

**Anglo-American Press Coverage of Therapeutic Cloning:  
A Grounded Discourse Analysis of News Production and Content**

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## **Abstract**

This study examines the production and content of press coverage of therapeutic cloning in the US and Britain from 1997 to 2006. The sample includes 5,185 articles drawn from 19 news publications, as well as 18 qualitative interviews with journalists and editors. Data analysis was conducted in two phases, using both grounded methodology and sociological discourse analysis. The results coalesced around three main themes: Hype, Nationalism and Sources. In the case of hype, its valence and relative distribution was found to differ substantially across the US, UK tabloid and UK broadsheet samples. The elite press in the UK and science advocacy publications in both countries evinced a strong bias towards utopian framing, hyping the imminence and certainty of forthcoming therapeutic cloning cures. Meanwhile, a dualistic pattern of both utopianism and equally excessive dystopianism was visible in the American press and British tabloid newspapers. In addition to utopian/dystopian hype, competitive framing and banal nationalism (Billig 1995) was shown to be influential both in the backstage news judgments of journalists and editors, and in front stage press content. The third results chapter investigates the process of source selection. In keeping with previous research (e.g. Conrad 1999), scientists were found to represent the most important and extensively cited category of journalistic sources. Also significant were subpolitical activists, aligned on either side of this issue as semi-routine journalistic sources. Most notably, patients and anti-abortion groups supplied journalists with sympathetic ‘human interest’ narratives and sensational criticism of embryo research, respectively. Finally, the discussion chapter considers the struggle between market imperatives and professional ideals embodied in the practice of science journalism. Emerging from this struggle are several limitations inherent in the press’s role as a major forum for publics engaging with science.

## **Preface**

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration.

The first seeds of the analysis of part of the elite UK sample were cultivated in a much more rudimentary version presented in my MPhil Dissertation, submitted and accepted in 2004 in the Faculty of Social and Political Sciences, University of Cambridge. However, this analysis has been completely re-written in the present dissertation, which is an entirely new and original work.

This dissertation is less than 80,000 words, excluding bibliography.

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# **Anglo-American Press Coverage of Therapeutic Cloning: A Grounded Discourse Analysis of News Production and Content**

## **CHAPTER 1:**

### **INTRODUCTION AND LITERATURE REVIEW**

Despite increasing reflexive questioning of expert systems and rising public ambivalence towards scientific development (e.g. Beck 1992; Giddens 1991; Giddens 1994), the institutions of science still retain much of their historical authority and influence. Science disproportionately serves extant economic, political, and institutional interests, while new consumer and medical technologies help to sustain its generally positive public image (e.g. Toumey 1996: 17). However, some aspects of techno-scientific development have sparked controversy, prompting intensive media coverage and ‘biogovernmental’ action (Gerlach and Hamilton 2005). Such scientific controversies “combine moral argument with extensive use of scientific expertise” (Nelkin 1992: xviii). No scientific issue has been more ‘controversial’ in this sense at the global level than human cloning (Einsiedel et al. 2002). The agonistic struggle over the government’s supervisory role in devising “interventions and regulatory controls” over biomedical research can be viewed as part of the “bio-politics of the population” identified by Michel Foucault (1991/1978: 262). Today, bio-politics is equally constructed by state ‘bio-power’ (Foucault 1991/1978: 265) and mass media coverage. Indeed the issue of human cloning has been the subject of an ongoing bio-political struggle taking place in news media over the technology’s averred therapeutic potential. In this debate, the ‘lives’ of early human embryos destroyed by the research are weighed against the hope that it will end the suffering of patients with debilitating illnesses.

While ‘reproductive’ human cloning (cloning for live birth) has been overwhelmingly opposed by governments and publics around the world, ‘therapeutic’ cloning has found a significantly more positive public reception according to both British and American public opinion polls (Evans 2002a; Nisbet 2004). Although therapeutic cloning has been highly controversial in the US, it remains legal and has been allocated research funding by a number of individual states with the enthusiastic support of patient groups, scientists and the biotechnology industry. Backed by similar stakeholders, the UK government embraced this technology as a harbinger of hope for patients and the promotion of scientific progress. These biogovernmental outcomes are inextricably intertwined with the communication of this bio-political issue through the mass media. In order to assess this mediation, the present study

examines the production ( $n = 18$ ) and content ( $n = 5,185$ ) of press coverage of therapeutic cloning in the leading scientific nations of the US and Britain from 1997 to 2006. Both the minutiae of journalistic practice and larger sociological transformations are considered in order to identify key themes within this coverage.

Also known as ‘medical cloning’, ‘embryo cloning’, or ‘embryonic stem cell research’, therapeutic cloning represents the fusion of two recently developed lines of biomedical research. It combines the somatic cell nuclear transfer (SCNT) technology that created Dolly the sheep in 1996 (Wilmut et al. 1997) with techniques for deriving embryonic stem cells first published in 1998 (Thomson et al. 1998). Together it was hoped that these technologies could be used to create human embryos genetically identical to adult patients for use in stem cell treatments. This tissue would be used to avoid immune system rejection. However human embryos would be destroyed in this process, a fact which has fuelled expressions of moral opposition by anti-abortion activists and some religious leaders. Moreover conservative<sup>1</sup> bioethicists such as Leon Kass<sup>2</sup> (2000) and Francis Fukuyama (2002), criticised therapeutic cloning as an instantiation of modern biomedicine’s hubristic quest for immortality. They argue that this quest portends myriad long-term negative consequences for nearly all aspects of life, from gender and family relations to the very essence of human nature (also see Habermas 2003).

Just as therapeutic cloning represents the convergence of mammalian cloning and human embryo research, this hybrid concept also united the ethical concerns from both these scientific fields. Since 1998 therapeutic cloning has occupied a substantial symbolic space each year within science news and Anglo-American politics (Nerlich and Clarke 2003: 44). It reignited an international debate over the ethical and social implications of allowing the creation and destruction of early human embryos for medical research, a debate which had remained largely dormant in the UK since 1990 (Mulkay 1995c; Mulkay 1997). In the 2004 US Presidential campaign, the issue of therapeutic cloning research received a remarkable level of attention. The keynote address at the Democratic National Convention<sup>3</sup> and numerous mentions by narrowly defeated presidential candidate John Kerry, served to raise the profile of therapeutic cloning on the media and political agenda. The high level

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<sup>1</sup> ‘Conservative’ here refers to both a politically and cultural conservative ideology and the concomitant tendency to resist changes to the structure of the lifeworld by appealing to an idealised past.

<sup>2</sup> In addition to being a noted moral philosopher and bioethicist in his own right, Kass advised President Bush on bioethics and chaired the Presidential Bioethics Advisory Commission from its inception.

<sup>3</sup> This speech received a high level of media attention because it was delivered by conservative US President Ronald Reagan’s son Ron Reagan.

politicisation of this issue in the US is indicated by the following *Economist*<sup>4</sup> headline: “The two main presidential candidates go head-to-head over the Petri dish” (Anonymous 2004).

Although the focus of this study is *therapeutic* cloning as it has been constructed in the Anglo-American press, broader notions of human cloning from *Brave New World* to Dolly the sheep and beyond are indelibly imprinted on the debate as part of the archaeological underpinnings of therapeutic cloning discourse (see Foucault 2003). Indeed, the genealogy<sup>5</sup> of therapeutic cloning has developed over the course of the 20<sup>th</sup> century along intersecting ancestral lines from the biological sciences and the cultural industries. First, the science of therapeutic cloning is based upon the same SCNT technique as reproductive cloning, a technology which dates back at least to the late 19<sup>th</sup> century<sup>6</sup>. Second, the social construction of therapeutic cloning cannot be separated from the long and storied history of the concept of ‘cloning’ in Western culture, a history most enduringly defined by Aldous Huxley’s seminal text *Brave New World* (Haran 2007; Jensen *in press-a*; Nelkin and Lindee 2001; Nerlich, Clarke and Dingwall 1999; Nerlich, Clarke and Dingwall 2000; Nerlich, Clarke and Dingwall 2001; Weasel and Jensen 2005).

This chapter first addresses the contested concept of therapeutic cloning. It then traces the dual scientific and cultural genealogies of therapeutic cloning through a brief historical sketch and assessment of the Anglo-American political context vis-à-vis cloning and techno-scientific development. Next, relevant literature is reviewed on public engagement with science, risk society, public sphere and media theory, as well as previous studies on science news and human cloning in the media.

### **Defining ‘Therapeutic Cloning’: The Semantic Struggle**

The first documented use of the term ‘cloning’ was in the context of asexual plant reproduction<sup>7</sup> (Webber 1903). However, since that time the concept of cloning has undergone substantial semantic and cultural transformations (e.g. Haran 2007; Nerlich, Clarke and Dingwall 2001). The present study revealed an intensive struggle over the definition of therapeutic cloning within the public sphere. To shed the dystopian cultural genealogy of human cloning, some therapeutic cloning advocates deliberately parsed their phrasing by

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<sup>4</sup> The Economist does not provide authorship information for any of its news stories (i.e. no bylines). Thus, no such information is provided in this dissertation.

<sup>5</sup> This term alludes to Nietzsche’s genealogical method. For example, in *Genealogy of Morals* he used this method to lay bare the origins of the concepts of good and evil. Foucault develops Nietzsche’s methodology further in his *Archaeology of Knowledge*.

<sup>6</sup> That is, this is when the first articles on cloning were published in major scientific journals were published.

<sup>7</sup> While the term ‘cloning’ began circulating in 1903, the science of plant cloning goes back to ancient times.

declaring that cloning human embryos for stem cells was not ‘human cloning’. For example, in the following extract a therapeutic cloning researcher seeks to distance his company’s activities from the notion of ‘human cloning’:

Dr. Robert P. Lanza foresaw criticism and said: “*Our intention is not to create cloned human beings*, but rather to make lifesaving therapies for a wide range of human disease conditions, including diabetes, strokes, cancer, AIDS and neurodegenerative disorders such as Parkinson’s and Alzheimer’s disease”. (Anderson 2001)

Instead of ‘human cloning’, advocates of this research have proposed terms such as ‘therapeutic cloning’, ‘embryonic stem cell research’ (especially in the US) or ‘somatic cell nuclear transfer’ (SCNT).

The California initiative specifically funds somatic cell nuclear transfer- or therapeutic cloning. (Garvey, front page news, *LA Times*, 23 May 2005)

The rhetorical purpose in constructing the concept of therapeutic cloning (the most widely used term) is to obscure the point (emphasised in the extract above) that both ‘reproductive cloning’ (cloning for live birth) and ‘therapeutic cloning’ (cloning for embryonic stem cells) utilise SCNT. Obfuscating this fact was viewed as necessary “to ensure that the public’s perceived antipathy to human reproductive cloning does not ‘rub off’ on therapeutic cloning” (Haran 2007: 209).

**Extract 1)**

The debate is usually divided into two issues -- reproductive cloning (creating cloned human beings) and therapeutic cloning (creating cloned human embryos for research and destruction). For now, there is near-universal consensus that we should shun the first. (Cohen & Kristol, ‘Commentary’, *Wall Street Journal*, 5 December 2001)

**Extract 2)**

The procedure is often referred to as “therapeutic cloning.”...Some supporters of laboratory use of embryonic stem cells fear that public support for the research may dwindle if opponents focus attention on cloning rather than the prospects for stem cells. One measure of that concern is that advocates of stem cell research prefer to avoid the label of cloning and instead use the technical term “somatic cell nuclear transfer”. (Garvey, ‘California Metro’, *LA Times*, 24 August 2005)

The following extract elaborates this concern about public resistance to the concept of ‘cloning’.

Transplant pioneers [such as Christian Barnard] would not, in the brave new world of medical ethics, get away with...taking part of a minute and insensible cell and inserting it into another one [i.e. therapeutic cloning]. That is because of the dread word cloning. This term is heavy with metaphorical threat to everyone except biologists. (Jones, ‘Commentary’, *New York Times*, 14 March 1998)

The ‘metaphorical threat’ associated with the concept of cloning prompted continuous metadiscursive terminological contestation around the notion of therapeutic cloning. For example, the following extract challenges the euphemistic quality of the ‘therapeutic cloning’ construct:

Princeton’s President Shirley Tilghman...[is] obfuscating the language. While she opposes reproductive cloning, she promotes “nuclear transplantation to produce stem cells,” a process that actually reproduces a living human embryo. It is in fact, the textbook definition of cloning. (Hansen, ‘letter to the editor’, *Wall Street Journal*, 11 March 2003)

At the same time, advocates of reproductive cloning sought to confound attempts by the scientific community, UK government and patient advocates to isolate and selectively valorise therapeutic cloning research while heaping scorn upon reproductive cloning. In particular, ‘maverick’ would-be cloner Severino Antinori tried to reconstruct the therapeutic/reproductive cloning distinction in his favour by framing the remediation of infertility as ‘therapeutic’.

Controversial Italian embryologist Dr Severino Antinori...said: ‘Ours will be an experiment of *therapeutic cloning* for those couples who have no hope of having children’. (Emphasis added; Maclachlan, *Sun*, 8 August 2001)

By (mis)using the term ‘therapeutic cloning’ to mean cloning for live birth, Antinori was seeking to marshal the distinction to his rhetorical advantage.

Working in the opposite direction, opponents of all permutations of human cloning (particularly anti-abortion activists) also targeted this therapeutic/reproductive distinction. One opposition tactic was to deliberately conflate the ‘therapeutic’ and ‘reproductive’ cloning concepts so that negative frames from the longstanding science fiction template for human cloning could be mapped onto the new concept of therapeutic cloning (cf. Bloomfield and Vurdubakis 2003; Jensen *in press-a*; cf. Nerlich, Clarke and Dingwall 2000: 147; Nerlich, Clarke and Dingwall 2001; Parry 2003).

