands economic golden period of the Celtic Tiger
Can biotechnology essentially clone the Celtic Tiger? This essay is broken into three sections. The first sectio
looks at the causes and effects of the Celtic Tiger phenomenon at a relatively superficial manner due to th
complexity of the topic and its widespread coverage elsewhere, the second section looks at the development of th
international biotechnology industry and the third section looks (in a purely speculative manner) at the likelihood c
a "cloning" occurring.

The Celtic Tiger Phenomenon

The Celtic Tiger economy has its roots in Irish Government policy decisions of the late 1950s to adopt an "open door" policy of export orientated growth and in the creation of the Industrial Development Agency (IDA) to attract foreign direct investment (FDI) into Ireland. Both decisions/actions can be highlighted as two of the major developments that laid the foundations of the Celtic Tiger (Walsh and Breathnach, 1994).

When Ireland joined the European Economic Community in 1973, it led to a surge in FDI, yet the main impact (in relation to the Celtic Tiger) of our membership was the membership of the common market. Fast forwarding to the beginning of the 1980s, Ireland had established itself as the main branch plant location for electronics firms servicing the European markets. This was possible due to relatively low levels of unionisation, the generous financial climate created especially for firms engaged in FDI, the high skill level of the available workforce in the country and the fact that the workforce was English speaking.

The type of FDI that was established in Ireland in the mid 1980s (low skilled manual work) began to create problems for the Irish Government as it was characterised by jobless growth (i.e. firms increased their productivity through increasingly automating production, not through expanding their workforce) (Breathnach, 1993). Yet, this was addressed in 1989 when Intel established its wafer fabrication plant in Leixlip. This acted as a notice for other Multi National Companies (MNCs) to upgrade their FDI activities into a higher skill level to tap into the pre-existing pool of high skilled, relatively cheap labour.

All these factors combined led to the creation of the Celtic Tiger. Yet, towards the end of the 1990s, it was clear that the Celtic Tiger was beginning to die. The effects of the Celtic Tiger, and the causes of its decline are numerous, yet for the purpose of this paper; they will not be investigated here.

The Biotechnology Industry

The origins of the modern biotechnology industry can be traced back to the early 1970s. Venture Capitalist Robert Swanson had come to the conclusion that the many microbiological research projects being conducted in the laboratories of the US universities/research centres had to have some commercial promise. Swanson's background in chemistry allowed him to conduct detailed interviews with biotechnology researchers in order to see whether the research could be easily commercialised. A meeting with Herbert Boyer (who, with Stanley Cohen, perfected genetic engineering techniques through developing recombinant DNA in 1973) confirmed Swanson's suspicions about the potential of commercialising this type of research (Access Excellence, 2002b, 2002e; The Bancroft Library, 2002).

Genentech, the worlds first biotechnology firm, was established in 1976 by Swanson and Boyer with the aim of creating the synthesis of human insulin. By 1978, Genentech had successfully achieved its initial target and licensed the human insulin technology to Eli Lilly which established Genentech as one of the more innovative of the first generation of the biotechnology industry (Genentech, 2000).

After the foundation of Genentech, other venture capitalists and commercially-minded scientists quickly followed suit to establish their own biotechnology firms. Among the many hundreds of firms established, the following are among the most successful: *Amgen* (Applied Molecular Genetics) was founded in 1980 pioneering the development of novel and innovative products based on advances in recombinant DNA and molecular biology. Amgen has since developed (under the guidance of Kevin Sharer) into the world's biggest biotechnology company with total revenues of $3.4 billion in 2000 (Amgen Inc., Roche, 2000); *Biogen* was established in Geneva pioneering several new research techniques and developing several important medical therapies such as treatments for slowing the progression of relapsing forms of multiple sclerosis through regulating the body's immune system (Biogen, 2002; Marrs, 2001); *The Chiron Corporation* was established in 1981 focusing on the development of vaccines and tests for infectious diseases, mainly hepatitis. As the firm evolved, it expanded its research and production activities into the complex areas of cancer, immune deficiencies, and cardiovascular diseases (Chiron Corporation, 2002: Marrs, 2001).

As the biotechnology industry developed, its impact on established industries became quite pronounced. Biotechnology has had its biggest impact on the pharmaceutical industry as, at its most basic level, the technology used in biotechnology is built upon a different theoretical foundation, i.e. biotechnology's knowledge base is immunology and molecular biology, yet the knowledge base for the established pharmaceutical firms is organic chemistry and its clinical applications (Powell and Brantley, 1992). Established pharmaceutical Trans National Companies (TNCs) such as Roche (Hoffmann-La Roche), and Eli Lilly quickly formed a wide variety of alliances/collaborations with the fledgling biotechnology firms.

Industry structure and firm fragmentation
The structure of the biotechnology industry is based on networks linking research in firms, universities a
research institutes. All sizes of sectoral actors are important as sources of innovation due to knowledge
biotechnology being characterised by high-risk indivisibilities and difficulties in appropriating the returns or bene
(Malecki, 1997). Biotechnology firms enter into collaborations/alliances with other actors for a variety of reason
including spreading of risk to reduce liability, the ability to access information sources, and skill/knowledge sou
that the individual firm may not possess. These benefits are enjoyed by all actors in a network (Office
Technological Assessment, 1984).

This network-structured industry has also led to the knowledge base from which biotechnology firms draw (ba
science (research)) becoming diffused and dispersed among universities and research laboratories. This h
created a situation where no one pharmaceutical, chemical, and/or agricultural firm could (despite a very limi
number of exceptions) gain total control over the knowledge of one biotechnology firm. Biotechnology firms a
from their inception, increasingly embedded within a variety research and production systems so that technologi
progress for one firm can only occur through the continual renegotiation of relations with other firms, universit
and/or research institutes (Harrison, 1997; Powell and Brantley, 1992).

The nature and structure of inter-organisational agreements in the biotechnology industry are complex, display
none of the usual characteristics of "normal" inter-organisational agreements such as hierarchical control or
explicit terms of contracting. Due to the nature of inter-industry relations, developments such as mut
organisation have occurred. With recent development of the completed mapping of the human genome and
industrial spin offs from research in this area, the level of inter-firm and inter-industry relations would be expec
to expand and deepen.

Global spread
Since its establishment in 1976, the biotechnology industry has quickly developed internationally. The formatior
Genentech created the template by which most biotechnology firms have been established internationally, v
most countries generally fashioning their own industries after that of the US. These countries are also establish
their own versions of US institutions and organisational structures.

According to Abate (2001), the main reason behind the rapid global reach of the biotechnology industry is du
the "raw materials" (i.e. high quality scientific research and significant sums of intelligently invested money) nee
to develop a successful biotechnology sector not being the sole province of a single country or region. He
Governmental and TNC support has also facilitated the global development of the industry.

As mentioned, the United States (US) is the world leader in biotechnology. It is home to the world's larg
biotechnology market of (currently) 1,457 dedicated biotechnology firms. The performance of the US biotechnol
industry impacts on the performance of the global biotechnology industry. Over the past twenty-seven years,
US has established, consolidated, and expanded its activities in as optimal a manner as possible (Busin
Facilities, 2000).

Europe has established itself as the second biggest biotechnology market outside of the United States, with
United Kingdom (UK) being the single largest market (closely followed by Europe's "fastest-moving innova
Germany (Abate, 2001)). The UK was one of the first countries to establish NBFs outside of the US. It was/is a
a key figure in the major research projects which led to significant advances occurring in biotechnology e.g.
discovery of the structure of DNA in 1953 (Abate, 2001).

Asia has begun to emerge as a major player in the biotechnology industry with Japan leading the wa)
investment in research and product development. Japan is the United States' single closest competitor in
international biotechnology industry (Fransman and Tanaka, 1995; OTA, 1991). Outside of Japan, Hong K
(through enormous support from the Chinese Government), Singapore and South Korea have begun to show si
of major future potential in different areas. Asia is expected to become a very important participant in the futur
the biotechnology industry (Business Facilities, 2000).

Many countries/regions that have relatively underdeveloped "key" industrial sectors (for example computer sect
are beginning to position themselves as future key actors in the biotechnology industry. Europe's difficulty
certain aspects of the biotechnology industry (e.g. genetically modified foods) has seriously limited the potenti
these products/technologies in the main biotechnology markets. Yet these difficulties and their knock-on eff
have opened up great opportunities for Asia, Latin America, and the relatively embryonic industry in Africa. Q
and immediate action by these regions will greatly alter the future balance of power in the global biotechnol
industry (AfricaBio, 2002; Walter, 2000).

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The biotechnology industry in Ireland

Ireland's indigenous biotechnology industry is still at a formative stage of development with over 30 Irish companies engaged primarily in biotechnology-based activities employing close to 600 people. Yet Ireland is in a very promising position with a rapidly developing sector that includes major indigenous multinational biotechnology firms such as Elan, Biotrin, and Trinity Biotech. Ireland has also attracted a limited number of large multinational biotechnology firms e.g. Schering Plough and Wyeth. The recent surge of biotechnology start-up firms in Ireland (over ten have been formed since 1997) parallels the development of the industry in the US (BioResearch Ireland, 2000c; Forfás, 1999).

Until relatively recently, the development of a strong indigenous biotechnology industry has been hampered by the lack of a strong science base and the absence of a positive investment climate. To date, Irish universities have around 500 academic staff working in biotechnology-related subjects, producing around 500 graduates annually in biotechnology/biotechnology-related subjects. The government has addressed the issue of lack of funding with the Science Foundation Ireland's research initiative that is investing €635 million between 2000-2006 in academic researchers and research teams in biotechnology and Information and Communication Technologies (ICTs). The issue of a lack of substantial investment flows has been addressed following the recent creation of Seroba BioVentures, an €15 million venture capital fund that targets life sciences companies (BioResearch Ireland, 2002a; Science Foundation Ireland, 2002).