Leach (1999: 218) notes that “‘cloning’ has metamorphosed through a number of names for a number of different procedures that have been used by agricultural biologists, molecular biologists and fertility researchers working on humans, animals and isolated genetic material”. Given the resulting “incompatible language games” (Gerlach and Hamilton 2005: 89) and “enormous difficulty involved in using precise language about cloning” (Haran 2007: 209), it is with careful thought that the following terms have been selected for this dissertation. *Therapeutic cloning* will be used hereafter without quotation marks to refer to the use of SCNT to clone a human embryo from which stem cells can be derived for medical therapies. *Reproductive cloning* will be understood as the use of SCNT to

clone a human embryo for implantation and live birth. These definitions reflect the most common usage within the Anglo-American press. Furthermore, while the term ‘therapeutic cloning’ is semantically ‘loaded’ and undeniably propagandistic, the distinction between therapeutic and reproductive cloning was a key distinguishing feature of the contemporary human cloning debate, which set it apart from earlier cloning discourse (Haran 2007). As such, the present study dilates upon the historically new concept of therapeutic cloning, exploring its construction and mediation within the Anglo-American public sphere.

### **Background: A Brief History of Human Cloning Before Dolly**

“O wonder! How many goodly creatures are there here? How beauteous mankind is? O brave new world, That has such people in it!”  
(*The Tempest*, Shakespeare)

A number of key scientific and cultural developments relevant to human cloning have marked the historical period since the first animal cloning experiments in the 19<sup>th</sup> century. These developments have generated varying degrees of public interest and media speculation about this biotechnology’s imminence and potential implications. The scientific history of human cloning dates back at least as far as the embryo splitting experiments on sea urchins conducted by German biologist Hans Driesch, most notably in 1895. Early in the 20<sup>th</sup> century, Hans Spemann’s 1902, 1914 and 1928 experiments with nuclear transfer using salamander eggs marked important scientific milestones. For example, in 1914 Spemann looped a strand of baby hair around a salamander embryo to cleave it in two and create the first animal ‘clone’. In 1938, Spemann published a book about his research entitled *Embryonic Development and Induction* in which he made prescient comments about the logical next steps for nuclear replacement research, foreshadowing Ian Wilmut’s experiments with sheep almost 60 years later.

Constituting the single, most significant *cultural* development in the social history of human cloning, Aldous Huxley’s 1932 seminal tome *Brave New World* inaugurated an enduring groundswell of public, literary and mass media interest. Moreover the book conjured powerful dystopian imagery that still resounds today (Haran 2007; Holliman 2004; Jensen *in press-a*; Weasel and Jensen 2005). Although labelled ‘Bokanovsky’s Process’ in the book, human cloning is central to the story. Set in 26<sup>th</sup> century London, the novel opens with a tour of a clone ‘Hatchery’ by its ‘Director’:

“Bokanovsky’s Process,”...a bokanovskified [i.e. ‘cloned’] egg will bud, will proliferate, will divide. From eight to ninety-six buds, and every bud will grow into a perfectly formed embryo, and every embryo into a full-sized

adult. Making ninety-six human beings grow where only one grew before. Progress.

...Buds...were returned to the incubators, where the buds began to develop...Two, four, eight, the buds in their turn budded...a prodigious improvement, you will agree, on nature. Identical twins. But not in piddling twos and threes as in the old viviparous days...Actually by dozens, by scores at a time. "Scores," the Director repeated and flung out his arms, as though he were distributing largesse. "Scores." (Huxley 1939: 3)

Some have argued that such cultural imagery has contributed to the scientific genealogy of cloning (e.g. Poon 2000). As Donna Haraway (1989: 3) notes, "it seems natural...to oppose fact and fiction; but their similarities run deep in western culture and language". Indeed the ambivalent interplay of science fiction and science fact has been an endemic feature of media coverage of human cloning throughout the 20<sup>th</sup> century, and into the present decade (Haran 2007). Works of fiction frequently kindled the public imagination about this elusive science, and major developments around human cloning have in turn been apprehended with reference to such fictional representations (e.g. see Haran 2007; Holliman 2004; Nerlich, Clarke and Dingwall 2001; Weasel and Jensen 2005; Wellcome 1998).

However in the 1950s and 1960s the production of new fictional accounts of cloning declined even as important scientific experiments cloning frogs were conducted by Briggs and King in the US (1952) and then Sir John Gurdon in Oxford (1962, 1966, 1975). These experiments yielded cloned tadpoles but did not lead to a full-scale controversy about the prospect of human cloning. In the 1970s these scientific developments gave way in the public sphere to key culture industry products. Ira Levin's 1976 novel *The Boys from Brazil* conjured a disturbing dystopia in which escaped Nazi doctor Josef Mengele was the mastermind of a plot to clone Hitler and reinstate the Third Reich worldwide. This popular novel was produced as a widely distributed and culturally generative Hollywood film in 1978, and is still frequently referenced in contemporary media coverage of human cloning (Holliman 2004; Jensen *in press-a*). Also in 1978, David Rorvik published the novel *In His Image: The Cloning of a Man*, presenting an autobiographical story in which he assisted a millionaire in cloning himself. This book caused some controversy at the time, though it is now widely recognised as apocryphal.

In the US context, Jensen and Weasel (2006) found that the US abortion controversy was a significant upstream factor in the cultural genealogy of human cloning. The abortion controversy metastasised following the US Supreme Court's 1972 *Roe v. Wade* decision favouring federal abortion rights, becoming partly constitutive of the simmering discontent confronting therapeutic cloning research in America. However the most direct precedent in

the UK for the therapeutic cloning controversy of the late 1990s and early 21<sup>st</sup> century was the highly contentious embryo research debate of the 1980s. This extended debate culminated in the defeat of anti-abortion and conservative religious forces by pro-science organisations such as Progress and the Royal Society (see Mulkay 1995b; Mulkay 1997). The 1990 Human Fertilisation and Embryology (HFE) Act capped the victory for the forces of science and technocracy in Britain, and with some recent modification, remains the governing framework for embryo research to this day. Essentially, this Act follows the recommendations of the expert committee headed by Mary Warnock, allowing research on embryos under 14-days-old with licensing by the Human Fertilisation and Embryology Authority<sup>8</sup>.

Many of the same pro- and anti- research forces that emerged during the UK embryo research controversy were also deployed in the subsequent debate over therapeutic cloning. Indeed as far as some elite UK science journalists were concerned, the HFE Act prospectively resolved the issue of therapeutic cloning as well as embryo research. In the following interview extract, the Health Editor for an elite UK newspaper sought to legitimise his visible support for the principles enshrined in the HFE Act by attributing to the British public a widespread and enduring commitment to the Warnock committee's conclusions:

I think there has been a particularly British attitude to stem cells which derives from Mary Warnock's report that led to the Human Fertilisation Embryology Act, which set the ethical parameters [for human embryo research]. And it was a very utilitarian ethic; that if destroying embryos improved the health of human beings, it's justified (subject to controls and time limits and all that sort of thing). And that's the ethic under which we operate. I think an ethicist would say that's a very rough and ready ethical framework, but then we're not a very religious nation. We don't have a Religious Right [as does the US]. We don't have many religious believers. And the population is perfectly happy with that. And that's the basis under which stem cells [i.e. therapeutic cloning] have been discussed really. (Health Editor, elite UK newspaper, 'Charles', 2005)

Thus journalists' perceptions of the UK embryo research debate and its aftermath impinged directly upon the press framing of therapeutic cloning.

### **Epochal Change in the Contemporary Human Cloning Debate**

Contemporary news practice tends to create clusters of reporting on a given issue centred on significant 'media events', and human cloning is no exception (Nerlich and Clarke 2003). Below, I trace the unfolding of the recent history of press interest in human embryo cloning over the last decade. While the distribution of press articles around these key events

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<sup>8</sup> The two key provisions of this regulatory framework are (1) that the proposed research must be of significant scientific value and (2) that the embryo must be treated with 'respect'.

comprises useful contextual information for the present study, it is important to note that the results chapters will centre upon emergent substantive themes that transverse multiple media events.

The sampling frame for the present study begins with Dolly the sheep's media debut because of the key role of this initial coverage in constructing the media template for this most recent incarnation of the human cloning debate (Einsiedel et al. 2002; Holliman 2004). News coverage of therapeutic cloning developed slowly at first, following the derivation of viable embryonic stem cell lines in 1998. The volume of therapeutic cloning press coverage spiked in the UK around Parliamentary deliberations in 2000 (Kitzinger and Williams 2005). Various organisations formed working groups or expert committees to make official policy recommendations about human cloning, including most prominently the Royal Society, American Association for the Advancement of Science (AAAS), UK Human Genetics Advisory Commission, House of Lords and US National and Presidential Bioethics Advisory Commissions (NBAC & PBAC). In addition to covering the reports from the UK-based groups in the lead up to the Parliamentary votes in 2000-2001, the British press also reported policy positions expressed by activist NGOs both for and against the technology. In the US, the first success in creating a cloned blastocyst was widely reported in 2001 with important political developments unfolding during the 2004 campaigns for US President and the California referendum funding therapeutic cloning.

Although not rising to the level of a Foucauldian *episteme* (Foucault 2003) or a Kuhnian 'paradigm' (Kuhn 1960), the data evinced two significantly discontinuous epochs within the sample of therapeutic cloning press coverage from 1997 to 2006. The break in the coverage occurred between January 2004 and February 2004. At this point, a new cast of press sources was introduced into the Anglo-American journalistic field. The locus of therapeutic cloning coverage shifted to the East; certain discursive patterns intensified and others become attenuated.

### **Phase 1: From Dolly to Cloning Apocrypha**

The first phase of the press coverage of the contemporary human cloning debate (viz. 1996- January 2004 inclusive) began with news of the 'twinned' sheep Morag and Megan and finished with the apocryphal declaration of the birth of a cloned baby by 'maverick' Italian scientist Panos Zavos (see Haran 2007). The most widely publicised development during this phase of the coverage was the birth of Dolly, the first mammalian clone created from an adult cell. This was followed by the successful derivation of embryonic stem cell

lines in 1998. The idea of combining these two distinct developments to comprise ‘therapeutic cloning’ began to surface shortly thereafter, building momentum until 2000 when the brief UK Parliamentary debate over therapeutic cloning caused a sharp increase in British press coverage (Kitzinger and Williams 2005). The first successful derivation of *cloned* embryonic stem cells was reported by the American company Advanced Cell Technology in 2001, generating even more coverage in the US and Britain. Throughout Phase 1 of the contemporary human cloning debate, myriad apocryphal claims and false promises were proffered by ‘maverick’ scientists, with significant implications for the public and political reception of this issue.

### *Wilmut’s Sheep*

Professor Ian Wilmut’s team at the Roslin Institute in Scotland first found highly publicised success with their embryo splitting experiments in July 1995, resulting in the birth of two ‘twinned’ (or cloned) sheep: Morag and Megan. While the volume of coverage fell short of the international furore that would follow Dolly’s birth, this news story was nevertheless an important precursor to the gathering storm of human cloning controversy. As Holliman (2004: 114) argues, “the coverage [of Morag and Megan] raises many issues relevant to further reporting of cloning[.]...suggesting that the media template for cloning was reconstructed over the two year period [from 1 January 1996 to 31 December 1997]”.

Born 5 July 1996, Dolly is no doubt the most famous sheep in history. Her existence was revealed to the world on 22 February 1997 by *Observer* science correspondent Robin McKie, who circumvented *Nature*’s press embargo<sup>9</sup> well in advance of the 27 February official embargo end date (Marshall 1998). Nuclear transfer experiments had created a cloned lamb, the first mammal ever created from an adult donor cell.

We now report the birth of live lambs from three new cell populations established from adult mammary gland, fetus and embryo. (Wilmut et al. 1997: 810)

However, the mediation of this scientific milestone immediately and irrevocably framed its significance around the possibility that the technology could be used to clone humans (Holliman 2004). There was widespread concern- especially outside the UK- that the development of this technology portended an imminent dystopia reminiscent of the science fiction lore reviewed above (Jensen *in press-a*; Nerlich, Clarke and Dingwall 2000; Weasel and Jensen 2005).

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<sup>9</sup> Embargoes are placed on articles provided to reporters in advance of their official publication date by scientific journals in order to facilitate the news gathering process and encourage media coverage.

President Clinton's immediate response to Dolly's birth was to renounce the putative technology of human cloning. He then empanelled the National Bioethics Advisory Commission (NBAC) to provide both the President and the nation with expert recommendations on the issue of human cloning. Three months later, the NBAC report was released. It called for a five-year moratorium on reproductive cloning based upon concerns for the safety of any children born using such an untested technology. This instrumental rationale for temporarily blocking human cloning effectively sidestepped the more difficult substantive ethical questions surrounding human cloning (Evans 2002b). Nevertheless, in March 1997 Clinton exercised his executive authority to ban the use of federal funds for human cloning research of any kind, while Congressional debate failed to yield action on the NBAC recommendations.

### *Seed and Stem Cells*

In January 1998, a 'maverick' scientist named Richard Seed announced his intention to open a clinic for cloning babies<sup>10</sup>. Though completely unsubstantiated, journalists across America covered Seed's claims. Also in 1998, Italian fertility doctor Severino Antinori made his first highly publicised announcement that he planned to use human cloning as a 'therapy' to offer infertile couples the possibility genetically related offspring. Both Seed and Antinori's declarations were used as evidence of the imminent danger of reproductive cloning during subsequent Congressional deliberations. Partly responding to the media furore over Antinori and Seed, a full-scale "legislative biogovernmental response" was marshalled against human cloning by Congressional Republicans with the support of religious and pro-life lobbyists (Gerlach and Hamilton 2005: 92). A number of anti-cloning bills were proposed with a great deal of support in Congress, including an 'emergency' measure brought to the floor of the Senate on 3 February 1998. Ultimately however, powerful counter-pressures from patients' groups, scientists and the biotechnology industry have to this day staved off all attempts to enact a comprehensive ban on human cloning. Later in the year, the second half of therapeutic cloning's scientific genealogy saw a widely publicised breakthrough. In November, Professor James Thomson et al. (1998) reported the first successful isolation of human embryonic stem cell lines.

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<sup>10</sup> Seed first indicated his intention to create cloning clinics on 5 December 1997. However the international news media did not begin to broadcast his claims until 7 January 1998 when he made similar comments in a National Public Radio interview.

### *UK Government Committee Reports*

Meanwhile in the UK, a December 1998 report was released by the Joint Working Group on human cloning comprised of representatives of the Human Genetics Advisory Commission (HGAC), Human Fertilisation and Embryology Authority (HFEA) and House of Commons Science and Technology Select Committee. The report set forth two key recommendations. First, human reproductive cloning should be banned immediately. Second, it was suggested there should be further examination of the medical potential of 'cell nucleus replacement' (i.e. cloning) for treating serious diseases. It was suggested that this second recommendation be enacted through the extension of existing regulations governing embryo research under the auspices of the 1990 Human Fertilisation and Embryology Act. In the presentation of this second recommendation, the promissory science of therapeutic cloning was already being constructed as a possible panacea. For example, in a press release accompanying the report, then chairman of the HGAC Sir Colin Campbell said that 'cell nucleus replacement' could be "helpful with research into and eventually treatment of serious conditions such as Parkinson's, Huntington's, Alzheimer's and various types of cancer. New treatments might also be developed for diseased or damaged tissue" (HGAC 1998).

When the issue of therapeutic cloning entered the political field of Westminster about a year later, it was soon re-assigned to an expert committee headed by the Chief Medical Officer, Professor Liam Donaldson. This decision displaced responsibility for this issue from the realm of elected politics to the bureaucratic domain of technocracy, where it remained until the Donaldson Committee's report was released to the press in August 2000. Indeed, Kitzinger and Williams (2005) identified two spikes in UK media coverage of therapeutic cloning in 2000. The first period of 13-30 August followed the publication of the Donaldson report. This report detailed the panel's recommendations, concluding that therapeutic cloning was ethical and should proceed under existing embryo research legislation from the 1990 Human Fertilisation and Embryology Act. It was recommended that researchers should be allowed to use both supernumerary embryos from IVF treatments and, more controversially, embryos created specifically for therapeutic cloning research.

The second period of heightened press activity occurred 19-21 December following the House of Commons vote, which approved the extension of the 1990 Act to cover 'cell nuclear replacement' (i.e. SCNT or therapeutic cloning) as recommended by the Donaldson commission. On 22 January 2001, the House of Lords added its approval to the amendment allowing therapeutic cloning. This placed the task of licensing and regulating such research

under the purview of the HFEA. Also in 2001, Parliament approved the Human Reproductive Cloning Act, making reproductive cloning a criminal offence in the UK.

### *Therapeutic Cloning Breakthrough*

In the US, the science of therapeutic cloning was again in the news in 2001. Scientists from the small American biotechnology company Advanced Cell Technology published a study on 25 November reporting the first successful derivation of cloned embryonic stem cells (Cibelli et al. 2001). They summarised their findings as follows:

Human therapeutic cloning requires the reprogramming of a somatic cell by nuclear transfer to generate autologous totipotent stem cells. We have parthenogenetically activated 22 human eggs and also performed nuclear transfer in 17 metaphase II eggs. Cleavage beyond the eight-cell stage was obtained in the parthenogenetic-activated eggs, and blastocoele cavities were observed in six. Three somatic cell-derived embryos developed... up to the six-cell stage. [This] represents the first step towards generating immune-compatible stem cells that could be used to overcome the problem of immune rejection in regenerative medicine. (Cibelli et al. 2001: 25)

This widely reported breakthrough dramatically increased both the level of press coverage and the promises of cures in the near future.

### *Anglo-American Politics, Culture and 'Maverick Scientists'*

In British politics, the House of Lords Select Committee Report on Stem Cell Research was released in February 2002. In American politics, another Republican-lead attempt to pass a complete ban on human cloning was stymied by then Senate Majority Leader, Democrat Tom Daschle<sup>11</sup> in June 2002, who prevented the bill from coming up for a vote. On the cultural side, three major Hollywood films featuring human cloning appeared in cinemas in 2002: *Impostor*, *Blade 2* and *Star Wars: Attack of the Clones* (see for analysis, Jensen *in press-a*).

At a press conference on 27 December 2002 Brigitte Boisselier, the scientist leading the human cloning programme for the Raelian religious sect<sup>12</sup>, declared that a cloned baby had been born to an American mother. The allegedly child's name was 'Eve' and incontrovertible evidence of her cloned identity would be forthcoming shortly, according to Boisselier. Although this evidence never materialised, the Raelians garnered extensive media attention for this apocryphal claim. In February 2003, Dolly was euthanised after being

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<sup>11</sup> Daschle temporarily ascended to the agenda-setting Majority Leader position after a surprise defection by Republican Senator Jim Jeffords, who switched his party affiliation to 'Independent' giving Democrats a 50-49 advantage in the US Senate.

<sup>12</sup> For more information about the Raelian belief system and its orientation towards cloning, see <http://clonaid.com>. (Last accessed 10 December 2007)

diagnosed with a lung disease. This raised fresh fears about the dangers of reproductive human cloning. Finally, in January 2004 ‘maverick’ scientist Panos Zavos announced that he had implanted a cloned human embryo in an infertile woman. This claim also received substantial international media attention, even though no evidence was ever produced to support his claim.

## **Phase 2: Therapeutic Cloning on the Global Stage**

The second phase of the coverage of therapeutic cloning (viz. Feb. 2004-2007) was dominated by Professor Hwang Woo-Suk’s two publications in the flagship journal *Science*. In February 2004, his first article reported developing cloned embryos up to the 100-cell blastocyst stage and deriving usable stem cells, thereby showing therapeutic cloning to be technically achievable (Hwang et al. 2004). This report was met by a storm of international commentary, controversy and soaring interest in the curative potential of therapeutic cloning.

In August 2004, Newcastle Centre for Life and researchers Miodrag Stojkovic and Alison Murdoch received the first HFEA license to conduct SCNT research with supernumerary IVF embryos, as well as embryos ‘altruistically’ donated (i.e. no financial or other incentives were offered) specifically for therapeutic cloning purposes (for discussion of the feminist implications of these embryo donation practices, see Haran 2007). Driven by frustration with the lack of federal funding<sup>13</sup> and enthusiasm stemming from Hwang’s reported success, the New Jersey legislature approved \$9.5 million in funding for stem cell research to be distributed through the newly created Stem Cell Institute of New Jersey. On 2 November, California voters approved Proposition 71, authorising a total of \$3 billion (over 10 years) to fund embryonic stem cell research, including therapeutic cloning.

California voters signed off on a \$3-billion investment in embryonic stem cell research...[California is] poised on the scientific cutting edge, armed with the money to circumvent White House policy viewed by many as holding the U.S. back. (Front page news, Garvey, *LA Times*, 23 May 2005)

### *Hwang’s Second Publication*

Despite sporadic reports of ethical violations in the process of conducting his 2004 study, Hwang’s second article in *Science* cemented his position as the leading researcher in

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<sup>13</sup> Republican Congressional attempts to pass therapeutic cloning legislation failed due to the ‘all or nothing’ approach taken by the technology’s culturally conservative opponents. Rather than accepting a compromise measure, Republicans in the US House of Representatives twice passed complete bans on cloning human tissue for any purpose. These bans then stalled in the US Senate where majority support for embryonic stem cell research (though possibly not therapeutic cloning) has persisted even when under Republican control. Despite the lack of federal prohibitions on therapeutic cloning, this Congressional deadlock and Bush’s executive order blocked any possibility of federal funding.

the global field of therapeutic cloning. Published 19 May 2005, the study reported the successful derivation of patient-specific embryonic stem cell lines cloned using SCNT:

Eleven [human embryonic stem cell] lines were established by somatic cell nuclear transfer (SCNT) of skin cells from patients with disease or injury into donated oocytes. (Hwang et al. 2005 [retracted]: 1777)

On the day the press embargo on Hwang et al.'s (2005) article was lifted, Newcastle researcher Alison Murdoch made overtures to British science journalists, personally informing them of therapeutic cloning research that Murdoch and Stojkovic's team had just submitted to a scientific journal.

Alison Murdoch had rung up a number of journalists who she knew to say that [her research would be] coming out as well...Alison felt that she had no option given the Korean story coming out that week...She felt that despite the fact her work hadn't been [peer] reviewed yet, she felt she had to put it out. (Science Correspondent, elite UK newspaper, 'Richard' 2005)

The British press foregrounded Murdoch's UK-based research, giving it front page, 'above the fold' coverage, relegating the Hwang article to secondary placement. Conversely, the American press ran with the Hwang story and carried no mention of Murdoch's research.

Nevertheless, Hwang's scientific symbolic capital was at an all-time high both in South Korea and abroad in the wake of the 19 May 2005 publication. Yet as the year wore on, allegations of ethical improprieties escalated, whistleblowers and defections began to appear. In November 2005, Hwang's American collaborator Gerald Schatten reported ethical lapses and technical mistakes and severed their connection. Subsequent revelations ultimately resulted in Hwang's spectacular public disgrace as the comprehensive nature of his deception became increasingly visible. By the end of 2005, there could be no doubt that Hwang's therapeutic cloning articles in *Science* were fraudulent, despite his repeated protestations of innocence. On 15 December 2005, Hwang finally admitted 'serious errors' in the two *Science* articles and asked that they be retracted. At the end of 2005 and beginning of 2006, two Seoul National University investigations confirmed the fraud<sup>14</sup>. Finally, in May 2006 Hwang was brought up on criminal charges for fraud, embezzlement and violating South Korea's bioethics laws. In the end, the Hwang scandal was a major setback for the science and hope of therapeutic cloning. However, therapeutic cloning research continues today in the US and Britain, with sporadic pronouncements of limited success since the end of this study's sampling frame in February 2006.

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<sup>14</sup> However, the government investigators did conclude that the cloned dog Snuppy was legitimate.

### *Science, Politics and Society*

Traditionally viewed as the two most scientifically accomplished nations in the world, the political and regulatory responses to therapeutic cloning nevertheless followed significantly dissimilar pathways in the US and UK. Whilst the US has maintained an incoherent patchwork of regulations and funding restrictions (Knowles 2004), Britain acted quickly to support research on therapeutic cloning. In fact, the UK is the only Western European nation that allows the creation of embryos for the sole purpose of research (Plomer 2002: 133). British government support for this technology takes place within the context of an explicitly pro-science policy stance designed to promote scientific knowledge and the economic benefits stemming from its exploitation. The Government envisions an increasingly technology-based, “knowledge-driven” economy capable of sustaining a high standard of living for its citizens well into the 21<sup>st</sup> century. The Department of Trade and Industry published a White Paper in conjunction with the Office of Science and Technology detailing the Government’s view of the role of science in the future of British society. This White Paper contends that “For Britain to prosper in the 21<sup>st</sup> century,” it must be “pursuing scientific advance... We must have the ability to generate, harness and exploit the creative power of modern science” (2000). Partly in response to public scepticism and grassroots pressure over the handling of issues such as genetically modified (GM) foods and the BSE crisis, this pro-science ethos is espoused even up to the level of the Prime Minister (Jensen *in press-b*). The following extract appeared under the headline, ‘Blair condemns protesters who thwart science’:

Tony Blair has promised to break down the “anti-science fashion” in Britain... “It is time to speak up for science,” he said. [Otherwise,] research work would be lost to Britain and Europe and go elsewhere in the world. (Political Editor & Science Correspondent, Webster & Henderson, ‘Home News’, *Times*, 20 May 2002)

Science in the United States is similarly valued for its economic benefits. However, the more pluralistic and diverse political situation in the US has meant that issues related to the ‘red’ genetics (i.e. human biomedical research) have been heavily contested. Research on human embryos is controversial on ethical grounds. Likewise the current political dominance of Christian conservatives in Congress and the White House has given their moral concerns a privileged position, especially in a few high profile areas of techno-scientific development such as human cloning and embryo research. President Bush has banned federal funding for therapeutic cloning and most other embryo research by executive order. Privately funded

companies, individual states, and non-profit ventures, on the other hand, are free to conduct the research under minimal or nonexistent federal regulatory supervision.

The state's application of 'bio-power' in decisions about human cloning and embryo research outlined above have been contested over the last decade with a ferocity (at least in the American context) indicative of a broader move to expose such decisions to public scrutiny. As Foucault (1991/1978: 262) argues, modern governments have "assumed responsibility for the life processes and undertook to control and modify them" through their role in regulating techno-scientific development and national health more generally. Foucault suggests that such exercises of bio-power are a defining characteristic of modernity.

What might be called a society's "threshold of modernity" has been reached when the life of the species is wagered on its own political strategies. For millennia, man remained what he was for Aristotle: a living animal with the additional capacity for a political existence; modern man is an animal whose politics places his existence as a living being in question. (Foucault 1991/1978: 265)

At the same time, bio-power has become a contested issue within modern politics. Giorgio Agamben (1998: 1) argues further that *zoē*, "the simple fact of living...common to all beings"- that is, 'natural' or literally 'bare life'- has come increasingly to coincide with politics in contemporary societies. Today, "the realm of bare life- which [was] originally situated at the margins of the political order- gradually begins to coincide with the political realm...[,] enter[ing] into a zone of irreducible distinction" (Agamben 1998: 9). As I will argue below, this politicisation of bare life corresponds with the increasing politicisation of the biological sciences in the context of risk society (see Beck 1992).

### **Science in the Risk Society**

As nations and individuals negotiate the increasingly globalised and 'liquid' domains of the economy, politics, and techno-scientific development (Bauman 2000; Bauman 2005; Beck 2006; Beck 1999), relations between science and society have undergone a fundamental transformation.