Can Biotechnology "Clone" the Celtic Tiger?

No-

The biotechnology industry's global focus is directed towards the US. This focus has continued despite on going efforts by the EU and members states and other leading industrial regions/countries to develop their own sectors and successfully rival the dominance of the US. The dominance is so strong that the future developments and directions of the international biotechnology industry are dependant on the performance of the US biotechnology industry. As the industry is in a relatively embryonic stage of development, it will be many years before the industry begins to resemble existing global sectors such as the electronics industry.

The future directions of the industry are beginning to become apparent. By 1993/1994 it had become clear that most pharmaceutical orientated biotechnology firms did not possess the capability to develop into integrated/diversified pharmaceutical firms. This led to further fragmentation of the industry as the biotechnology firms began to focus on specific niche areas of the research and production process. With the completion of the human genome project, the possible boundaries of biotechnological applications have become unclear, yet the boundaries between the pharmaceutical, biotechnology, agricultural, food, chemical, cosmetic, environmental, energy and computer industries have become even more blurred. This has opened new unexploited niche markets in which firms are now busily engaged in trying to establish themselves (Forfás, 1999; Giesecke, 2000). Again, the trend is that of increased fragmentation, meaning that the industry will increasingly have the same/similar power balance as it does today.

Biotechnology has been described as the twentieth first century's first post-modern industry due to its complex structure (Boje, 2001). The complexity of the structure means that it will not easily create many biotechnology TNCs that will be inclined and able to afford massive foreign direct investment (FDI) on the scale of the electronics industry (for example) in Ireland. As current industry trends indicate that it will continue to be structured around small networked, geographically concentrated firms, the likelihood of substantial future biotechnology FDI into Ireland from biotechnology firms is very small.

Yet hypothetical and actual potential exists...

Yes-

Ireland is in an enviable position. While the biotechnology industry is still in its infancy, there remains one aspect of biotechnological activity that has remained relatively unexplored in Europe: Agricultural biotechnology. Ireland is pre-eminently a biological economy (Forfás, 1999) and has various related life sciences already established in the economy i.e. agriculture, fisheries, forestry, pharmaceutical and health care, chemicals, food and drink, and environmental management. These activities account for more than €12 billion (over 30%) of total exports and employ over 50,000 people (Forfás, 1999).

Europe is very wary of agricultural biotechnology following years of stories of "Frankenstein foods", Dolly the sheep and concerns over the safety of consumable products (Dyer, 1999). While this may be partly due to suspicions that linger following previous food scares (e.g. Mad Cow disease and its human form CJD), agricultural biotechnology continues to be viewed with considerable suspicion in Europe. This has opened the door for other regions in the

world to make advances in agricultural biotechnology while Europe questions its safety and its actual need. The future may see a thawing of attitudes in Europe, which may suit Ireland perfectly.

As mentioned above, Ireland has established a small, yet significant indigenous biotechnology sector that is interlinked with a highly productive third level system that is training highly qualified graduates and producing high quality research. The foundations for a highly successful indigenous industry have been established, but have not yet been fully exploited. The potential exists for Ireland's biotechnology sector to tap into existing industries. Ireland has strong pharmaceutical (predominantly manufacturing) and chemical sectors, with nine out of the top ten pharmaceutical firms in the world have manufacturing operations in Ireland, the vast majority of the production of these firms being exported. Pharmaceutical/chemical exports are second only to engineering/electronics representing about 20% of manufactured goods exported (BioResearch Ireland, 2000b).

Another card Ireland has yet to play has echoes of the 1980s electronics industry in Ireland. Ó Riain (1997) mentions that when the electronics firms entered into Ireland with their high skill factories in the late 1980s/early 1990s, they tapped into pre-existing "sources" of highly skilled college graduates. Previously, Irelands graduates had to emigrate due to the lack of high skilled jobs in the country, yet when the jobs were created, many returned. This had a knock on effect as many brought with them skills and knowledge from foreign firms/practices. As this trend continued, Ireland began to attract non-nationals who were searching for high skilled jobs found in Ireland.

Biotechnology as it stands in Ireland is very small. Most college graduates will end up working abroad and/or for non-national biotechnology/biotechnology related firms. Many of the individuals in positions of authority in the biotechnology industry in Ireland worked abroad while the majority of biotechnology firms created in Ireland have been established by expatriates returning home after discovering a niche market while working abroad. If the Irish industry manages to solidify to a greater extent and develops into a successful entity, any future developments will occur within a backdrop of a highly educated graduate work force, those working abroad would (hypothetically) begin to return to the industry in Ireland. This situation would have similar knock on effects as the electronics industry.

Conclusion
The biotechnology industry has developed rapidly since its creation in the mid 1970s. Its impact on pre-existing industries is increasing. Ireland is in a strong position to capitalise on any future developments in the industry. Foreign direct investment, through biotechnology firms is unlikely, at present, due to the current structure of the Future developments may yet change this. The biotechnology industry remains in a fledgling state and has made significant developments and changes in the short number of years since its creation. Ireland has to be clever in how it positions itself, simply "creating the right conditions" may not be enough. Huge amounts of money are needed. Government schemes (such as Science Foundation Ireland's call for researchers) may yet lead to the biotechnology industry in Ireland developing and reaching its full potential. Yet, the current structure of the industry doesn't indicate a cloned Celtic Tiger in the immediate future.

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Smelser's framework of Modernist Theory: When was Ireland traditional?
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Second year single hons. Geography

Introduction
This article will discuss when Ireland was "traditional" through interpreting the modernist theory of Smelser (1963). The framework of his theory will be compared to two studies that looked at Irish rural communities firstly in the 1930s and secondly in the 1970s. Both studies concentrated on rural/agricultural communities where one third of the male population made their livelihood. The article will look at what is traditional and whether that concept applied in Ireland.

When Was Ireland Traditional?
Smelser (1963) described a number of sign posts that helped identify the evolutionary road that leads from traditional to modern, claiming his theory was a broad picture that explained a variety of historical situations and was not specific to any time or place. Throughout the paper he breaks down society into its component structural parts and examines how the effects of modernisation changes each component. His categories concern the family, the economic activities of the family, the community, related institutions and the political structure. Smelser shows how the differentiation that occurs reflects societies reaction to the progress of modernisation.

Tovey and Share (2000) define Modernisation Theory at its most basic in two main points. Firstly, it is an evolutionary account of social change. Secondly it describes a belief that world societies are converging at different rates and different starting points toward modern industrial society. Many modernist theories were developed and refined to describe the widespread change that had occurred in the 19th century. By applying Smelser's framework to the historical events of the 19th century it can be seen to be a successful theory.

Modernist theories begin from within a traditional society, widely accepted as a rural society. The Oxford English Dictionary gives the definition of traditional as 'transmission of statements, beliefs, rules, customs by word of mouth or practice from generation to generation without writing. A traditional rural community also has its own characteristics. (Wellman and Gulia 1999)
1) It is socially similar
2) It is isolated or has limited contact with the world
3) It has closely knit family groups

Smelser's theory suggests, for example, that social disturbance is a reflection of the uneven flow of differentiation and integration, whose outcomes are the implications of technical advance, agricultural advance, industrialisation and urbanisation.

In the late eighteenth and early nineteenth centuries the economy of the United Kingdom (including Ireland) was doing well but by 1820 things were changing. After the Napoleonic wars ended in 1816, agriculture switched from tillage to pasture, driving the people off the land (Lee 1998:9). Previously, with labour intensive tillage, landowners had plenty of work to offer. With guaranteed security, labourers married earlier and produced large families, which they were able to support on sufficient wage levels and small plots of land. Once the family lost this income from labouring, Smelser's theory of Differentiation of Economic Activities applies.

Subsistence farming was now turned into commercialisation. Productivity within the family needed supplementary form of economic production. Cash crops were produced and in addition the family or members o family began to produce consumer items for sale. Handicrafts (e.g. The lace industry in Limerick) were first s within the community then at markets. The next stage along this pre-industrial route was the sale of goods to wholesaler. The wholesaler may possibly even have introduced the idea of handicraft to the commur themselves. Eventually the means of production were taken out of the hands of the family altogether and mov into factories. Now family members left the rural community to work in factories located in urban areas. Ma emigrated to England or America.

Emigration had begun in Ireland in the early nineteenth century long before the great famine. It was felt a via rural economy would encourage capital investment which would help to address the Mathusian theory t population growth would outstrip existing resources (O'Tuathaigh, 1990:4). As consolidation of lands beg subdivision of land was discouraged meaning large families could no longer be supported. Only the eldest son i family could be guaranteed a place to live. The labouring classes, displaced by the change in agricultural practic the resultant lack of available work and land, began to migrate. Smelser argued that the introduction of capital i a society supplants or undermines the family, religious beliefs and existing political systems.