"Traditionally, the public has looked to the state to harness science in its service, enforce social norms in research and development, and ensure that technoscientific developments are for the social good. However, the emerging biogovernmental order seems unwilling and unable to meet those expectations." (Gerlach and Hamilton 2005: 96).

Beck (1992) and Giddens (1990; 1991) argue that for many of the denizens of today's 'risk society', science and other expert systems no longer offer certainty or unquestioned Truth. In this 'new modernity', science's "claim to truth" and "enlightenment" has been "demystified",

according to Beck<sup>15</sup> (1992: 155; cf. Corrado and Carluccio 2002). In this context, science faces an increasingly sceptical public, which has lost its trust in technocratic systems of government. Thus issues that were previously defined as purely ‘scientific’ or ‘technical’- and therefore governed through undemocratic mechanisms- have increasingly become open to public scrutiny and debate. In a recent Mori poll ( $n = 1,001$ ) 53% of UK respondents indicated a desire for more public influence over the type of scientific research that is done (Corrado 2002). This reflexive trend has in turn sparked discussions about ‘scientific citizenship’, and the need for ‘engagement’ between the sciences and the public (e.g. Irwin 1995; Irwin 2001; Wilsdon and Willis 2004; Wynne 1996).

For many years the dominant approach to ‘public understanding of science’ has been the ‘deficit model’, in which greater ‘scientific literacy’ is viewed as the remedy for any public distrust in scientific institutions or opposition to techno-scientific development (e.g. Bodmer 1985). In recent years however, this simplistic model has been eclipsed in social scientific and UK policy discourse by calls for a two-way dialogue between science and the public. Research Councils and organisations such as the Wellcome Trust and the Royal Society have joined high-level government officials in declaring a commitment to facilitating active public involvement in decision-making about techno-scientific development (Irwin 2006). Most notable in this regard is the 2000 House of Lords report on *Science and Society*, which concluded that “direct dialogue with the public should move from being an optional add-on to science-based policy-making...[to] become a normal and integral part of the process” (House of Lords Select Committee on Science and Technology 2000: 43). In a similar manner, former Prime Minister Tony Blair “challenged scientists in an address to the Royal Society in May 2002 to communicate better. He urged them to engage in a ‘robust, engaging dialogue with the public’” (Parliamentary Correspondent, Hurst, ‘Home News’, 14 January 2004). Yet despite such expressions of governmental commitment to ‘engaging the public’ in decisions about techno-scientific development, the evidence thus far suggests that government-sponsored initiatives in this area have failed to give the public any real power to limit the juggernaut of scientific progress (e.g., see Grove-White 2001; Holliman and Jensen *In press*; Irwin 2001; Kerr 2003; Miller 2001).

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<sup>15</sup> There is certainly counter-evidence for this thesis of a widespread ‘disenchantment’ with scientists and expert authority, despite controversies surrounding, for example, the handling of the BSE crisis in the UK. Indeed polls have consistently found that scientists and doctors are some of the most trusted professionals in British society. A 2002 poll commissioned by the British Medical Association found ‘trust’ in doctors and scientists to tell the truth indicated by 91% and 64% of respondents respectively, compared with 13% saying the same for journalists (Corrado and Carluccio 2002).

Further complicating the framing of the science-society interface, Collins and Evans (2002) have questioned the ascendant notion that the public's role in decision-making about scientific issues should be expanded (cf. Collins and Evans 2003; Jasanoff 2003; Rip 2003; cf. Wynne 2003). Rather, they argue that *expertise* and *experience* should be the primary criteria for legitimate participation in 'technical decision-making' (cf. Wynne 2003). Furthermore, Collins and Evans (2002) suggest that scientific issues should remain quarantined within the 'core-set' of topic specialists inside the scientific community and out of the public eye, until an 'apex of certainty' is reached. This proposal is aimed at protecting the image of science and limiting the range of participants in the formative stages of scientific debates. However, such arguments must be assessed in the light of broader theoretical frameworks in order to ascertain their validity and advisability within the context of contemporary society.

### **Risk Society**

Social theorist Ulrich Beck has proposed an influential theoretical model based upon the role of risk as an engine of change within modern societies. Beck argues that Western nations have moved from a stage of 'first modernity' that he labels *industrial society* to one of 'second modernity', or *risk society*. According to Beck, industrial society was characterised primarily by wealth distribution and risks that were manageable, insurable and controllable. By contrast, he argues that the risks of today are uncontrollable, uninsurable and unseen, yielding pervasive uncertainty in society. Risk society is defined by the increasing ubiquity of globalised risks such as pollution, nuclear disaster and genetic engineering (Beck 1992; Beck 1997: 52). In this context, it is noteworthy that human cloning has been framed as a "dreaded risk" alongside these other potential hazards (Marks et al. 2007). These risks cannot be controlled at the level of the individual nation-state and their consequences spread with minimal regard for national borders.

According to Beck, awareness of the catastrophic potential inherent in technological development has prompted restless reflexivity across society. For Beck, reflexive modernisation is the mechanism by which societies move from first to second modernity. First, society compulsively engages in self-confrontation, resulting in "the autonomous, unintentional and unseen, reflex-like transition from industrial to risk society" (Beck 1996: 28). In reflexive modernity, it is argued that the public has reacted with an exceptional level of concern to the pervasive, "low probability, high risk" hazards produced by modern society such as nuclear technology, BSE, and potentially therapeutic cloning (also see Jensen *in*

*press-b*). This “historically new phenomenon of the socially produced but unaccountable possibility of destroying all life” is known as ‘risk society’ (Beck 1995: 85).

### **Mediating Scientific Risk**

Young (2000: 173) argues that, at base, democracy is “a process that connects ‘the people’ and the powerful”, and that the “primary connector between people and power” is the public sphere. Indeed, at the nexus of science, society and politics is the public sphere. Within this sphere the news media play a central role in making science public and managing the interface between science and society (House of Lords Select Committee on Science and Technology 2000; Kitzinger 2006). The press helps to frame the popular definitions of scientific risks such as those associated with human cloning within the mediated public sphere (Marks et al. 2007). The news media play an important role both in reinforcing elements of the status quo and the social construction of risk and uncertainty. Thus Luhmann (2000: 35) contends that “news generates and reproduces future uncertainties – contrary to all evidence of continuity in the world we know from daily perception”. As Nelkin (1987: 2) notes, “for most people the reality of science is what they read in the press. They understand science...through the filter of journalistic language and imagery”.

The high media profile of human cloning means that the ways in which nations confront this particular biotechnology may be disproportionately important as a harbinger of future societal negotiations between public sensibilities, scientific imperatives, and political considerations. In order to gain insight into substantive discourses that transverse the spectrum of stakeholder interests in this issue, this dissertation will explore the discursive construction of therapeutic cloning in the Anglo-American press.

Numerous studies have identified the central role of mass media in the human cloning debate (Einsiedel et al. 2002; Haran 2007; Hellsten 2000; Holliman 2004; Huxford 2000; Jensen *in press-a*; Jensen and Weasel 2006; Kitzinger and Williams 2005; Nelkin and Lindee 2001; Nerlich and Clarke 2003; Nerlich, Clarke and Dingwall 1999; Nerlich, Clarke and Dingwall 2000; Nisbet, Brossard and Kroepsch 2003; Priest 2001b; Weasel and Jensen 2005; Wellcome 1998; Williams, Kitzinger and Henderson 2003). Yet none of these studies have systematically examined the debate over therapeutic cloning in the Anglo-American press from its inception using in-depth qualitative analysis. This study aims to address this lacuna in the empirical literature by elucidating the processes of mediation shaping therapeutic cloning discourse within the public sphere. The following review of the literature explores the

role of news media as the major forum for framing scientific issues within the mediated public sphere.

### **The Public Sphere**

In ancient Greece the private realm of the household (*oikos*) was distinguished from the public realm of the *polis*, or city-state (Nevett 1999). The *polis* was the forum in which citizens assembled to engage in ostensibly free and open debate about the issues of the day. This public/private distinction has left an enduring imprint on Western political structures and modes of thought. However this distinction underwent a fundamental transformation with the rise of modern societies in the 17<sup>th</sup> and 18<sup>th</sup> centuries. During this period, the modern state emerged and expanded into the public realm through institutionalised systems of political control. At the same time, modern capitalism infiltrated the private realm. This led to the expansion of the private sphere to include private economic transactions as well as family life (Hegel describes this broadened private sphere as ‘civil society’). In principle each of these private fields of action occurred outside the direct control of politics and the state. Meanwhile, between the public and private realms a new symbolic space emerged which Jürgen Habermas (1989) describes as the “public sphere” (cf. Eley 1992)<sup>16</sup>. Drawing an ideal type from 18<sup>th</sup> century Paris and London bourgeois café culture, Habermas defines the public sphere as a single, unitary space, a nexus where citizens not directly involved in the issue could come together to discuss the issues of the day.

The public sphere consists of an intermediary structure between the political system, on the one hand, and the private sectors of the lifeworld and functional systems, on the other. It represents a highly complex network that branches out into a multitude of overlapping international, national, regional, local, and subcultural areas. (Habermas 1996: 373)

Habermas traces the structural transformation of the public sphere from its supposedly pure historical form to the fundamentally degraded condition in which he finds it today. Holding up the early bourgeois public sphere as an ideal, Habermas draws inspiration from a broad array of philosophers and theorists in order to construct a normative understanding of the emancipatory potential of the public sphere. Kant’s notion of practical reason, Hegel’s civil society, and Marx’s criticism of public opinion are but a few of the key philosophical concepts critically incorporated into Habermas’s historically informed vision of an ideal

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<sup>16</sup> Geoff Eley notes that “public sphere” is not an adequate translation of the *Öffentlichkeit* referred to in Habermas’s (1989) study. “An unwieldy aggregation of terms like publicness, publicity, public culture, and public opinion translates the term perhaps more accurately”, connoting “something more like ‘the quality or the condition of being public’” (Eley 1992: 225).

public sphere, where reason and open debate result in the triumph of the better argument (cf. Baert 2001). For Habermas, this realm for critical-rational debate is based upon a “public of private people making use of their reason” (Habermas 1989: 51). In this model, the “streams of communication” that enter the public sphere are “filtered and synthesized in such a way that they coalesce into bundles of topically specified *public* opinions” (Habermas 1996: 360). In his later work, Habermas (1987) makes it clear that he envisions these bundles of critical public opinion within the public sphere as the locus of resistance to overbearing state and economic rationality. Thus, the public sphere is viewed as the “main tool through which organized citizens can limit power and hold powerful actors accountable” (Young 2000: 174).

Although the significance of the public sphere in the development and ongoing functioning of modern societies is rarely questioned, there are numerous critics of the influential view Habermas advances about its historical transformation. Firstly, Habermas’s thesis has been subjected to a number of historical criticisms, challenging the accuracy of his account of the early public sphere. For example, Eley (1992: 304) notes that Habermas failed to acknowledge the existence of a “combative *and* highly literate” ‘plebeian public sphere’ operating in the 18<sup>th</sup> century (Eley 1992: 304). Habermas has also been criticised for drawing unsupported conclusions about the nature and extent of the public sphere’s alleged ‘decline’ (e.g. Schudson 1992; Thompson 1995). For example, Schudson (1992: 161) concludes that “our place in the [contemporary] world is different from that of [the early bourgeois public sphere], but not, I think, fallen”.

Habermas’s idealised account of the early bourgeois public sphere has been further challenged for failing to adequately describe the flawed, and systemically exclusionary character of the early bourgeois public sphere (e.g. Fraser 1992; Ryan 1992). In her historical analysis of 19<sup>th</sup> century women’s movements’ struggles for political equality and social justice in the American public sphere, Ryan (1992: 284) finds that “gender restrictions...built exclusion into the very foundations of the public sphere”. Ryan (1992: 285) concludes that the history of women’s politics stands as a warning against Habermasian “spatial or conceptual closure[,] constrain[ing]...the public to a bounded sphere with a priori rules about appropriate behavior”. As such, she advocates a “plural and decentered concept of the public” based on the principle that “notions of interest and identity need not be antithetical to public good”. Finally she emphasises the inadequacy of a public realm dominated by bourgeois values, pointing out that those most disenfranchised and in need of a voice in the public sphere tend to express their views in a manner that is apprehended negatively within the

formal bourgeois public sphere (cf. Baumann 1996). Indeed the protests of the disenfranchised are often perceived as “loud, coarse, and, yes, abrasive” (Ryan 1992: 286). Young (2000: 178) concurs identifying the difficulty of engagement for the disenfranchised:

The public sphere will properly be a site of struggle- often continuous struggle [because]...it often takes considerable organizing, dramatic action, and rhetorical shrewdness for people whose concerns are excluded from that agenda to break through and gain access to public media that will...disseminate their issues so that state institutions eventually deal with them.

In a similar vein, Benhabib (1992) criticises Habermas’s (1989) narrow and exclusionary conception of public discourse as being limited to critical-rational debate over ‘public’ issues. She argues that Habermas’s theory relegates lifeworld issues such as “housework; reproduction; nurture and care for the young, the sick and the elderly” to the private realm of “nongeneralizable interests” outside the purview of public debate (Benhabib 1992: 89-90). Benhabib (1992: 93) contends that the exclusion of private issues from the public domain has promoted a “discourse of domination that legitimizes women’s oppression and exploitation in the private realm”. Thus, she says that such ‘private’ questions must be understood as public issues of common concern, “accessible to debate, reflection, action and moral-political transformation” (Benhabib 1992: 94). This proposal is intended to “democratize” these ‘private’ concerns, opening them up to “discursive will formation” and “moral reflection” (Benhabib 1992: 94).

Beyond the historical and theoretical limitations identified by the critics discussed above, postmodernists (e.g. Villa 1992) have levelled criticisms on the basis of Habermas’s reliance on elements of the Enlightenment meta-narrative, his inadequate consideration of the implications of ubiquitous disciplinary power (i.e., as discussed in Foucault 1977/1991), and his alleged advocacy for suppressing pluralism in public discourse (also see Delanty 1999: 73-98; for counterarguments see Johnson 1994). Moreover, Habermas’s theory of the public sphere ignores those with “voices that are mute” within public discourse: “those who do not or cannot speak in public, who from inarticulateness, fear, habit, or oppression are removed from participation in public life” in his model (Gould 1996: 175-176). Gould (1996: 176) attributes this exclusionary current in Habermas’s theory to his “exclusively discursive” conception of rationality and his reduction of ‘communication’ to “rational verbal discourse”.

Nancy Fraser (1992) criticises Habermas’s promotion of a public sphere in which consensus through communicative reason is the primary objective. She argues that his

normative model of a single, consensus-oriented public sphere would result in the suppression of dissent and homogenisation of public debate and reason. This recalls Hannah Arendt's (1958: 220) contention that modernity views plurality as a threat to order and profitability because of its inherent "haphazardness" and perceived "moral irresponsibility". However, Fraser favours the way in which pluralism infuses public debate with a rich variety of voices and perspectives mirroring the diversity of publics in modern societies. She argues that "arrangements that accommodate contestation amongst a plurality of competing publics better promote the [Habermasian] ideal of participatory parity than does [the] single, comprehensive, overarching public sphere" Habermas proposes (Fraser 1993: 14).

Arendt (1958: 220) goes further than Fraser in defending pluralism, arguing that "plurality...is the condition sine qua non for...the public realm. Hence the attempt to do away with this plurality is always tantamount to the abolition of the public realm itself". Broadly endorsing Arendt's argument, Zygmunt Bauman (1999) contends that pluralism is the key to revitalising the contemporary public sphere. Bauman understands the public sphere in terms of the *agora* of Ancient Greece, which in its ideal form would allow for the coordination of citizens' public and private concerns. In sum, the *agora* model of the public sphere comprises a "territory of constant tension", "tug-of-war", and "dialogue, co-operation or compromise" (Bauman 1999: 87), where the "communal search for the common good" can take place under pluralistic conditions (Bauman 1999: 167).

### **Mediating the Public Sphere**

Embedded within the theoretical perspectives of public realm theorists such as Habermas, Fraser and Bauman are latent assumptions about the nature of publicness in modern life. John Thompson (1995; 2000b) explicates a distinctive view of publicness which emphasises the transformation of *visibility* in modern society. Thompson defines an action as public or private on the basis of its visibility. Public actions are performed in the open for all to see (i.e. they are visible), while private actions remain hidden from view. Thompson argues that the mass media which now dominate the modern public sphere have transformed the nature of visibility from its past reliance on the prerequisites of co-presence and shared locales, to a *mediated publicness* in which actions can be made instantly visible and thus *public* to a national or even global audience through mass media. Thompson argues that this transformation in the nature of visibility has changed the ways in which political rulers govern. In the past, rulers only allowed themselves to be viewed by a limited audience. Now it is expected that rulers will regularly make themselves visible and their opinions publicly

available, explaining their decisions directly to the governed in a way that was simply impossible before modern mass media. As Young (2000: 174-175) contends, “public communication...help[s] to limit arbitrary power by exposing it and demanding that persons with public and private power give an account of themselves”.

Today, rather than meeting in a common physical space to witness an event or to engage in political debate, citizens meet in symbolic, virtual spaces sharing newspaper or website readership, or collectively witnessing a televised political speech (see Anderson 1991). This fundamentally alters the relationship between the leaders and the governed. Television viewers, newspaper readers and radio listeners learn about the actions of their government and are sometimes able to respond through the news media. Although political leaders can exercise substantial control over the time, place and format of their mediated public performances, they are also made vulnerable by the very fact of their visibility, according to Thompson (2000a). Mass media allow the public to scrutinise the minutiae of their leaders’ visible actions, thus necessitating public explanations. These explanations are routinely manipulated using information subsidies provided by well-resourced government bureaucracies and other large-scale institutions (Fishman 1980; Herman and Chomsky 1988). However, even manipulated visibility places issues into the public sphere and opens them up to mediated public debate to an unprecedented extent through the rise of electronic news media (cf. Brothers 2000). Indeed 19<sup>th</sup> century historian Thomas Carlyle identified mediated visibility, even in its embryonic form, as fundamental to the very functioning of democracy:

Democracy is virtually there [in the press]...Whatsoever power exists will have itself...working secretly under bandages, obscurations, obstructions, it will never rest till it get to work free, unencumbered, visible to all.  
Democracy virtually extant will insist on becoming palpably extant. (Carlyle 1841/1888: 349-350)

### **The Journalistic Field**

Beyond its role in facilitating mediated visibility, the journalistic field has long played a vital role in the development of modern politics. The ‘agenda-setting’ power of the mass media has been well-established by media researchers over the last three decades (McCombs 2005; McCombs and Shaw 1972). Moreover the news media frame political issues within particular schema, highlighting some aspects of social reality while obscuring others. The importance of this ‘framing’ process of “selecting, highlighting, and sorting into a coherent narrative some facts or observations and deleting many others” (Entman and Herbst 2001: 203) has been demonstrated by numerous studies (Akhavan-Majid and Ramaprasad 1998;

Callaghan and Schnell 2001; Chyi and McCombs 2004; Ferree et al. 2002; Price, Tewksbury and Powers 1997; Ryan 2001; Shah et al. 2002; Shen 2004).

Despite surface-level political biases, the mainstream Anglo-American press does not tend to wield this influence in a deliberately ideological manner (Kieran 1997). Rather, the press operates above all according to the external pressures of the economy and concomitant organisational norms that help to maintain the profitability of media corporations. Herman and Chomsky (1988: 2) highlight the determinative upstream factors of “the size, concentrated ownership, owner wealth, and profit orientation of the dominant mass-media firms”, as well as “advertising as the primary income source of the mass media”. Such economic ‘news filters’ “fix the premises of discourse and...the definition of what is newsworthy”, according to Herman and Chomsky (1988: 2).

In his ‘market-based model of news production’, John McManus (1995) describes the extensive relationship between commercial and journalistic interests at every major level of news production. The distribution of resources from the parent corporation powerfully affects the media companies in which news operations are based. Decisions about personnel and budgets within the news department of the media company are in turn shaped by such financial considerations (McManus 1995: 311-312). The defining role of the market within news production helps to explain the standardised way in which press content is structured, regardless of the ideological biases of particular news organisations (e.g. see Adorno 1991; Adorno 1994; Fishman 1980). In sum, “the news is principally produced by market forces and shaped by the particular economies of information goods” (Hamilton 2004: 1).

### *Professional Norms*

Hallin (2000) argues that the market’s role in governing news production has been moderated in the 20<sup>th</sup> century by journalistic ‘professionalism’. This ‘professionalism’ encompasses the ideals of ‘objectivity’ and critical, ‘Fourth Estate’ journalism.

#### *Objectivity.*

Objectivity is an umbrella concept that encompasses a range of journalistic values, including factual accuracy, balance between opposing views, and neutrality in presentation. These values are deeply ingrained in the professional culture of journalism in both England and the United States. (Clayman and Heritage 2002: 150-151)

Schudson (1978: 7) defines objectivity as a “faith in facts, a distrust of ‘values’, and a commitment to their segregation”. According to McNair (1994: 25), “the concept of objectivity has become a key professional ethic; the standard to which all journalists should

aspire”. Indeed the UK’s National Union of Journalists enshrines these notions of ‘objectivity’ and ‘impartiality’ within their Code of Conduct for news reporting:

A journalist shall strive to ensure that the information he/she disseminates is fair and accurate, avoid the expression of comment and conjecture as established fact and falsification by distortion, selection or misrepresentation. (Journalists 2006)

The ‘penny press’ of the early 19<sup>th</sup> century was the first major precursor of the objectivity principle operant in modern journalism. “The impartiality...claimed by the penny press...successfully ushered in...the enduring foundation upon which the structure of news objectivity was built” (Schiller 1981: 75). However Hamilton (2004) traces the emergence of objectivity to economic and technological transformations that emerged from 1870-1900. He shows that the percentage of American daily newspapers identifying as ‘independent’ of political parties increased from 13% to 47% in this thirty year window. By the 1920s, the norm of objectivity had achieved widespread acceptance amongst journalists (Hallin 1994: 24). Hamilton (2004) identifies the changes in the news market that propelled this shift towards ‘independent’ or ‘objective’ journalism:

An increase in the number of potential readers; a decline in the cost of paper; changes in printing technology that increased the number of papers a press could print an hour and that increased the cost of presses; and the rise of advertising as a way to market goods. (Hamilton 2004: 38)

With the rising significance of advertising revenues from the 1870s onward coinciding with decreases in printing costs, expanding circulation and federal subsidies for distribution costs (Starr 2004), the performance of ‘objectivity’ was a way for newspapers to appeal to the widest possible audience in order to attract advertisers and sell newspapers. In addition to these economic factors, Nelkin (1990: 46) contends that the rise of objectivity was part of the 19<sup>th</sup> century ascendance of “the scientific attitude that facts, standing high above the distorting influence of interests and pressures, can and should be distinguished from values”. Today, American journalists in particular continue to use objectivity as a “strategic ritual” (Tuchman 1972: 61) intended to foster attributions of legitimacy and credibility amongst audiences. Drummond (1938: 59) declared that “printing the news objectively is the highest ideal” of journalism. The journalistic values surrounding objectivity have even “penetrated the wider Anglo-American culture, so that public officials, professional pundits, ordinary citizens, and numerous well-financed watchdog organizations now regularly monitor news output for the presence of ‘bias’” (Clayman and Heritage 2002: 151).

*The Fourth Estate.*

Burke said there were Three Estates in Parliament; but, in the Reporters' Gallery yonder, there sat a Fourth Estate more important far than they all. It is... a literal fact... [that] Literature is our Parliament too. Printing... is equivalent to Democracy... Whoever can speak, speaking now to the whole nation, becomes a power, a branch of government, with inalienable weight in law-making, in all acts of authority... The nation is governed by all that has tongue in the nation. (Carlyle 1841/1888: 349-350)

While the 'objectivity' ideal arose from within the field of news production, the notion that the press could serve as a bulwark against excessive state power was initially promoted most effectively by commentators outside the journalistic field. Specifically, political philosophers and journalists themselves have long assigned the press a pivotal role in politics as a critical, independent defender of the public interest (Donohue, Tichenor and Olien 1995). This 'Fourth Estate' status has been attributed to news publications by philosophers from Milton to Bentham to Condorcet, and more recently Jürgen Habermas (1989). Indeed the press has long been envisioned as an independent pole of symbolic power in modern society, "generally outside the direct control of the Church and the state" (Donohue, Tichenor and Olien 1995; Thompson 1995: 53). John Stuart Mill (1859: 22) commended "the press as one of the securities against corrupt or tyrannical government". Likewise, Milton (1644) inveighed against Parliamentary support for press censorship, declaring that "the cruse of truth must run no more oil, liberty of printing must be enthralled again". Such philosophical visions of a powerful and autonomous press capable of challenging overbearing state power have clear echoes in contemporary theories of the public sphere such as Habermas's (1989) account.

Significantly, the notion of the press as a critical counter-force to state power still has purchase in contemporary journalism (Nelkin 1990). Drummond (1938: 60) connects this critical role with the objectivity ethos described above:

The tradition of news-column fairness and impartiality in the selection and display of news must be maintained and strengthened if the press is to fulfil its urgent function in democratic government. (Drummond 1938: 60-61)

He contends that the press's critical function is need to "protect" and "preserve" the "free processes of democratic government" (Drummond 1938: 61). While such an ideal is rarely realised in today's science news coverage (Jensen *in press-a*; Nelkin 1990: 46), this self-conception of the news media as Fourth Estate is an essential component of the belief system that defines journalism as a field of practice.

Journalistic professional values such as the commitment to objectivity, impartiality and the 'Fourth Estate' model of the press are part of the 'illusio' of the journalistic field. Pierre Bourdieu (1998b) developed the notion of *illusio* to denote the unquestioning belief in the intrinsic value of the capital at stake in a given field, as well as the naturalness of the rules that govern the acquisition of such capital.

Illusio is the fact of being caught up in and by the game [within a given field], of believing the game is...worth the effort...That is, the fact of attributing importance to a social game, the fact that what happens matters to those who are engaged in it, who are in the game...To participate, to admit that the game is worth playing and that the stakes created in and through the fact of playing are worth pursuing. (Bourdieu 1998b: 76-77)

'Illusio' is closely tied to Bourdieu's conception of the taken-for-granted assumptions of a particular historical period and field, or what he terms the *doxa*. Adapted from Husserl, this term refers to a practical sense about the nature of the field, by which "the natural and social world appears as self-evident" (Bourdieu 1977: 164). Bourdieu (2005: 36-37) defines the *doxa* as the "principle practical schemes which make it possible to organize the world, but which remain implicit". There is a general *doxa* comprising the "universe of the tacit presuppositions that we accept as the natives of a certain society (Bourdieu 2005: 37). But there is also a field-specific *doxa* encompassing a "system of presuppositions inherent in membership in a field" (Bourdieu 2005: 37). Both *illusio* and *doxa* are implicated in judgments of 'newsworthiness' that are fundamental to the field of Anglo-American journalism.

### *Newsworthiness*

The first task of journalists is to identify newsworthy events to cover. According to Fishman (1980: 33), "journalistic event detection depends on both methods of exposure and schemes for interpreting...possible newsworthy occurrences". This process of event detection is highly influenced by the aforementioned market forces, as well as the provision of institutionally-sponsored information subsidies (Gandy 1982). Reporters depend upon "bureaucratic self-reporting apparatus[es]" to provide them with "reliable quantities of information" that has the imprimatur of official state or corporate institutions (Fishman 1980: 52). This information is pre-packaged for journalists in order to facilitate the flow of bureaucratic knowledge into the public domain.