In pre-famine Ireland, the potato just about supported existing social structures and society. The Colo government recognising some of the economic difficulties Ireland was experiencing was largely unable to ap mechanisms to change the traditional social structures. The famine swept away whole communities that were Smelser's words clinging to old traditional structures unwilling and quite obviously unable to change. The fam was a significant factor in the change in Irish society something Smelser recognised in his ideal model.
In the aftermath of the famine a new order began to take hold. Smelser called this Differentiation of Far Activities. From close knit kingroups, the community breaks down as an economic unit. Families, by now nuclear family, offer only socialisation and emotional support. Two points from Brody's (1973) work on Iniskillan the in 1970s illustrate this. Courtship is now vested in the individual and the role of matchmaker (in effect regula marriages) diminishes. Paternalism, once a controlling factor (particularly regarding the status of women) declin

With the control of the family by the kingroups no longer in place, new institutions replace them. Trade unic social welfare, political parties and volunteer associations replace the family. Brody tells of how Joseph Murp without a family to help on the farm and to socialise with, has a breakdown and is institutionalised. He sugge that the socialisation of the community sustained Murphy through the summer months, yet the isolation of winter was unbearable leading to his breakdown.

Two American sociologists, Arensberg and Kimball, carried out a study of a community in West Clare in 19 They felt this community was truly a "traditional" Irish community. They judged that perhaps for a span of decades this social system had been in place. As Brody (1973) later showed it was probably closer to half length of time as they had disregarded previous historical events. According to Gibbon (1973) (who reviev Brody's study of the area), if Brody's acceptance of Arensberg and Kimball's faulty assumptions made his b (Iniskillane) suspect, then his findings would also be tainted. It falls then to the modernist theorists to provide framework.

Smelser seems to have comprehensively pinned down the modernist movement, emphasising the uneven unequal nature of capitalist exploitation (Tovey 1985) in the nineteenth century. That is until one examines definition of Modernist Theory above carefully and notes the word "evolutionary". Smelser felt modernisation begun in the nineteenth century and his theory is based on this vision. Yet, by looking back historically, alternative view becomes evident.
Irish society has experienced huge and rapid change over a long period of time (e.g. through the Vikings, Norman's in the eleventh century, to the Tudors and Cromwell in the 1600s and so on) that it doesn't seem to h had much time (not much longer than one or two generations at most) for any sort of traditional society to hold. McCourt (1971) feels that from the time of the Norman expansion until the plantations, profound econ and social changes were taking place. These were brought about by the internal conflicts of the decaying Ga culture and the impact of these outside influences. Ireland was, of course, never isolated (e.g. Italian Catalonian maps of Ireland exist from 1300 onwards engaged in trade for goods and services with other Europ countries (National Library, 1980).

Graham (1970) writing about sixteenth century Connaught states that "economic pressures were encouraging breakdown of traditional society, the cash economy had made considerable headway" (Graham, 1970:204). can events so long ago fit Smelser's theory based on 19th century 'Structural Differentiation in period Development' where marked breakdown in established patterns of social and economic life occur du

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development? Perhaps "traditional" should not be a fixed point, but an ephemeral concept by society looking back with nostalgia.

Gibbon (1973) was not impressed with Brody's assumptions about Arensberg and Kimball's study of Co. Clare and showed in his review of Brady's work how statistically many of their traditional conclusions were false. Robinson (1990:39) suggests that further back the sociologist Toennies, (another eminent Modernist) over-romanticised rural society when he described Germanys development from rural to industrial. Robinson also cites a whole series of writers from 1770 to 1930 who were lamenting the loss of traditional rural life.

Conclusion
This article has demonstrated that descriptions of development do fit Irish structural changes using Smelser's signposts as a guide. The social disturbance that occurred after the Napoleonic wars; the effect of agricultural reorganisation on an over overpopulated countryside resulting in emigration; subsistence farming leading eventually to commercialisation and on into industrialisation, are all part of Smelser's ideal model.

The modernisation theories that culminate in industry (in the modern sense) are only relevant in the nineteenth century, while some aspects of these theories do apply as far back as the thirteenth century, society, it appears has always been modernising. Tradition is how the present generation perceived the society of the previous generation. Many would see this past in a romanticised nostalgic light. To answer the original question, this article demonstrates that it was never wholly traditional.

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The Importance of Wilderness
Brian Callaghan.

Introduction
What does wilderness mean? "Wilderness as an entity is notoriously difficult to define" (Carver & Fritz, 2002). Variations of what wilderness is can be found (with different perspectives), over a long period of time, in the writings of people such as Leopold (1921) and Nash (1982) who provide academically orientated meanings, whereas the U.S. Wilderness act of 1964 provides a more formal definition of what a wilderness might be. In general most meanings emphasise the "natural state of the environment, the absence of human habitation and the lack of other human related influences and impacts" (Carver and Fritz, 2000). Yet, a sense of wilderness is largely a personal experience as one man's wilderness may be another's roadside picnic ground (Nash, 1982).

This article will attempt to illustrate if wilderness is important in today's "modern" world, to whom it is so and why? We will also take a look at attitudes towards wilderness, and the transgression of change in these attitudes throughout the centuries.

Pre-agricultural times
Several thousand years ago, Britain and Ireland were wilderness sparsely inhabited by man. The arrival of early humans from Continental Europe led this wilderness to slowly disappear as human activities such as settlement formation and forest clearance began. Nowadays, few untouched areas of wilderness exist on these isles. Certainly nothing exists here to the scale of those found in places such as Greenland, Antarctica and Siberia (Carver and Fritz, 2002).

Before the advent of agriculture, it is believed that human hunter-gatherers lived in relative harmony with "mother nature". Yet, even at this early stage, there is evidence to suggest that some human groups had significant negative impacts, for example the extinction of animal species such as the flightless Genyornis (an Ostrich type bird) in Australia (University of Colorado, 1999). This tendency by humans to over hunt continues. The results of

this history of human impact on the environment means "that virtually all parts of the world have ecosystems modified by humans". (Sarre & Blunden; 27).

With the emergence of agriculture, a more systematic change began to take place with the introduction of crop plants and animal husbandry. By this time energy dependency had shifted from domesticated animals to new sources, like wind and water, which were harnessed then to sail ships or irrigate fields. The single biggest change was the destruction of forests and woodlands. Vast areas of woodland in Europe and (later on) North America were felled and cleared to make way for agriculture. This trend continues today, particularly in the Philippines and South America. Deforestation has lead to desertification occurring in certain areas (in particular North Africa) due to the mismanagement of the land (Sarre and Blunden).

The Industrial Revolution

Jumping forward in time, Britain led the way in the Industrial Revolution. During this era of huge change, a massive shift in population settlement patterns from a mainly rural to urban pattern occurred. This trend caused a surge in urban population sizes. Massive pollution of land, air and water occurred as this fossil fuel driven economy continued to grow. The industrial revolution also had "knock-on" effects for agriculture, forestry and fishing as increased mechanical and chemical capability begun to take their toll on wild plants and animals, water supplies and fish stocks.

It is no coincidence that during this time of unprecedented development and exploitation of natural resources, that certain groups or individuals became aware that the natural environment had started to change beyond recognition and was in danger of being damaged or lost altogether. Ideas of conservation began to develop.

Scottish born John Muir is credited with being the "father of modern global conservation" (Vidal, 2001) due to his efforts to keep and retain areas of spectacular natural beauty from decimation and development by humans. During the 19th century several "American romantic visionaries" (Vidal, 2001) began to champion the cause of National Parks in the United States of America e.g. Sequoia, Yellowstone (the world's first) and Yosemite. Critics, however, saw the wilderness concept as a purely elitist European/American construction and cite the massive displacement of some cultures to allow the uninhabited tag.

> "Yellowstone, the world's first (national park) was created only by expelling the resident Shoshone and as many as 300 are believed to have been killed in clashes in 1872 when it was designated."
> (Vidal, 2001)

This calls into question the meaning of the word wilderness, as it implies that in some cases these areas of wilderness are not entirely removed from man's influence.

Today's situation

Nowadays, the need for the conservation and preservation of what remains of wilderness is well documented; although many experts still believe that this "need" is, to a large extent, being ignored both nationally and locally (W.C.S., 2002). One of the many problems afflicting the environment that is in danger of being overlooked is the possible (in some cases imminent) extinction of many species of mammals, flora and fauna around the world. Although legislation is in place in many countries to protect habitats, these rules and regulations are being largely ignored by citizens and governments alike. McDonagh (2001) cites the Irish Wildlife act 1999, which prohibits the cutting of hedges during the breeding and nesting season (April to August). Yet, all too often the main culprits are in fact county council workers. McDonagh also points out that once these species of flora or fauna become extinct, or are driven from a particular habitat, they cannot be brought back, while the eco-system can also collapse. He re-affirms,

> "We need to change radically and develop a new respect for all life before it's too late. There can be no fullness of life on an impoverished planet". (McDonagh, 2001.)

Conclusion

Having traced the role of wilderness through the ages and the changing attitudes towards it, can the question, is wilderness important, be answered? The answer of course lies in the attitude towards the environment that an individual holds. To the vast majority of people who are completely uninformed about the dangers of mistreating the environment, Wilderness is of no major concern. For wilderness, and the environment to become an issue of concern, it is clear that for environmental conservation to become more successful it must expand beyond the boundaries of national parks, as wildlife, ecological processes and human resource uses quite often cross these political borders. It is only when the necessity for conservation occurs at large, that perhaps more rewarding and successful policies of conservation could be put in place. Hopefully it won't be too late by then!

"People around the world expand into Wilderness areas and as we conserve healthy wildlife populations, the needs of people and the needs of wildlife will increasingly clash. Therefore, we must find new and better policies to enable people and wildlife to share the same landscapes". (Wildlife Conservation Society, 2002.)