Government and business-news promoters go to great pains to make things easy for news organizations. They provide...advance copies of speeches and forthcoming reports; they schedule press conferences at hours well-g geared to

news deadlines; they write press releases in usable [journalistic] language.  
(Herman and Chomsky 1988: 21-22)

Such information is treated as unquestioned 'fact' by reporters facing pressure from their news organisations to produce news on a daily basis (Fishman 1980).

Apart from information subsidies, journalists determine the newsworthiness of a potential story on the basis of criteria such as 'timeliness', 'relevance', immediacy for the audience (in terms of both geographical proximity and shared experience), perceived significance and the likelihood that other news organisations will cover the story (Billig 1995; Fishman 1980; McCombs 2005; Park 1940). Shoemaker and Reese (1996: 111) identify six essential criteria for judgments of newsworthiness: proximity, timeliness, the unusual, conflict/controversy, human interest and prominence/importance (also see Rensberger 1997: 11-13). Luhmann (2000: 28) adds to this list 'surprise' (i.e. "break[s] with existing expectations"), 'quantities' (i.e. quantifying events or values in order to "generate sudden insights without any substance"), 'norm violations' (e.g. moral scandals) and 'the expression of opinions'. Based upon all of these criteria, journalists perceive some activities within their jurisdiction as 'new' and significant facts likely to interest readers, while other happenings are journalistic 'nonevents' "deemed foolish and a waste of time" (Fishman 1980: 82). Nelkin elaborates this process of news selection and framing within the context of science journalism:

For [science] journalists, especially at daily newspapers, the interest lies in new and dramatic...research. Time pressures and the need to find an 'angle' that will define their writing as news cause them to focus on controversy, competition and 'breaking news'. (Nelkin 1990: 46)

In addition to the patterns of news selection that Nelkin identifies, Williams and Miller (1998) emphasise the idiosyncratic dimension of journalistic event detection. Although reporters often reify newsworthiness by characterising themselves as "powerless" to resist the inherent news value of a given story, Williams and Miller (1998: 155) argue that "what constitutes an 'amazing story' is a matter of disagreement between not only news organisations but journalists". They contend that "news values...are a matter of negotiation and struggle inside the newsroom", with the main newsdesk acting as the final authority on what is 'newsworthy' (Williams and Miller 1998: 155). Although Williams and Miller may be overstating the degree of contestation within the newsroom, the present study does support the notion that journalists' news judgments are not wholly determined by the structural influences of elite information sources and bureaucratic self-reporting apparatuses. The

precise nature of such influences within the context of therapeutic cloning news will be explored in Chapter 5.

### **Science Journalism**

When scientific issues such as genetically modified crops and therapeutic cloning are contested within the public sphere “there is one forum that overshadows all others...*General-audience mass media provide a master forum,*” (emphasis added) comprising “*the major site of political contest because all of the players in the policy process assume its pervasive influence (whether justified or not)*” (Ferree et al. 2002: 10). This notion of the news media as a “master forum” is applicable to the therapeutic cloning debate. Scientific controversies are constituted through mediated visibility, journalistic practice, and a form of bio-politics that is unavoidably mediated. For many years, specialist science journalism has played a key role in framing such scientific controversies.

In the American context, the history of science journalism as a professionalised cadre of science writers dates back to the 1930s and the formation of the National Association of Science Writers (NASW). Nelkin (1990) identifies the founding of the ‘Science Service’ in 1921 by Edward Scripps as an important precursor to this professionalisation. The Science Service acted as press agent for the major US scientific societies, feeding articles to the press that had been pre-framed by the *doxa* and *illusio* of the scientific community. Until 1978 however, only the *New York Times* had a dedicated ‘science section’ to guarantee the steady flow of scientific information into the news pages from the major medical and scientific journals and the contemporary incarnations of the Science Service (e.g. EurekAlert in the US and the Science Media Centre in the UK). Since then, science news has burgeoned, becoming a stable news ‘beat’ within most major newspapers in both the US and Britain. For example, a longitudinal study of the science news section in the *New York Times* found an increase in the volume of coverage from 1.7 pages per issue (excluding advertising) in 1980 to 5.4 pages per issue in 2000 (Clark and Illman 2006). Moreover, the introduction of such designated ‘science sections’ within newspapers has important implications for the quality and quantity of science and medical news coverage (Bader 1990), with journalists forced to fill the space regardless of the shifting event horizon on their beats.

By and large, the domain of science and medical journalism operates according to the same principles as the news media more generally. However, there is some variation in the particular means of achieving the journalistic ends identified above. First, although the role of ‘bureaucratic self-reporting apparatuses’ (Fishman 1980) is still salient in the domain of

science news, major scientific and medical journals have routinised the delivery mechanism for information subsidies, using ‘embargoes’ to achieve the maximum mediation of the studies they publish. Kiernan (2003: 903) summarises this public relations system:

Each week, the [scientific and medical] journals distribute advance copies of their articles to journalists throughout the world, on the condition that the journalists agree not to report their stories until a common time, several days later. The result is pack competition, by inducing [journalists] all to cover the same articles from the same journals.

In addition to making journalists’ lives more predictable, the embargo system makes scientific studies appear more newsworthy by making them seem new and timely even though they are reporting research that took place months or years into the past.

Beyond managing this embargo system, the journals employ trained journalists to write press releases that flag studies that are identified as being of possible interest to the news media. These press releases are crafted to appeal to journalists’ ‘news sense’, and they are extremely effective at setting the agenda of science and medical news coverage. One study of US press coverage found that studies that had been published by journals with a press release received a significantly greater volume of news media coverage than studies not accompanied by press releases (Stryker 2002). In the same vein, an analysis of the coverage in two British newspapers found that only articles accompanied by a journal-produced press release received coverage (Bartlett, Sterne and Egger 2002). A German case study found that fully one-third of the reporting about the Max Plank Society was directly attributable to public relations materials crafted by PR professionals working for the Society (Machill, Beiler and Schmutz 2006). In the present study, the influence of the embargoes, press releases and other elements of the major scientific and medical journals’ ‘public relations’ system was evident. Embargoes governed the release of the news that Dolly had been born, as well as all the other key scientific ‘breakthroughs’ that garnered press coverage in the present sample. Moreover journalists took cues from the journals’ press releases in their decisions to cover particular scientific studies. Most significantly, these PR materials directly influence the *illusio* and *doxa* of the sub-field of science journalism through the promotion of the same kind of reverence for science and a scientific worldview that Nelkin (1990) identified in the Science Service’s first attempts to influence coverage in the early 20<sup>th</sup> century.

Finally, in addition to the institutional provision of pre-packaged news, the methods of framing particular science news stories follow many of the standard conventions of the larger journalistic field. Although it was 19<sup>th</sup> century American publishing magnate Joseph

Pulitzer who presided over the proliferation of the ‘human interest’ news frames within Anglo-American journalism (Starr 2004: 255-258), the first editor of Science Service, Edwin Slosson, pioneered their use within the domain of science news. The Science Service advertisements boasted that “drama and romance are interwoven with wondrous facts, helpful facts” within their news releases, and that “drama lurks in every test tube” (as quoted in Nelkin 1990: 44). According to Nelkin (1990: 44), the “Science Service created a market for science news and set the purpose and the style of contemporary science journalism”. Contemporary science journalists continue to employ dramatic metaphors and ‘organizing analogies’ in order to construct explanations of science and technology (Knudsen 2003; Rowan 1990)<sup>17</sup>. Moreover Henderson and Kitzinger (1999) identified an escalating pattern of such ‘soft’ or ‘human interest’ framing in their study of press coverage of inherited breast cancer.

However, based on a study of scientists, science editors, science writers, and both readers and non-readers of science news, Johnson (1963) found that only science news *editors* emphasised ‘color’ and ‘human interest’ when evaluating a science story. He concluded that science *correspondents* tend to agree with their scientist sources in using the evaluative criteria of accuracy and study significance. On the other hand, Johnson’s research is now over 45 years old. Indeed this study does not support his findings. Even though science correspondents do not typically view themselves as promoting sensationalism (Ryan 1979), the present study identifies the extensive use of ‘drama’, ‘human interest’ and exaggeration within the coverage of therapeutic cloning (see Chapter 3).

### **Previous Studies of Human Cloning in the Media**

In addition to this more general research on science news, several key media studies have specifically examined coverage of human cloning.

#### *Media Coverage of Dolly and Reproductive Human Cloning*

Holliman (2004) traces the emergence of the contemporary ‘media template’ for human cloning from its inception in the coverage of the various sheep cloned by Ian Wilmut at the Roslin Institute. Holliman adduces data from the full ‘circuit of mass communication’ (Thompson 1988). He conducted (1) semi-structured qualitative interviews with UK science journalists, (2) a content analysis of UK newspaper and television news coverage from 1

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<sup>17</sup> Rowan (1990: 27) describes these as “quasi-scientific explanations”, arguing that science writers must sometimes employ ‘transformative explanations’ in order to re-shape inaccurate ‘folk theories’ about scientific phenomena amongst their readership.

January 1996 to 31 December 1997, and (3) audience reception research with both ‘scientists’ and ‘non-scientists’ in the UK using questionnaires and focus groups. Holliman (2004) found that scientists and media professionals at the Roslin Institute, and their corporate sponsor PPL Therapeutics, were partially successful in their attempts to ‘manage’ UK media coverage of Dolly. Wilmut, Campbell and other scientists “dominated” the coverage, according to Holliman (2004: 125). However, this scientific influence was tempered by the ‘news sense’ of journalists, who emphasised “science fiction and political extremism” in addition to scientists’ views as part of the Dolly ‘media template’ (Holliman 2004: 126). Holliman’s reception study showed that media coverage of Dolly was influential in focusing participants’ concerns on the “implications of cloning research for humans and not for sheep or other animals” (Holliman 2004: 126). Indeed, Holliman (2004) showed that Dolly set off a media firestorm reigniting concerns about the prospect of human cloning.

Edna Einsiedel et al. (2002) analysed frames, metaphors and other thematic content in elite European press coverage of the first 11 days of the Dolly story in 1997<sup>18</sup>. They found that notions of ‘scientific progress’ were developed by framing Dolly’s birth as “a unique event, a surprise, a ‘technological leap’ (Einsiedel et al. 2002: 340). Moreover Einsiedel et al. (2002: 340) contend that “Dolly as a technological event...instigated- even necessitated- an important restructuring of mental maps”, transposing science fiction into the real world.

Priest (2001b) analysed coverage of the ethical controversy surrounding human cloning in elite US newspapers ( $n = 130$ ) from 1994-1997. Her qualitative analysis of this press content revealed that the debate was concentrated around reproductive cloning in a way that constructed the issue as a ‘safe controversy’ for the biotechnology industry (Priest 2001b). That is, the debate was limited to an “abbreviated set” of ethical issues unlikely to “challenge existing institutional arrangements”, thus constituting the human cloning controversy in the US as “harmless to the status quo arrangement” within biotechnological development (Priest 2001b: 67).

A study of the UK press coverage in 1997 and 2002 emphasises the role of science fiction imagery in framing the implications of human cloning (Bloomfield and Vurdubakis 2003). Based upon a qualitative analysis of 700 articles about Dolly, the Raelians’ claim regarding the birth of the first cloned child (named ‘Eve’), and the birth of the first ‘designer baby’ Adam Nash, Bloomfield and Vurdubakis (2003) identify the cultural genealogy of

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<sup>18</sup> The sample size for this study is not specified, but the sampling frame appears to be relatively narrow. For example the sample for the UK was comprised of just three newspapers: *The Guardian*, *The Independent* and *The Times*.

cloning as the key factor in the news media framing of Dolly and 'Eve'. As discussed previously, this cultural genealogy includes science fiction and literary works such as Mary Shelley's *Frankenstein* and Aldous Huxley's *Brave New World*. Bloomfield and Vurdubakis (2003) demonstrate that the media framed reproductive cloning and putative Raelian cloner Boisselier as transgressing the boundaries of the 'natural' and legitimate.

Priest's and Bloomfield and Vurdubakis' findings would seem to conflict with Marks et al.'s (2007) conclusion that medical biotechnology stories, including Dolly, have received more positive treatment in the UK than in the US<sup>19</sup>. Marks et al. (2007) conducted a comparative content analysis of the coverage of both agricultural and medical biotechnology in the London *Times* and the *Washington Post* from 1990-2001. They found that coverage of medical biotechnology in general, and the Dolly story in particular, was significantly more negative in the *Washington Post* "reflecting the more contentious debate over human cloning that took place in the United States" (Marks et al. 2007: 194). Meanwhile the *Times* science reporters "took a more positive stance on Dolly", which Marks et al. (2007: 196) attribute to 'local framing'. That is, Dolly was treated more positively in the UK press because she was from the UK and represented British science. However, Marks et al. do not consider the possibility that the efforts of the Roslin Institute, PPL Therapeutics and *Nature* may have been a factor in leveraging this favourable UK coverage (see Holliman 2004).

At the same time, Nik Brown's (2000) study<sup>20</sup> of the 'breakthrough motif' in the coverage of Dolly casts doubt on the power of scientific institutions to determine media content in the case of controversial science. The Roslin Institute's initial press release to announce the cloning of Dolly explicitly described the event as a "scientific breakthrough", and this frame was taken up by most journalists in the UK press. Yet as Brown shows, this frame is open to questioning. The "truncation of [the scientific] process and the removal of contingency" required to construct the myth of a 'breakthrough' is vulnerable to critical probing, which in the case of Dolly at least partially revealed the exaggerated nature of the 'breakthrough' framing (Brown 2000: 107).

Another study of the way in which the cloning was framed in the UK press emphasised the role of science fiction templates such as *Frankenstein* as well as news sources (Nerlich, Clarke and Dingwall 1999). The methods for this study were not specified, however their analysis pointed to the symbolic power exercised by four key sources in the early coverage of cloning. According to Nerlich et al. (1999), Ian Wilmut initiated the 'discourse of

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<sup>19</sup> However, Marks et al.'s finding is consistent with Einsiedel et al.'s results.