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Playing Catch UP: Governance, Redevelopment and reimaging in Cities on Europe's Atlantic Arc Periphery.
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Introduction

This article will look at how cities in semi-peripheral Europe have had to adapt their concept of urban regeneration to fit in with new inter-urban competition. The cities chosen are Bilbao, Lisbon and Dublin due to their peripheral locations in relation to the core of Europe. These cities also lie on the newly created Atlantic Arc region of European. The main re-developments that have occurred in these cities have been at sites that were previously ports. These cities, through their regeneration and re-imaging, are creating a new and vibrant image while also keeping their distinct historical identity. Similarities in relation to both their re-imaging and physical re-structuring will be analysed, as well as their governance agencies. It will be shown that these cities are re-developing for the new "cyber-proletariat" of the informational economy and not the indigenous people of these areas.

An economic history: the transformation from Fordism to Post-Fordism.

The economic turmoil of the 1970s saw the collapse of the welfare state in western economies. This was due to many varied reasons stretching from the Organization of the Petroleum Exporting Countries (OPEC) oil crises, to the breakdown of Bretton Woods where the global economy moved to a system of floating exchange rates (Strange 1994). This led to what has been described as a switch form Fordism to Post-Fordism (Schoenberger 1994). A system of niche markets for good and inputs as well as specialisation in production has replaced the traditional economic systems of mass consumption and mass production (Jessop 1996). According to Marxist analysis, the method of Capital accumulation has changed and become more flexible in order to avert crises.

This change in the form of economic production has had a dramatic effect on the labour market with the glut of middle management jobs that had been the basis of the old system of accumulation been eroded due to this new "Informational" economy (Castells, 1996). This means that during the "lean and mean" 1980s, output in firms increased while employment dropped. This economic transformation was due to things like automation of routine activities such as simple low skill manufacturing. This had a negative effect on Ireland during this time period, since Ireland was mainly a branch plant economy during the 1970s and 1980s (Breathnach 1987) meaning that the traditional employment structures of firms changed from being an egg shaped distribution (where the majority of the jobs were in the middle management) to an hourglass configuration (in which the mid management jobs have either been eliminated, or have been pushed down into the lower half of the production chain) (Lipeitz, 1992).

This change in the employment structure has had a drastic effect on how countries run their social welfare policies. Governments have had alter their plans in relation to tax revenue because income levels have changed with the reorganization of labour. As a result, new governments act very cautiously, wanting to see returns, on investments made. This has been seen as the beginning of changes in government- civil society relationships. A Governments traditional role was to provide necessary services for its citizens such as public transport, and health services. However, government is now increasingly acting like the private sector, and consequently is playing the private sectors' game accord to the rules of capitalism. This has resulted in the privatisation of government provided services, e.g. the rail service in Britain.

Post –Fordism and Urban Redevelopment: a Link

Post–Fordism relates to current urban redevelopment in that the redevelopment and re-imaging of cities (such as Bilbao, Lisbon and Dublin) are designed to attract in the new "cyber proletariat" workers of the informational

economy. These cities are now becoming spatially divided in the same manner as the overall globalised macro-economy. The new spaces that are being created are targeted at the people with money. These spaces are exclusionary can be typified by high housing costs and local cultural amenities. This last point is important, as before the areas under go gentrification, they were the location of well-established communities. The existing communities are typically not as affluent as the informational migrants meaning that the indigenous local population becomes relatively undesirable.

Breathnach (1998) has noted that one of the major concerns firms have when setting up in a new site is the importance of having cultural activities in the location. This is illustrated by the fact that both the regeneration schemes in Dublin and Bilbao have placed large emphasis on culture; each city has a distinct history and cultural geography. This history and cultural geography is marketed in creating the new city.

The major factor in all of these various developments was the construction of office space. This urban redeveloped is targeted at growth industries that would bring in these new high worth individuals. An example of these types of business would be producer services (Daniels, 1993). These new office blocks are part of the image building of the city. Through the addition of these buildings, the city can be seen as clean and post-industrial and by default post-modern. This change in emphasis is a result of the changing urban governance of these cities, where the local authorities and/or central government are pushing and marketing the area (McGuirk and MacLaren 2001). Cities have had to adopt this kind of new entrepreneurialism even if they do not want to. Cities that want to run social housing schemes still have to attract in the high value citizens in order even to have a chance to run any social policies of note. Cities are forced to be competitive, otherwise they will loose out since other cities and regions are acting in a competitive manner due to the change in the overall global macro economy.

The targeted workers are highly skilled and the jobs in which they are engaged are highly footloose or mobile. The distance shrinking affects of Information Communication Technology (ICT) has further increased mobility of these jobs. Consequently areas have to be more than just the physical location for these industries, they also have to be a vibrant cultural setting that will set that place apart from other locations.

The cities chosen (Dublin, Bilbao, and Lisbon) illustrate, spatially, the changing effects on communities that the changing economic system of accumulation has. The more economically productive people in the city are replacing the less well off in the city, not only in employment terms, but also spatially. The spaces of the older established communities are being redeveloped and regentrified and sold as a 'place' and lifestyle for the new workers.

Governance
All three redevelopments have had one common development experience: the creation of a privately controlled special development agency, despite the three counties having different planning institutions.

In Lisbon the development agency was called Parque Expo. This agency had the support of all levels of government in Portugal, from the local Municipal as well as the overall Lisbon city council and all the way up Portuguese central government (Cabral and Rato, 1999). It was this agency's job to implement the 1994 development plan that had the follow aims:

> "To regain Lisbon's population and rejuvenate it; to improve accessibility and mobility with the city and its metropolitan area; to improve the environmental and cultural heritage; to modernise Lisbon's economic base and to increase the economic competitiveness of the city; and to increase social opportunities and make Lisbon an attractive city in which to live and work (Alden and da Rosa Pires, 1996: 32).

Traditional ideas about planning, such as using an area's existing resources, have been replaced in this development. Traditionally, planning aimed to develop the existing advantages of an area. In this case, the development agency was more interested in gentrifying the area, which was in line with the perceived needs of the informational workers, not the needs of the indigenous population.

In Bilbao the new development agency was called Riá 2000. This was set up in conjunction with both the Basque regional government as well as the Spanish central government. Riá 2000 was given local planning rights and control and was, to all intensive purposes, a private firm that had control over all public land and resources. Riá 2000 chose three sites; Abandoibarra (which will be analysed below), Amezola and the freight line, which connects the two sites.

The Irish case study looks at the development of two separate redevelopments in the city. The first case study is the development of the Custom House Docks site and its flagship project: the International Financial Services

Centre (IFSC). The development of the IFSC is remarkable since it is the first time that Public Private Partnership was used in relation to the development of a site in Ireland. A quango (the Custom House Docklands Development Authority (CHDDA)) was established in the redevelopment of the IFSC. Central government passed all planning powers that had previously rested with the local authority to this quango. This organisation has subsequently been renamed the Dublin Docklands Development Authority (DDDA) and has had its power extended to cover a much greater area of the inner city (Bartley and Treadwell-Shine, 2000; McGuirk and MacLaran 2001).

The second case study is the redevelopment is that of the Temple Bar. This redevelopment happened a little later, with the passing of the Temple Bar Area Renewal Act and Finance Act. This development had a similar governance structure to that of the Custom house dock site. Temple Bar Properties was set up to manage the site. However, local interest had more say in the development, despite the framework plan being passed with no local consultation (Corcoran, 1998; Montgomery, 1995).

The logic behind the creation of these quango administrations was that they would be able to achieve the goals of economic and physical regeneration better than previously established local authorities. This was due to the organisations not being politically responsible. Each organisation had a mandate, created by the need for new development, and their job was to fill that mandate. The health of the existing communities in those redevelopment sites was not covered in the mandates for the development of the sites; hence it was unimportant.

Physical Redevelopment
The physical redevelopment in each of the three cities was located in their defunct ports. Each site had been home to an established working class community which found itself marginalized both by the economic transformations in the global economy and then spatially marginalized with the reappropriation of their space in the city. This destroyed the community and 'sense of place' that had been established by the indigenous population of that space. First the global economy had taken their jobs now it was taking their space.

The biggest aspect of the urban-regeneration in Lisbon was the adoption and implementation of the Expo 98 scheme. This scheme was located in the Eastern part of Lisbon, adjacent to the to the city's international airport. This site was chosen due to the declining economic usefulness of the port facilities that were in place and because of the 'social malaise' that was found in the area. The area was also characterised by low-income levels, high percentage of derelict land and old housing estates with a corresponding high unemployment level (Cabral and Rato 1999).

This redevelopment was shown to have two aspects. The first aspect was the fast tracked development of the Expo site for the Expo 98 event, which was to go under the theme of " The Oceans, a Heritage for the Future". The second aspect was the urban redevelopment of the area. The first aspect was home to the flagship developments of the site; a covered sports stadium, the Oceanarium, the Pavilion of Portugal, the Oceans Pavilion and the Theatre Luis de Camóes. The second aspect of the development was to have 65 percent of the development as residential, with 25 percent of the area as office space, the remainder was to include shops and other services, while a hospital was also to be included (Cabral and Rato 1999). Evidence that this site was being marketed towards knowledge and service based employment.

This development was concerned with physical and economic regeneration of the area, but not the social regeneration. This is best illustrated by the fact that the authorities in the city used existing re-housing schemes (the PER and URBAN schemes) to move the existing population out of the redevelopment site. This eventually created a gentrified site for the new cyber-proletariat population meaning the urban development was not inclusive, but exclusive.

In Bilbao, a similar development took place. Bilbao had been a traditional port city specialising in heavy industry i.e. shipbuilding. The global shift towards the informational economy placed the city in recession which led to urban decline. This was especially true in the municipalities that were highly dependent on the traditional heavy industry e.g. the Barakaldo municipality suffered from this spatially selective economic change during the 1980s this area lost 75 percent of its old industrial employment (Rodriguez, 2000)

The physical regeneration of the site was targeted towards the high-level skilled workers. The aim was to provide an "area for advanced services, high-income housing, commercial and leisure areas and cultural infrastructures" (Rodriguez et al, 1999). The site was divided up as follows: offices space accounted for 40.8 percent, commercial space accounted for 14 percent, a hotel accounted for 5.9 percent, university infrastructures accounted for 6.8 percent and a residential area accounted for the remaining 32.6 percent (Rodriguez et al, 1999). The flagship of the entire development was the building of the Guggenheim museum in Bilbao.

The breakdown shows that this site has been created as an island for the cyber-proletariat. These people would be very well serviced in this enclosed area. The concentration of office buildings also shows that this site was aimed at high value workers in the informational economy. Again, the existing communities on this site, were excluded by this development. Changes in the global economy meant that these people could not afford housing in what had been their space.

Dublin also witnessed a transformation of a former docklands site. The Custom House Docklands Development Authority redeveloped an 11-acre site in the North East inner city. This site was envisaged to be a complete unit, with a wide variety of land uses. However since the flagship project was based on international financial services, the landscape of this area became almost completely offices. Despite the pledge of mixed land use no social housing was proposed within this development. This site was one of four major sites for which tax breaks were allocated for the building of offices in order to attract a healthy level of private investment into the selected locations meaning the area only had a fraction of the housing that it was supposed to (Moore 1999). The local community had been removed from the developments in the area due to the fact that the new forms of employment created by the developments left the locals structurally unemployed. On top of these developments, closed circuit television was introduced in the new housing areas, a further exclusionary measure (Bartley and Treadwell-Shine, 2000).

Temple Bar was developed as a sister site to the IFSC as the location of cultural facilities (such as the Irish Film Centre, national photographic archive and the Gallery of Photography) for the resident and workers of the IFSC complex. This redevelopment also led to the growth of the local pubs into massive enterprises, Tourism increased greatly in this area as well. The redevelopment of the area can be seen as an economic success, yet not a social success, due to the lack of social housing. As Breathnach (1998) points out, the centre of the city is socially monotonous, with mainly young couple without children residing there.

Re imaging

All three developments mentioned included a large portion of office space for business service employment. These buildings can look very similar to one another. But the imaging of the city was not done with these homogeneous buildings in mind. It was the flagship projects which were highly important, being confluence of international capital and local cultural geographies. They are modern and new, but local images have been placed on them to make these buildings of the community.

In Lisbon the theme for the redevelopment was "The Oceans, a Heritage for the Future". This took a historical fact, Portugal's maritime history, and combining it with the new urban development. The Oceans Pavilion was converted into a science and oceanographic institute, changing and modernising the image of the area. This was an attempt to make this area of Lisbon truly Portuguese, while the real established community with a real history in Lisbon was quietly moved to another location.

The regional and city government of Bilbao wanted it to be an economically successful city, since it is the heartland of the Basque people. The Guggenheim museum has become the focal image of Bilbao, it represents a post-modern, post-industrial city. As it has such distinct design by Frank Geary, it is an easily identifiable landmark. This is despite the fact that as a museum it is nothing more than a location for the pieces that the Guggenheim museum in New York does not have the room to display at particular times (MacNeill 2000). In other words Bilbao's Guggenheim is in terms of its collections is little more than a cultural branch plant when compared to the original (or head office in economic geography terminology) in New York. However, the museum has managed to successfully attracted 1,400,000 tourists since 1994, an accomplishment since Bilbao is considered to be "off the beaten track" of European Tourism. The re-imaging of Bilbao is used to show that the Basque people are among the most advanced and unique in Europe.

The two developments in Dublin are important but for different reasons. The IFSC acts as a symbol of the new informational Ireland. It is a representation of how far the country has come since the adoption of open market policies in the 1950s. The IFSC is tangible proof that Ireland is now a forward thinking, modern European state. At the same time Temple Bar is a reminder that, as a nation, we still know how to have the cráic (albeit in a gentrified and hyper realistic false setting), and are still undeniably Irish.

Conclusion

All three cities (Dublin, Bilbao and Lisbon) used the same techniques in their urban regeneration schemes. All adopted single focus development agencies to develop an image that suits the city, but more importantly, those wishing to invest there. One of the main foci of the development agencies is the development of cultural industries meaning these developments have a very strong cultural component. Temple Bar is Dublin's cultural centre, the Expo site is Lisbon's and the Guggenheim Bilbao Museum is Bilbao's. This type of development is beneficial to the

city physically and economically, but not socially. The jobs that are being created through these developments are in the service sectors and are not in keeping with the local communities, who's skills are more suited to other non-information technical based sectors. It is the high value workers who are valued, as employees and as citizens.

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Can you prove that? The day-to-day relevance of spatial science

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Introduction
Given the myriad new ways in which geographers study the world, it is easy to think that old-fashioned positivism is a thing of the past. And, in a way, it is. These days one can hardly find a geographer who will argue that the so-called scientific method is the only acceptable way to go about studying space and place. However, the fact that geographic enquiry is no longer limited to scientific methodology hardly means that it necessarily should exclude such methodology. In this paper, I argue that spatial science still has a major, though not exclusive, role to play in geographic research. In many cases spatial science serves to buttress and inform the arguments of geographers in other philosophical traditions such as Marxism and feminism (see Sheppard and Barnes, 1990 for Marxism and Hanson et al, 1997 for feminism).[1] More importantly, however, I argue that spatial science occupies a unique position of day-to-day relevance that makes it the geographer's primary means of influencing and ameliorating the governance of our world today.

Definitions
Spatial science is a widely-used but rarely-defined term in geographic literature. Often it is used interchangeably (and, I would argue, sloppily) with the terms positivism and quantitative geography.[2] In this paper, I define spatial science as research containing characteristics of the scientific enterprise. Specifically, these characteristics are 1) developing or referring to a formalised general theory of how some aspect of the world works, 2) testing that theory in a rigorous manner through the use of representative empirical evidence, and 3) drawing general conclusions based on the results of those empirical tests or the development of that general theory (definition based partially on explanations of spatial science in Oppenshaw, 1998; Schaefer, 1953; and Flowerdew 1998). All pieces of spatial science research need not contain all three characteristics. Quite often, studies will contain only the first and third or the second and third. Furthermore, studies need not be completely (or really at all) quantitative. Empirical simply means observational; granted, observational normally equates with quantitative, but it is not a definitional necessity.[3]

One important distinction between my definition of spatial science and the mainstream definition of positivism is that spatial science does not claim any monopoly on truth. Nor does it reject Harraway's (1991) notion of "situated knowledge." Rather, spatial science admits that its perspective is necessarily partial because its models always simplify a complex world in hopes of focussing in on or seeing more clearly one or two aspects of it. It is the responsibility of the scrupulous spatial scientist to recognise and explore the implications of the partiality of his or her findings.

Day-to-day relevance is a term of my own construction. It is related to Pacione's (1999) notion of "useful knowledge," but the differences are significant enough to warrant a new term. For unlike Pacione, and very much unlike Stoddart (1987), I see very little need for running to some self-righteous moral high ground in terms of appropriate subjects for enquiry or methodologies. Specifically then, I define day-to-day relevance as a characteristic possessed by academic work that is designed to spur, deter, or influence the formal action of business, government, or similar institutions in the short term.

While I admit that this definition is a bit vague, quibbling over the details overlooks the purpose of the definition: to set apart research intended to influence policy today. For example, the latest work of Neil Smith on gentrification (1996), though impressive, has very little chance of affecting what the New York City Council does the next time it looks to redevelop an area because New York City Council is a capitalist government institution, and Neil Smith's work is Marxist. His work neither has nor seeks to have anything to say of relevance to a capitalist government – in fact Smith specifically condemns "liberal urban regimes" as incapable of addressing the city's social problems and calls for the formation of militant squatter communes. Clearly then, this work does not posses day-to-day relevance. It is extremely important to note that I intend for day-to-day relevance to be a value-free term. Research that possesses it is in no way better or more useful that research that does not; rather it is simply different in this particular way.

The need for day-to-day relevant research
In demonstrating the day-to-day relevance of spatial science, I first identify the need for day-to-day relevant research. I then define the characteristics endemic to such research and show how spatial science fits into them. Finally I explore the issue of so-called non-scientific quantitative geography, calling into question the idea that it is a day-to-day relevant alternative to spatial science.

While the need for day-to-day relevant research seems a bit self-evident, there are a number of geographers in feminist, Marxist, post-structuralist and other philosophical traditions who would argue that such a need does not exist. In particular, those opposed to the capitalist system generally see day-to-day relevant work as immorally supportive of that system. In the words of Pacione (1999), these critiques "would condemn us to inaction while we reflect on the nature of the issue."