<sup>20</sup> Brown does not provide any methodological details in his report.

reason', media-friendly American scientist Lee Silver fuelled the 'discourse of fantasy', media-friendly British scientist Patrick Dixon initiated the 'discourse of doom' and Richard Seed (i.e. 'the reincarnation of Frankenstein') initiated the 'discourse of hubris'. These discourses interacted with the cultural ancestry of dystopian science fiction to create the context within which the human cloning debate would occur (Nerlich, Clarke and Dingwall 1999).

Taking a more linguistic approach to news framing, Hellsten (2000) compares the use of conceptual metaphors to describe human cloning in *The Times* and *Nature* (see for introduction to conceptual metaphor theory, Lakoff and Johnson 1980; Ritchie 2003; Vervaeke and Kennedy 1996). She found that both publications used similar metaphors on a general level (e.g., "CLONING IS MASS PRODUCTION"), but their intended meanings were much different (e.g., "CLONES ARE LOUSY COPIES" vs. "CLONES ARE USEFUL PRODUCTS"). Hellsten (2000) also found that both *The Times* and *Nature* portrayed cloning as progress in a journey. The key difference was that the metaphors in *The Times* indicated concern that cloning was progress in a journey toward some negative and likely apocalyptic outcome, whereas *Nature* framed cloning as scientific progress and the public's opposition to cloning as a barrier to beneficial research. Finally, Hellsten concludes that the debate on cloning, and modern biotechnology in general, can be reduced to two opposing views:

First, it is wrong to modify nature (to make lousy copies or to play God), and thus gene technology is just a new and dangerous way of interfering with nature. Second, modern biotechnology is a beneficial tool for controlling nature (to produce goods and to conquer the unknown) (Hellsten 2000: 219).

Nerlich et al. (2000) examine a diverse group of newspaper and Internet sources for references to cloning. They found three primary conceptual metaphors (cf. Ritchie 2003) depicting clones as 'copies', 'machines' and 'plants/animals'. The "CLONES ARE COPIES" metaphor was very similar to "CLONING IS MASS PRODUCTION" in Hellsten's (2000) study. However, in Nerlich et al.'s (2000) data, this metaphor was only negatively valenced. Second, Nerlich et al. found the root metaphor "CLONES ARE MACHINES". More specific metaphors portraying clones as machine-like entities that can be bought, sold for spare parts, and mass-produced were placed under this broader category. Finally, Nerlich et al. identified the metaphor "CLONES ARE PLANTS/ANIMALS". Specifically, clones were said to be "grown, grown to order, harvested, farmed, bred, butchered" and were capable of being "bought and sold as wholes or parts" (Nerlich, Clarke and Dingwall 2000: 232). Finally, both Nerlich, et al. (2000) and Hellsten (2000) found that in many cases writers drew on fictional accounts of cloning in the movies and elsewhere as the 'source domain' for cloning

metaphors. Images of Frankenstein's monster, armies of cloned Hitlers, super races and superhuman warriors all made appearances in their data.

Jensen and Weasel (2006) also focused on figurative language in their study of US specialist Christian and pro-science news publications, as well as mainstream American press coverage of human cloning. This study employed an intensive form of content analysis using three coders to identify statistically significant differences in the volume and quality of 'abortion-related rhetoric' across these three samples. Ultimately, they conclude that evangelical Christians have transferred their rhetorical arsenal from the abortion controversy to attack the concept of human cloning. Moreover they conclude that "abortion rhetoric will continue to expand into an even wider range of American bioethical debates" (Jensen and Weasel 2006: 15). This finding supports Nelkin's (1992: xxiv) contention that "based on competing social and political values, few conflicts are in reality resolved. Even as specific debates seem to disappear, the same issues reappear in other contexts".

The ongoing conflict in the US between religion and science appears to be a particular flashpoint in the American debate over human cloning. In order to elucidate religious and scientific perspectives on this issue, Weasel and Jensen (2005) conducted a web-based qualitative survey with Christian fundamentalist leaders ( $n = 32$ ) and university-based molecular biologists ( $n = 29$ ). A grounded qualitative analysis of these data showed clear, divergent patterns in the perceptions of the two groups, not only in terms of their level of opposition or support for human cloning technology but also in terms of their rationalisation and epistemic orientation towards the issue. For example, several scientist respondents expressed their support for human cloning with reference to the necessity of scientific progress, whereas some of the Christian leaders explicitly based their opposition to the technology on the notion that human cloning was an example of the hubris of scientists seeking to 'play God' and usurp God's role as 'creator' (Weasel and Jensen 2005).

Frequently accused of hubristically 'playing God', Richard Seed was the first 'maverick' scientist to seek out media attention for his alleged efforts at human cloning in the wake of the controversy surrounding Dolly's birth. Gerlach and Hamilton (2005) analysed 'English-language media coverage' of Seed from December 1997 to January 2004, including both print and broadcast media in the sample ( $n = 185$ ). This study examined the construction of Seed as a 'bad scientist', a construction which constituted a "biogovernmental event" that "invited a response from regulators", according to Gerlach and Hamilton (2005: 79). Nerlich and Clarke (2003) conducted a small case study of press content surrounding a media event staged by Panos Zavos and Severino Antinori on 9 March 2001 in Rome to advertise their

putative cloning services. This study concluded that Zavos and Antinori's own rhetoric (e.g. referencing dystopian science fiction) was working against them by reinforcing stereotypical conceptions of human cloning. Bloomfield and Vurdubakis (2003) identify a similar pattern at work in the coverage of Dolly. They compare a segment of text from *Frankenstein* with another from Ian Wilmut, showing that the Wilmut self-description "echoes that of [Dr.] Frankenstein" (Bloomfield and Vurdubakis 2003: 18). Finally, Haran (2007) analyses a small sample of UK press articles and television bulletins on the topic of Panos Zavos' apocryphal announcement of a forthcoming cloned baby, and the ensuing backlash from scientists. The study finds three key boundary distinctions at work in the coverage: (1) between 'maverick' and established scientists, (2) therapeutic versus reproductive cloning (3) good UK regulations versus bad regulations in other nations (Haran 2007: 208).

### *Therapeutic Cloning*

Turning now to studies focused specifically on therapeutic cloning coverage, there are three relevant journal articles. The first examines how the embryo is "defined, envisaged, imagined" within British news coverage of therapeutic cloning (Williams, Kitzinger and Henderson 2003). The sample comprises 55 newspaper articles and eight television news bulletins surrounding the publication of the Donaldson Report and the Parliamentary debate over therapeutic cloning in August and December 2000. Williams et al. (2003) identify a multi-dimensional struggle over the framing of the embryo in this debate. Most notably, they found that images were used by proponents of therapeutic cloning to show embryos' undifferentiated morphology, and thus the acceptability of using them for scientific research. Apparently using the same sample of year 2000 news coverage of therapeutic cloning, Kitzinger and Williams' (2005: 737) concluded that the use of "science fiction is thus not so much a way of promoting concern about science...Rather it is here used...as a rhetorical weapon to discredit the opposition" by casting them as ignorant and unreasonable. Jensen's (*in press-a*) qualitative analysis of 857 elite UK news articles on therapeutic cloning and five human cloning films largely supports this finding. His results showed excessively positive press coverage of therapeutic cloning, while the films conjured unrealistic dystopian scenarios. He concludes that both these forms of hype have negative implications for the quality of public bioethical discourse.

Finally, in the most comprehensive study in the literature, Haran et al. (2007) bring together a wide-ranging but mainly UK-centred analysis of various kinds of media coverage of human cloning, including data from mainstream news media and 'liminal' media forms

such as two cloning-related websites and a BBC television docu-drama on cloning. In addition, they utilise data from interviews with news sources such as Zavos and Hwang, as well as focus group and ‘mass observation’ data on audience reception of media coverage of human cloning. Thus, the full circuit of mass communication is covered in this study. However, the precise dimensions of the content sample are not specified, there are no data from news workers such as journalists and editors to shed further light on the production process, and it is not clear how much impact ‘liminal’ media have had on the mediated public debate over human cloning.

Nevertheless Haran et al. (2007) make several important contributions to the literature, including a valuable feminist perspective<sup>21</sup> and data on the audience reception dimension. In their analysis of the variously constructed ‘mavericks, madmen and fallen heroes’ within the media coverage of human cloning, Haran et al. (2007) emphasise the efforts to define the boundaries of good science in such a way as to exclude figures such as Zavos and Antinori, as well as the fallen Hwang from late 2005 on. They also discuss the visions of the future conjured in dystopian science fiction films such as *Aeon Flux* and *The Island*. Counter-intuitively, the authors interpret the narrative in the latter film as a “reassuring tale” that comforts viewers with the idea that the morally strong individual can rein in any dangers that techno-scientific development may produce (Haran 2007: 64).

### **Limitations of Previous Studies: A Brief Meta-Analysis**

Although the various studies reviewed above offer important insights into Anglo-American press coverage of therapeutic cloning, they suffer from a number of methodological shortcomings. Additional criticisms could be levelled, but the most prevalent limitations can be summarised under five categories: (1) study design addresses only one dimension of the circuit of mass communication, (2) small sample, (3) sample is limited to a single national context, (4) exclusionary sample, and (5) unspecified method of data analysis. These categories are elaborated further below.

#### *1. ‘One Dimensional Design’*

Most of the previous studies only addressed one dimension of the ‘circuit of mass communication’, which includes ‘production’, ‘content’ and ‘reception’ according to Thompson (1988). Thompson argues that these dimensions are most fruitfully analysed in concert:

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<sup>21</sup> Given women’s central role in reproduction, and more specifically in the provision of the embryos required for therapeutic cloning research, feminist theorising and research in this area is vitally important.

We can focus our attention on each of these object domains in turn, analysing their characteristic forms and processes. But the fact that these object domains are constituted by abstracting from other aspects of mass communication implies that an analysis focussed on a single object domain will be limited in certain aspects. A comprehensive approach to the study of mass communication requires the capacity to relate the results of these different analyses to one another, showing how the various aspects feed into and shed light on one another. (Thompson 1988: 374)

Thus research on more than one dimension in the circuit of mass communication is preferably in terms of providing a valid and complete account of the mediation of human cloning.

However, while a one-dimensional research design is limiting, it is only a *flaw* when sociologists over-reach and make unfounded claims about the dimensions not addressed by their data. For example, researchers conducting studies of media content are sometimes tempted to exceed their data by making claims about the ways in which this content will be received by audiences. This ‘fallacy of internalism’ occurs when “analysts...focus largely or exclusively on the structure and content of media messages, and...‘read off’ the consequences...by reflecting on the messages themselves” (Thompson 1990: 24).

## 2. ‘*Small Sample*’

There are a high proportion of studies in the literature on cloning news coverage with small samples or truncated sampling timeframes. One example is Kitinger and Williams’ (2005) study, which examines less than 3 weeks of media coverage in total. Such small samples face well-documented limitations in generalisability (e.g. Priest 1996).

## 3. ‘*Mono-national Sample*’

Although the use of the nation as the unit of analysis is well-established within sociology, focusing a study upon a single nation can yield a myopic and incomplete perspective on globalised phenomena such as biotechnology (Beck 2006). Avoiding ‘methodological nationalism’ is also important for the detection of ‘subtle’ structural factors at work in the mediation of biotechnology:

Subtler differences between the structures of media systems in Europe and the U.S...may be very important for understanding the character of public debate in the context of media reports on both sides of the Atlantic. (Priest and Eyck 2003: 33)

## 4. ‘*Exclusive Sample*’

The tendency for press studies to privilege broadsheets and other elite media to the exclusion of tabloids and populist American news publications such as *USA Today* has been justified by the claim that elite news publications are disproportionately influential in the

political realm. While there is evidence that the readership of elite news publications is more politically engaged (Bauer and Bonfadelli 2002), the privileging of these publications in studies of science news is unwarranted. Non-elite sources boast a much wider circulation, and there is no evidence that they exert any less influence on the public agenda than elite newspapers. Thus, the exclusion of these non-elite newspapers must be viewed as a largely arbitrary decision, which does not reflect the important role these newspapers play in the mediated public sphere. Indeed, Priest and Eyck (2003: 33) point to the fact that many significant issues can be missed by studies that are “limited to a handful of elite publications”.

##### 5. *‘Unelaborated Data Analysis’*

Most of the studies in the literature were qualitative. Amongst these articles, there was a pattern of authors failing to specify the methods of data analysis they had employed to reach the reported conclusions. This omission leaves the reader uncertain of the quality of the analytic process (Johnson and Waterfield 2004). That is, in these cases the reader must question whether the analysis was systematic and rigorous.

##### *‘Quantitative’, ‘Qualitative’ or ‘Combined’*

This final category is not a limitation, but simply an important additional dimension for characterising the extant empirical literature on this topic. The possible permutations in the previous studies were “quantitative”, “qualitative” or “combined” qualitative and quantitative within the same study. The quantitative studies used ‘content analysis’, whereas the qualitative analyses rarely elaborated their methodology. The previous studies of human cloning in the media are rated on this dimension, as well as the five major methodological limitations in Table 1.