Pacione rebuts that condemnation with the ethics of applied geography. I rebut it by pointing to the state of the world outside the academy. In the world outside the academy, numerous government institutions, public-private partnerships, and non-profit organisations are trying to improve the lot of the socially disadvantaged. For the people in these institutions, socialist revolution and/or radical social restructuring are not on the list of options in the short term, whether they should be or not.[4]

Given that radical measures are infeasible in the short term, it doesn't take much to demonstrate that somewhere in between doing nothing and radically restructuring society, one can help the disadvantaged. Simply walking out onto an urban street and handing food to a hungry person accomplishes it. By extension then, pooling money in an institution that can take advantage of economies of scale could allow one to help more people in a more efficient and effective manner. But as responses to social problems become more and more complex, more and more different methods of carrying them out arise. Clearly, we need some way of determining which methods are more effective and efficient than others. Thus, we need day-to-day relevant research – defined as research relevant to the governments and other organisations referred to previously – to aid us in formulating the best possible ameliorative responses to complex social problems within the current social structure.[5]

The characteristics of day-to-day relevant research
The next important question, then, is what this kind of research should look like. While I am certainly not qualified to present a comprehensive list of characteristics, I propose the following three characteristics that I believe are absolutely essential:

1. Given that policy-makers are real people in real institutions, the solutions offered by day-to-day relevant research must be feasible within the current political system and climate.[6]

2. Given that policy-making is always forward-looking (i.e. policy is formulated today to improve society tomorrow), day-to-day relevant research must emanate from a model with some level of predictive power.

3. Given the level of scrutiny applied to policy-making and the high stakes involved (how many CEO's or city managers screw up and get a second chance?), day-to-day relevant research must be unquestionably rigorous, replicable, and transparent.

4. Given that policy-makers often are unable to test new policies on their own areas of influence, models and evidence used to support new policies must be generalisable enough still to apply to their areas.

Please note that I reject Pacione's (1999) claim that all of the research that fits into the category of day-to-day relevance (or, useful knowledge, in his terminology) should be applied research because, as Schaefer (1953) pointed out long ago, "there is no such thing as a methodological distinction between pure and applied science. There is only science and science applied." All empirical research, including day-to-day relevant research, must emanate from some theoretical explanation; furthermore, well-formulated theory is particularly helpful in cases where empirical testing is impossible due to data (or any other) limitations.

The day-to-day relevance of spatial science (and the lack thereof of other traditions)

As should be clear, spatial science fits well with all four of these criteria. While I would never argue that all spatial science studies point toward the adoption of politically feasible measures, thus fulfilling the first criterion, spatial science research, unlike research in many other philosophical traditions, is capable of doing so. This criterion is where stucturalist research falls away because, by focussing on underlying and entrenched social structures, structuralists disallow themselves from recommending anything but comprehensive social upheaval. As noted earlier, many structuralists, like Neil Smith (1996), explicitly reject solutions that fit within the current social structure. Spatial scientists, on the other hand, can focus on the minutia of the capitalist system and, therefore, can propose measures that tweak the system rather than overhaul it.

Looking now at the second and fourth criteria, scientific models are nothing if not predictive and generalisable. As Schaeffer (1953) states, the purpose of spatial science (which he calls "systematic geography") is the discovery of general laws that can be "utilized to 'explain' situations not yet considered." In other words, generalisability and predictive power are the central concerns of spatial science. And it is these two criteria that humanistic and post-modern geography fail to fulfil. Humanistic geography, in particular, neither is nor endeavours to be generalisable. By emphasising agency in the structure-agency debate, humanistic geographers often examine individual subjects without serious study or consideration of the underlying forces or structures that shape them, drawing heavy criticism from spatial scientists, Marxists, and feminists (Rose 1993). As such, they have little to say in terms of how governments or other institutions should alter or improve those structures that affect all humans in generalisable ways.[7] Post-modernism, though it is, as Dear (1988) notes, virtually impossible to define, carries the problem that it eschews the possibility of prediction. As Dear (1988) states, "the essence of [post-modern] science is *interpretation*" (author's emphasis). Because post-modernist geography seeks to interpret space and place, rejecting the notion of that causality can ever be determined, it also then rejects the possibility of reliable prediction, keeping it from attaining day-to-day relevance.

Finally, spatial science emphasises methodological rigor, replicability, and transparency, fulfilling the third criterion of day-to-day relevance. As Schaeffer (1953) and Garrison (1956) argue, it is exactly these emphases that allow one spatial scientist to point to general laws that can be tested and refined by another; it is exactly these emphases that make spatial science, in Garrison's words, "universal." And it is because of this criterion that post-structural geographers cannot produce day-to-day relevant research within their philosophical tradition. With its emphasis on discursive analysis and reading social life as text (good explanation in the introduction of Barnes and Duncan, 1992), post-structural analysis simply leaves too much room for methodological question. For example, though Wylie's (2000) study of Shakespeare's *The Tempest* seems methodologically sound on its surface, investigating his analysis of the discourse surrounding the play to determine if he left out or grossly misinterpreted anything would take a great deal of research and no small amount of luck. Reconstructing discourses to examine the soundness methodology to the degree that policy-makers require is both intrinsically problematic, as Philip (1998) notes, because it requires making a value judgement of someone else's interpretation, and extremely impractical.

The issue of "non-scientific" quantitative geography

Because of the rise of so-called non-scientific or postpositivist quantitative geography, it is worth briefly exploring whether or not these philosophical/methodological approaches really form some sort of day-to-day relevant alternative to traditional spatial science.

Non-scientific quantitative geography, championed by Eric Sheppard (2001), is, by his own admission, largely undeveloped, and the techniques that Sheppard does present as developed examples are not really as non-scientific as he intimates. He states that various ideas in mathematical theory "show that mathematics need not be Cartesian, and thus not positivist." While this statement is logically sound, it depends on an extremely restrictive definition of positivism that in no way includes the totality of spatial science as I've defined it. For example, Sheppard's definition depends on the positivist touting the ontology that causes are separate from effects in any given system. While I grant that the spatial scientist often assumes that causes and effects are separate to simplify a complex world into an investigable model, the spatial scientist is not bound to do so. Furthermore, any responsible spatial scientist will recognise this simplification and try to discern and explain the limitations it puts on the explanatory power of the model. I cannot imagine a scrupulous spatial scientist actually being committed to the ontology of separate causes and effects in the ironclad way that Sheppard intimates. So essentially, Sheppard ends up proving, not that non-scientific quantitative geography is possible, but that scientific quantitative geography need not be Cartesian or strictly logical positivist.

It is also worth noting that so-called exploratory data analysis techniques (Sheppard 2001; Sibley 1998; Oppenshaw 1998) fit within the realm of spatial science. Though they depart from the norm of the traditional scientific method in the social sciences, they still involve testing a theory empirically, even if the theory is developed after the evidence is analysed. This retrospective theorising has been a hallmark of natural science for generations. From the development of penicillin to quinine to x-rays, natural science is full of examples of researchers stumbling upon the empirical evidence that points to a theory and then using that evidence to develop the theory. It's still science because it still involves using rigorous, representative empirical evidence to determine and demonstrate the soundness of theory.

Conclusion

I admit that spatial science is easy to criticise. It's easy to criticise because, in the name of maintaining day-to-day relevance, it is forced to simply a complex world into simple models, models that at best reflect a sliver of reality and distort the rest. But the idea that spatial scientific models, as Barnes (1998) and others argue, are rendered meaningless by the conditions in which they and their methodologies were constructed is utterly absurd. As Hepple (1998) notes, Barnes and others tend to overstate the extent to which mathematical analysis was constrained by its roots (addressed as early as Garrison, 1956); further, they assume that there have not been any advances in mathematical analysis since the middle of the 20th century, a fact ferociously refuted by Sheppard (2001). Yes, spatial scientific analysis is, by its own admission, flawed; it is flawed like every other philosophical approach to geography. But as I've demonstrated in this essay, the world needs day-to-day relevant research, and spatial science – unlike structuralist, humanistic, post-modern, and post-structuralist geography – is in a position to provide it. Through its admittedly partial but relevant accounts of the world, spatial science can help those in positions of influence – be they corporate CEO's, heads of state, town councillors, or leaders of grassroots charities – make the world a better place now.

Endnotes

[1] One of the most telling examples of other traditions using scientific research is found in the Women and Geography Study Group's *Feminist Geographies* (1997). Specifically, the authors cite a study in which the researchers did a scientific experiment on a sample of markers to see if they consistently marked papers differently for men and women. Through the use of the scientific method, the researchers exposed the discrimination involved in that process.

[2] Positivism, as Flowerdew (1998) notes, has become somewhat of a derogatory term in modern geography primarily because of its close association with Comte's restrictive logical positivism. Unlike Flowerdew, I find it more useful to redefine spatial science as a term distinct from positivism than to try to combat the mainstream (flawed) definition of positivism. It is also important to realise the difference between spatial science and applied geography as defined by Pacione (1999). Unlike in applied geography, there is room in spatial science for purely theoretical work, which will later be tested empirically.

[3] The field of biology, in particular, has benefited from empirical, non-quantitative enquiry into the anatomy of the world's various organisms.

[4] I am aware of Gibson-Graham's (1996) commentary on the illusory quality of the solidity of capitalism, and I simply respond that while capitalism may be unstable in the long term, I doubt that it's going to fall away anytime soon. As any poststructuralist should admit, it takes a long time and many, many texts to rewrite a discourse as entrenched as that which creates the illusion of capitalism's solidity.

[5] Once again, I'd like to emphasise that nothing in this argument should be construed to disparage research in other philosophical traditions that seeks the "best" way of improving the lot of the disadvantaged by considering more distant solutions such as the radical restructuring of society. Clearly, their insights can help us move society in the right direction in the long term. In the meantime, I hope those researchers can recognise the potential of spatial science to help people now.

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[6] I intend for this criterion to be interpreted loosely because political feasibility is so difficult to measure. In poststructuralist terms, day-to-day relevant research must fit within the existing discourse of policy formation; it can (and should) rewrite and push that discourse to some extent, but it can't be so far off the mark that it is never considered.
[7] Please note here that altering structures in this context can refer either to major social restructuring or minor policy changes.

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Excerpts from The Digital Divide in the EU National Policies and Access to ICTs in the Member States
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The meeting of the European Council in Lisbon, March 2000, marked a new departure by European heads of state in that they set out their vision that Europe would become "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" (European Commission, 2001b) was to be reached within a ten-year period. The adaptation of education and training systems to meet this challenge is viewed as being a vital element in the reaching of this goal, and thus was placed at the top of the political agenda. The eEurope action plan (eEurope, 2000a) placed much importance on technology supported learning (elearning) as the use of information and communication technologies (ICTs) within education could be used as a catalyst for change through providing an opening for increased effectiveness, convenience, diversity and quality.

Rapid advances in ICTs have resulted in new and faster ways of storing, handling, distributing and accessing information. With the subsequent substantial reductions in their cost resulting in their being more widely accessible, these new technologies can dramatically increase access to information and communications, which can break barriers to knowledge and participation (UNDP, 2001). A result of these advancements has been the evolution of utopian scenarios focusing exclusively on the positive elements of the emergence of an information revolution, age or society. Casting a shadow over this is the realisation that ICTs are spatially biased, tend to underpin new and old geographic divisions and hierarchies, and can contribute to new patterns of homogenisation and differentiation (Robins and Gillespie, 1992).

This 'digital divide' can be 'between individuals, households, businesses and geographic areas at different socio-economic levels with regard to both their opportunities' *and ability* 'to access ICTs and to their use of the Internet for a wide variety of activities' (OECD, 2001a). Spatial disparities in the availability of high-speed connections are also shaping the divide as those unable to tap into the full capabilities of the internet, at a adequate speed, are also

at a disadvantage. This study is a comparative analysis of each of the fifteen EU member states with respect to differential access to ICTs and quality of connections, both generally and within the education systems, and the various national policies for implementing the Information Society.

The analysis of each country began by outlining each countries socio-economic background then investigated access to a number of technologies such as the number of PCs and internet connections both generally and within the education systems. Other indicators, were examined including the numbers of public internet access points (PIAPs), the number of technology and science graduates, and the amount of European Computer Driving Licence (ECDL) skill cards which were issued. The ICT policy context was also investigated for each country. These include the regulation of the telecommunications market, the provision of technology to the education system and the implementation of information society initiatives. The report takes all of these considerations into account to perform a comparative analysis of the EU member states.

Policy Contexts
One overriding commonality among all of the EU member states is their realisation that involvement in the emerging information society is of vital importance. All of the states invested huge amounts of money into all sectors and areas of society, at both a national and local level, with the aim of diffusing access and information and to develop individual and workforce skills. Without exception, they all identified the development of the education system as a key factor for, and vital driving force behind, this development. Policies have provided schools with low cost, subsidised, and in some cases, free access and equipment to enhance diffusion and raise the human capital of each country. It is important to note at this point that there is a definite connection between levels of income, education and ICT adoption/use. At the same level of income higher levels of education will result in higher rates of ICT adoption (OECD, 2001b). Thus, the attention education systems are receiving from information society policies is definitely warranted. Public institutions such as libraries, post offices, government facilities etc. have all been targeted by policies as these offer cheap, if not free, access which in turn will develop skills and familiarity. Underprivileged groups such as the elderly, disabled, those living in rural areas or in poverty have all been the focus of policies to improve access. Many policies have been put in place to encourage small businesses to adopt ICTs.

With this in mind the disparities in access to, and use of, ICTs might seem puzzling. The level of telecommunications deregulation partly explains this but does not go far enough. If all of the states are actively pursuing the development of their information societies, how can there be such great disparities present? After the levels of telecommunications regulation are considered, the reasons are twofold. The first is how long ago they began implementing initiatives to address the problem. This, while being of huge importance and significance, does not go far enough in explaining the disparities. The final reason is their socio-economic background.

Emerging Pattern
A very general pattern becomes quite apparent throughout the comparisons of both access to technology and the various policy contexts within the member states. All of the states have been actively pursuing the development of their information societies and deregulation of telecommunications markets. There is a definite correlation between the time of initiative implementation, level of deregulation, socio-economic background, and the extent of access to technologies, with a few exceptions. The pattern is going to be investigated with a three-way split of the EU member states in mind. This split is made up of three groups of five, the first being most advanced in terms of access to technology, while the bottom five are the poorer performers. The remaining five, though the order in which they appear varies, tend to remain among the middle third.

The countries which fall into the first grouping, being the first to have begun implementing initiatives, with the exception of France and Belgium, all fall within the top third of states with regard to levels of access to technology. Luxembourg also falls within this top third for all of the access to technology indicators despite being placed within the second grouping of initiative implementation. These countries also seem to have the most cutting-edge telecommunications policies such as the state provision of broadband connections to all homes in Sweden.

France joins the countries in the second grouping namely Austria, Germany, and the UK to make up the countries that generally fall within the second third in relation to access to technology. An exception to this is that Italy tends to be within this middle third despite implementing initiatives at a later stage. Belgium, which was among the first of the states to begin implementing initiatives, surprisingly joins the poor performers with regard to use of and access to technology. The other four, Greece, Spain, Portugal and Ireland, are the countries with the least favourable socio-economic background and thus less infrastructural development. They also were the late adopters of initiatives. These consistently fall within the bottom five for most of the indicators.

The Digital Divide
At a quite general level, the digital divide in the EU follows a similar pattern to the situation elsewhere in the world. There is a division between those who speak English and those who don't. This is a result of the fact that the dominant language of the internet is English. Despite policies being implemented to promote the use of the native tongue, 'Culture Net Sweden' for example, in many countries, the fact remains that the level of the population which have the ability to speak English will, to some extent, effect the potential for participation in the information society. Another division exists, a gender divide. Throughout all of the European countries analysed there was a higher percentage of men using the internet than women.

Urban homes and regions are more connected and have higher quality of connections than rural ones (OECD, 2001b). Thus, if a country has a higher percentage of their population living in urban areas, there will be a greater number of its population with access to higher quality ICTs. Despite having a larger population living in rural areas, Finland rates highly for most of the access to technology indicators (a result of the impact of policies and socio-economic background) while Spain ranks poorly for these despite having a roughly average number of urban residents. As a result, this could not be viewed as a major indicator of how countries rank in terms of the European information society but does illustrate a type of divide within the EU.

From the analysis of differential access to technology, varying policy contexts and the patterns that emerge, there is overwhelming evidence of the presence of a digital divide between the countries of the European Union. This divide is present as some countries, on average, perform better than others in the provision of ICTs, and ICT related services. There is a variance in how well each of the countries perform over all of the indicators as they may rank higher in some areas but poorly in others. For example Belgium ranks quite highly in terms of the number of PCs per one hundred inhabitants (39) but is among the bottom four countries for the percentage of population with internet access (14%). Similarly, Germany has a reasonably high percentage of its population (20%) having access to the internet but is placed among the bottom four nations where pupils per PC both with (40%) and without (20%) internet connections are concerned. Due to the fact that the majority of states can shift between performing well and quite badly, but on average rank within the same five countries, it will be suggested at this point that there are varying degrees of a digital divide within the EU.

The first form it takes is a division that separates the EU member states into three groups. This division is as follows:

Leaders	*Intermediates*	*Laggards*
Sweden	Austria	Ireland
Finland	Germany	Italy
Denmark	France	Spain
The Netherlands	UK	Portugal
Luxembourg	Belgium	Greece

The reason for this division is based around the fact that, on average, these countries fall within the same third in terms of access to ICTs. The 'leaders' group generally remains as is but there are exceptions. For example, Sweden falls into the 'intermediates' for the percentage of mobile phone subscriptions (71.9%) as does Finland (72.1%), while the Netherlands does for PCs per one hundred inhabitants (35). The same applies for the 'laggards' group as Italy moves into the 'intermediates' for the percentage of population with internet access (16%) as does Ireland for the number of pupils per PC (9) and per PCs connected to the internet (18%). Despite the few movements which occur, the countries, as a result of their performance in other areas of access to technology, remain within these groupings thus there is a tripartite division. The fact that it is only the majority of these countries that can and do move forms the basis for the second type of division.

The other division is especially worrying, as it is much more definite and seems almost permanently defined. It is the 'North-South' divide. This division is a result of the fact that in relation to the numbers of PCs, internet access, the numbers of pupils per computer and access to broadband services, Portugal, Spain and Greece remain in the 'laggards' grouping without exception. These three countries do rank quite highly in terms of the percentage of the population with access to the internet at university. This will be touched upon below but at this point it will be argued that this is not a sufficiently important indicator to counteract this division. It is the combination of the fact that for any of the major indicators they do not move out of the 'laggards' grouping at all and the extent to which they are behind the 'leaders' that makes this division immensely more worrying than the tripartite division.

In terms of PCs per one hundred inhabitants, Greece (11), Spain (15) and Portugal (22) are far out shadowed by the leading countries. The leaders have multiples of this figure. Denmark has sixty-one computers per one hundred inhabitants while Luxembourg has fifty-two and Sweden has fifty-one. There are similar differences between the figures for the numbers of PCs per student off-line. While Sweden, Finland and Denmark all have over forty

percent of their population having access to the internet, Spain, Portugal and Greece all have less than eleven percent. The availability of broadband connections for both schools and homes within these countries, as illustrated in the 'other indicators of access to technology' section above, is a fraction of what the figure is elsewhere.

The reasons for these vast differences in access to technology between the southernmost countries in the EU and the other nations were outlined above. These countries were late starters in terms of when they actually began implementing their initiatives. They are also not developing their telecommunications infrastructure as rapidly as the nations that are constantly being placed above them in terms of ICT use and availability. Most importantly, and probably a source of hope to them, is the fact that they did not have the same privileged socio-economic background which was vital in the rapid development of the other nations information societies. Thus, it is likely that, over time, they will catch up to the levels some of the other countries are at now. However, will the other countries have developed even further by then and, though by today's standards Greece, Portugal, and Spain would be well developed, will they be considered to be lacking in future? Perhaps new actions should be taken and new policies developed to prevent this happening.

Impact of Government Policies
One fact that has become blatantly obvious throughout the analysis done is that government policies have a huge impact on the performance of nations in the European information society. The nations which led the way, and generally tend to remain in the lead, are those which have been experiencing very proactive governmental policies from an early stage. The success of these policies seems to have had a knock-on effect, as other nations followed suit in later years. The adoption of policies, and the positive effects which resulted, laid the foundations for the realisation, by heads of state, that Europe has the ability to become "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion"(European Commission, 2001b).

At a national level, these governmental policies have provided the opportunity of quite substantial development to nations which were, and had been for some time, lagging behind. For example, despite being a very poor performer in terms of access to the internet and percentage of PCs available to the population, Ireland is placed among the top half of EU member states in areas closely connected to policies. Ireland had nine students per PC in 2000. This is only two off the leading three nations, namely Luxembourg (3), Denmark (3) and Finland (6). The states, which Ireland tends to place alongside, have almost twice this number in some instances and much more in others. In relation to PIAPs Ireland, again, brakes the trend as it is placed second only to Finland, which is an amazing result by any standards. Ireland also has the fourth highest number of graduates in Science and technology as a percentage of twenty to twenty-four year olds. As Ireland is among the late starters, has one of the least developed telecommunications infrastructures in the EU, and with the exception of these examples, consistently falls into the 'laggards' grouping, a key reason for performing well in these areas must be the government policies implemented.

Despite their worrying performance in relation to the major indicators, Spain, Portugal and Greece are benefiting from government policies. These policies are ensuring these nations a position in the information society albeit a low one. The fact remains that, without these policies, these countries could not be rated as information societies at any level. Evidence of this is that Greece (55%), Spain (63%) and Portugal (71%) are all above the EU average (51%) for the growth of internet users between 1998 and 1999 (ESIS, 2000a). The fact that these countries, despite their poorer information infrastructures, later implementation of policies, and socio-economic disadvantage, have a high level of internet access at universities stands as testament to the effectiveness of governmental policies.

Policies to address the social exclusion of underprivileged groups have been numerous throughout the member states. It would be difficult to quantify these but, at any level, measures to include marginalised citizens are of huge significance and importance. Policies have also been used, with great effectiveness, in combating demographic problems such as having a reasonably large rural population, which became evident in the analysis of the urban/rural ratio. Finland, despite having a larger number of rural dwellers then the other leading nations, which should result in lower numbers of access to high quality ICTs, has remained an information society leader.

The various policies implemented help to push the leading nations' development as information societies/economies even further. They also assist in the steady development of the majority of the other nations, while presenting the opportunity for the much underdeveloped nations to foster a progressive environment from a stagnant one. Despite this, shortcomings are evident in that divides still exist. However, the situation would be much direr without the measures already taken.

Implications for eLearning

As elearning is heavily reliant on internet connections and multimedia equipment, the implication of differential access to these are great. Regardless of there being a demand or need for elearning within the states, if the basic requirements are not available they simply could not develop at a rate in line with these demands or needs. The fact that some countries have higher levels of services is resulting in the digital divide encompassing education systems in addition to the other sectors and areas of society. Therefore, the provision of these services is of vital importance. This has been realised by the governments in various jurisdictions as policies and initiatives are being shaped with this in mind. Some countries will always lead in this area but it will be suggested at this point that there is a need to assist in the speeding up of the rate in which the laggards are progressing. If this is not done, these countries, though developing at a reasonable rate, will always be overshadowed by the leading nations and thus the division will remain.

Also of great importance is the level at which the telecommunications infrastructures are at. The speed of internet connections is becoming of increasing importance. As the analysis above illustrated, there are large variances in the level of high-speed connections between the states. While the provision of connections is vital, the type of connections is also important. Despite the availability of internet connections or the numbers using the internet for learning, if some countries have much faster connections they will, again, be at an advantage over the nations who do not. Finally, the importance of the provision of PIAPs to the public could not be overemphasised. While the more developed countries, with the exception of Ireland, tend to provide a greater number of these, it is the less developed states that would benefit the most from them. This is because of the fact that there are not as many internet connections/PCs within homes in these countries and if the demand for elearning and distance learning develops at least the public can take part in these services. This will also help the 'laggard' states catch up even further as, again illustrated by the Irish experience, the level of their human capital will increase greatly as a result.

Summary/Conclusions

Europe exhibits similar divisions to those evident elsewhere. There is a divide evident as a result of the level of EU citizens able to speak English. This is because English is the dominant language of the internet and a lack of ability to speak it will result in a form of marginalisation. A gender divide is also present. Throughout the member states, there is a dominance of males using the internet. With only a couple of exceptions, there is another divide resulting from the proportion of people living in urban areas. In most cases, as would be expected, the countries with the larger number of people in urban areas tend to have higher levels of access to higher quality ICTs. These divisions coincide with ones resulting from differing levels of income and quality of housing etc. An in depth study of these is beyond the scope of this paper but, as was mentioned above, the fact that they are closely connected to levels of ICT use and education has the result of a general picture of the situation has been provided.

Through analysing access to technology issues, it becomes apparent that there are disparities between the member states of the EU. These disparities follow a general trend with only a few exceptions. Generally, the same countries perform exceptionally well throughout all of the indicators. Similarly, the countries at the other end of the information society rating tend to stay there leaving the remainder to make up the middle ground. There is a definite correlation evident between the performance of these states as information societies, the timing of when they first implement initiatives, the level their telecommunications infrastructure is at, and their socio-economic background. On average, the same states perform roughly as well throughout all of the indicators. A result of this is those two types of divide becoming evident. The first of these divides is a division of the member states into three. The first group, the 'leaders' includes Sweden, Finland, Denmark, the Netherlands and Luxembourg. The second, the 'intermediates', consists of Austria, Germany, France, the UK and Belgium. Finally the 'laggard' group contains Ireland, Italy, Spain, Portugal and Greece.

As in some instances a number of the states can, and do, move between these groupings for a small number of the indicators the presence of another type of divide becomes apparent. This divide manifests itself as the three countries on one side of it, Greece, Portugal and Spain tend not to move out of the bottom five member states for the more important indicators investigated and are substantially far behind in their levels of ICT access and use. Thus, it is a more serious divide, which should be given increased attention. True, these countries are late starters and have to develop much to reach the levels the other states are at now but could the goal posts shift as the average level of ICT adoption and use within the EU rises. These countries could always remain in the bottom five states. A change in both national and EU policies is needed to increase the speed in which they are developing and thus assist in their catching up with the other states.

At a national level, they could put more focus on some areas and through this open a gateway to catching up with other states at least in these areas. An example of how this can be done is evident in the Irish situation in relation to education. Portugal, and to a lesser extent, Spain and Greece have been focussing on education but more effort is required. At an EU level policies should go much further in assisting these nations as their lagging behind does

not aid Europe in meeting its goal of becoming the leading knowledge-based society/economy in the world. The effectiveness of government policies in addressing the development of their information societies has become quite clear throughout this study. The early starters became world leaders and set an example for other European nations, while the late starters and the countries with a lower level of telecommunications infrastructure were not completely left behind as a result of the government policies put into action.

The effect of successful telecommunications deregulation on reducing prices, improving infrastructures, and dispersing ICTs has to be looked to as a way to further assist the laggards in catching up. This has to be done with more emphasis being placed on the importance of international/European intervention as opposed to individual member state policies. If an active approach was taken, at a European level, to assist the laggards the 'north/south' divide could be significantly reduced. The importance of next generation communications such as digital TV and third generation mobile telephones can not be underestimated. Rapid developments in these areas for the laggards could result in a limitation of how far behind they are behind. Increased assisted development of next generation communications from the EU, alongside the existing telecommunications progress within the lagging countries, would result in the possibility of remaining behind, as leading states develop further, being significantly reduced.

Finally, the development of elearning and distance education throughout the EU will be greatly effected by the divisions mentioned above. An unequal provision of access to the internet and multimedia equipment will result in varying levels the uptake of elearning and distance education regardless of the demand for them. Further to this, even if there is a similar number of connections and hardware/software, the quality of these is of huge importance. This is because, even though it would not be as serious, a new division would appear - a division between states with high-speed connections and cutting edge multimedia equipment and those without.

Education is the key to an inclusive information society, as it assists in the dispersal of, and confidence in, ICTs while increasing the human capital of a state, which facilitates further development. As the level of education increases, so will the rate of ICT use regardless of the level of income or social standing of citizens. As distance, lifelong and elearning appear to be the future of learning in Europe, actively promoting their use is of vital importance. The reduction of the digital divide in the EU can be successfully addressed within a shorter timeframe through the development of telecommunications infrastructures, the promotion of PIAPs, and the various information society type initiatives put in place. However, all of these developments are useless if the more long-term solution, the incorporation of ICTs into education systems, does not take priority. Education, coinciding with telecommunications provision development, provides the most definite solution to the digital divide within the EU. How this development can be accelerated is the key to reducing the divide sooner rather than later.

Full report available on the Oscail web site: www.oscail.ie/picture.htm

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Farewell