**Table 1: Limitations of Previous Studies of Human Cloning in the Media**

	<b>One Aspect Design</b>	<b>Small Sample</b>	<b>Mono-national Sample</b>	<b>Exclusive Sample</b>	<b>Analysis Not Detailed</b>	<b>Research Design</b>
<b>Nerlich, et al. 1999</b>	X	X	UK	X	X	Qualitative
<b>Hellsten 2000</b>	X	X	UK	X	X	Qualitative
<b>Nerlich, et al. 2000</b>	X	X	-	-	X	Qualitative
<b>Priest 2001</b>	X	X	US	X	X	Qualitative
<b>Einsiedel et al. 2002</b>	X	X <sup>22</sup>	-	X	-	Quantitative & Qualitative
<b>Bloomfield &amp; Vurdubakis 2003</b>	X	-	UK	-	X	Qualitative
<b>Nerlich &amp; Clarke 2003</b>	X	X	UK	-	X	Qualitative
<b>Williams, et al. 2003</b>	X	X	UK	-	X	Qualitative
<b>Holliman 2004</b>	-	X <sup>23</sup>	UK	-	-	Qualitative & Quantitative
<b>Gerlach &amp; Hamilton 2005</b>	X	-	-	-	X	Qualitative
<b>Weasel &amp; Jensen 2005</b>	X	X	US	-	X	Qualitative
<b>Kitzinger &amp; Williams 2005</b>	X	X	UK	-	X	Qualitative
<b>Jensen &amp; Weasel 2006</b>	X	-	US	-	-	Quantitative
<b>Haran, et al. 2007</b>	-	(Unclear)	UK	-	X	Qualitative
<b>Haran 2007</b>	X	X	UK	-	X	Qualitative
<b>Marks, et al. 2007</b>	X	-	-	X	-	Quantitative
<b>Jensen <i>in press</i><sup>24</sup></b>	X	-	UK	X	-	Qualitative

<sup>22</sup> The UK sample only included three newspapers for this study: *The Guardian*, *Independent* and *Times*.

<sup>23</sup> Holliman's (2004) sample is not particularly small, especially given that he covers the full circuit of mass communication. For example, he analyses 284 press articles and 16 television news bulletins in the 'content' component of the study. However, the timeframe for the sample only runs until the end of 1997, which makes it a 'truncated sample' and thus coded in the 'small sample' category.

<sup>24</sup> This study was based upon the present author's MPhil dissertation research at the University of Cambridge, as well as an additional study of human cloning films.

## **Addressing the Limitations**

The limitations of the studies identified in Table 1 have been critically reviewed in order to inform the design of the present study. This study addresses each of the shortcomings reviewed above, employing an in-depth, iterative qualitative analysis in order to excavate the discursive formations in the sample and elucidate their implications in light of sociological theory. The data for this study cover two of the three dimensions of mass communication: production and content. The sample size is very large, including 5,185 articles and 18 interviews. A cross-national comparison between the US and the UK is employed with a global perspective to moderate the concern of ‘methodological nationalism’. Data from non-elite news publications are included, such as *USA Today* in the American sample and *The Daily Mail* and *The Sun* in the UK sample. Moreover in Chapter 2, a rigorous data analysis plan is delineated, as well as multiple ‘quality assurance’ measures, including ‘deviant case analysis’, ‘thick description’ and procedural clarity through the use of computer-aided qualitative data analysis software. Combined, these various elements of the research design address all five of the major, recurring limitations in the previous literature on human cloning media coverage.

## CHAPTER 2: METHODS

This study examines discourses embedded in press coverage of therapeutic cloning and their implications for the mediated public sphere. Two sources of original data are adduced to this end: Press articles and interviews with journalists. First, a comprehensive sample of Anglo-American press content was gathered to obtain a comparative perspective on the construction of therapeutic cloning discourses. Second, semi-structured qualitative interviews were conducted with Anglo-American journalists who had produced press articles about therapeutic cloning. These data were processed using a comprehensive analytic framework drawing inspiration from two distinct traditions of qualitative data analysis: grounded theory and sociological discourse analysis. These two methods of data analysis were combined to form a ‘grounded discourse analysis’, conducted in two phases. The Phase 1 analysis followed the guiding principles of grounded methodology (Glaser and Strauss 2001; Strauss and Corbin 1998), including the techniques of coding and ‘memoing’, to construct a preliminary descriptive understanding of the data. In Phase 2, a discourse analytic lens influenced by a wide range of sociological theories (e.g. Anderson 1991; Bauman 1999; Beck 1992; Beck 2000a; Billig 1995; Bourdieu 1992; Bourdieu 1998b; Fraser 1992; Habermas 1989; McManus 1994; Schudson 1992) was applied in order to draw connections between the preliminary grounded results and important theoretical concepts. My overall goal was to connect the specifics of this study’s findings to broader issues with theoretical relevance.

### **Sampling: *The Press***

5,185 newspaper and periodical articles were gathered for this study<sup>25</sup>. The sampling frame commenced from 1 February 1997<sup>26</sup>, with the first sample articles centred on the story of Dolly the sheep. It then continues until 15 February 2006, by which time the Hwang scandal had fully played out. Thus, this nine-year sample timeframe begins and ends with major stories relevant to therapeutic cloning. For the British sample, broadsheets (e.g. *The Times*), tabloids (e.g. *The Sun*), and science advocacy periodicals (e.g. *New Scientist*) are included to cover the diverse spectrum of influential press venues for the therapeutic cloning debate. An equivalent sample was gathered for the US press, including publications ranging

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<sup>25</sup> Clearly this print media only sample is a limitation in the present study. Television, radio and new media are also very important within the mediated public sphere, and they are not addressed in this dissertation.

<sup>26</sup> Before this date there was some coverage of cloning, but not much discussion of *human* cloning (Holliman 2004).

from the vaunted *New York Times* to the more populist *USA Today*<sup>27</sup>. The US has several national ‘newspapers of record’, the four (*arguably*) most influential of which were incorporated into the US press sample (viz. the *New York Times*, *Washington Post*, *Boston Globe* and *Los Angeles Times*). *USA Today* was included because of its nationwide status and distinction as the highest circulating American newspaper. There are also several influential news magazines within the American press, of which the two most widely circulating, news-focused and mainstream publications were selected for the present sample: *Newsweek* and *US News & World Report (USN & WR)*. These national newspapers and periodicals have been identified as ‘opinion leaders’ within the broader spectrum of US news media (e.g. Ferree et al. 2002). Some of their articles are even syndicated and published verbatim in numerous smaller newspapers around the country. In addition, the small news and opinion sections of the journal *Science* were included in the sample. Table 2 lists each publication in the press sample for this study. The asymmetry in this table (e.g. in terms of the lack of ‘tabloid’ national newspapers in the US) reflects the divergent topography of the US and UK journalistic fields.

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<sup>27</sup> The United States has no equivalent publications to the British tabloid, and therefore the tabloid category is left empty for the American press sample. The *USA Today* will serve a similar role in diversifying the US sample though, since it is much less of an elite newspaper than the other American print media included in this sample. (However, it still does not come close to approximating the tabloid news format).

**Table 2: British and American Publications in Sample by Press Genre (n = 5,185)**

UK Publications (n = 3,227)	US Publications (n = 1,958)
<b>Broadsheet</b>	
<i>The Guardian</i> <sup>28</sup> (n = 333)	<i>New York Times</i> (n = 397)
<i>The Times</i> <sup>29</sup> (n = 587)	<i>Los Angeles Times</i> (n = 268)
<i>Daily Telegraph</i> <sup>30</sup> (n = 268)	<i>Washington Post</i> (n = 446)
<i>Financial Times</i> (n = 97)	<i>Boston Globe</i> (n = 440)
<i>The Independent</i> (n = 431)	<i>USA Today</i> (n = 136)
<i>The Economist</i> (n = 48)	<i>Newsweek</i> (n = 53)
-	<i>US News/World Report</i> (n = 77)
<b>Tabloids</b>	
<i>Daily Mail</i> (n = 617)	-
<i>Daily Mirror</i> (n = 202)	-
<i>The Sun</i> (n = 291)	-
<b>Science Advocacy</b>	
<i>New Scientist</i> (n = 151)	<i>Science</i> (n = 141)
<i>Nature</i> (n = 202)	-

The pre-existing political biases of the Anglo-American press represented in this sample should also be kept in mind in order to understand the significance of themes visible across the sample. While the mainstream American press maintains a strong ‘objectivity’ ethic in its reporting, there are widely known (and accepted) biases in the UK newspaper market. These biases are outlined in Table 3.

<sup>28</sup> Also includes articles from *The Observer*, the version of *The Guardian* published on Sunday.

<sup>29</sup> Also includes articles from *The Sunday Times*.

<sup>30</sup> Also includes articles from *The Sunday Telegraph*.

**Table 3: British Publications in Sample by Known Political Orientation**

UK Publications	Political Bias
<b>Broadsheet</b>	
<i>The Economist</i>	Centre-Right
<i>The Times</i> <sup>31</sup>	Centre-Right
<i>Financial Times</i>	Centre-Right
<i>Daily Telegraph</i> <sup>32</sup>	Right
<i>The Independent</i>	Left
<i>The Guardian</i> <sup>33</sup>	Left
<b>Tabloids</b>	
<i>Daily Mail</i>	Right
<i>Daily Mirror</i>	Centre-Left
<i>The Sun</i>	Centre-Right
<b>Science Advocacy</b>	
<i>New Scientist</i>	N/A
<i>Nature</i>	N/A

A key word search was used with the search terms: ‘cloning’ or ‘nuclear transfer’ and ‘medical’ or ‘therapeutic’ or ‘cure’ or ‘human’. The resulting articles were then screened for relevance, ‘cleansed’ and organised into a usable format for analysis.

### **Sampling: Interviews**

In order to construct an understanding of the issues involved in the production of therapeutic cloning news content, this study includes data from semi-structured qualitative interviews with correspondents and editors ( $n = 18$ ). These interviews open a window into the inner workings of science news production. Although they are subject to myriad institutional and external pressures, it is ultimately individual journalists that are the linchpins in the process of science news production. These interview data have been connected to the findings from the press content in order to assemble an unusually comprehensive view of discursive themes in the public sphere, tracing their development from journalist to published news content. As noted in Chapter 1, media theorist John Thompson (1999a: 374) specifically

<sup>31</sup> Also includes articles from *The Sunday Times*.

<sup>32</sup> Also includes articles from *The Sunday Telegraph*.

<sup>33</sup> Also includes articles from *The Observer*, the version of *The Guardian* published on Sunday.

recommends this approach of “showing how the various aspects” of mass communication “feed into and shed light on one another” (also see Carmel 1999b: 148)<sup>34</sup>.

Participant selection for this study was based on the theoretical sampling model developed by Barney Glaser and Anselm Strauss (1967). Theoretical sampling refers to the technique of identifying representative cases for the sample based on prior and emerging knowledge about the phenomenon under study. With theoretical sampling, “the analyst jointly collects, codes and analyzes his data and decides what data to collect next and where to find them” (Flick 2002: 64). Theoretical sampling in this study was systematised through an iterative process of data collection. The first wave of data collection involved the use of keyword searches within full-text electronic databases to identify and gather the range of relevant Anglo-American press articles within the parameters for the content sample. After two sweeps through the data to manually ‘cleanse’ the sample of irrelevant, extraneous articles, an initial analysis was conducted. This preliminary survey of the press content sample revealed that certain journalists in each national sample authored a disproportionate share of therapeutic cloning press coverage. Such prolific specialist journalists were singled out for interview solicitations.

The interview sample was gathered from May to November 2005. UK Interview requests were drafted and posted to both tabloid and broadsheet correspondents and editors. The addressees were asked to e-mail the researcher if they would be willing to participate in the study. The invitations to the UK broadsheet journalists were accepted by all the key journalists and editors writing about therapeutic cloning, except two. One correspondent sent an e-mail declining to participate and explaining that he had since been re-assigned to a different specialist ‘beat’ within the newspaper, and was thus not interested in being interviewed on this topic<sup>35</sup>. In addition, one science writer at a science advocacy news periodical based in the UK indicated willingness to participate, but subsequent attempts to arrange the interview were unsuccessful due to the constraints of her schedule. Most problematically, none of the invitations posted to tabloid journalists yielded a response.

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<sup>34</sup> In addition, an applied methodological study conducted by Emma Carmel (1999: 148) concluded that “comparative documentary research” (such as the part of my dissertation based on press articles) “is much enriched by interviews and an intimacy with the language and social, political and economic environment of the countries being studied”. Connected to Thompson’s methodological critique of internalism and his recommendation of spanning more than one dimension of the circuit of mass communication, Carmel’s suggestion provides further impetus for the selection of the present study design.

<sup>35</sup> I subsequently enquired with this journalist’s replacement about an interview. He declined because he did not feel he had been in the position long enough to speak about it (he had been in the position for less than three months at that point).

Moreover, a later round of interview request e-mails to tabloid journalists was similarly unsuccessful<sup>36</sup>.

The US interview sample was solicited through e-mail. There was a high response rate, again with only two main journalists that covered therapeutic cloning not in the final American interview sample ( $n = 9$ ). One of these participants never responded to the e-mail query, while the other was on an extended vacation during the time I was in the US to conduct interviews. While the lack of a complete census of journalists covering therapeutic cloning in the Anglo-American press is unfortunate, at least in the case of the broadsheet UK journalists and the American journalists, there is no reason to believe that non-respondents differ significantly from participants in terms of the issues and practices discussed in this study. However, the 0% response rate amongst UK tabloid journalists is a major limitation.

In deciding not to pursue the missing UK broadsheet and American journalists to complete the interview sample, I relied upon the standard qualitative rubric of *saturation* (e.g. Morse 1998: 230). That is, it was my judgment upon completion of the present interview data set, that I was hearing recurring explanations and descriptions indicative of diminishing returns. Therefore further data collection was deemed to be somewhat superfluous, or at least not worth the additional investment of time and resources that would have been required to complete a census of the targeted US and UK broadsheet journalists and editors. Ultimately 9 interviews were conducted in the US, 9 in the UK (for a combined  $n = 18$  interviews). Interviews lasted from 27 minutes to 1.75 hours.

By using the distribution of authorship in the press content sample as the guide, the participants selected for the interview sample were those “who can well represent the phenomenon of interest” and “who have experience – the most experience – in the topic of interest” (Morse 1998: 734). As such, this ‘theoretical sample’ was comprised of those most likely to have detailed knowledge of the media production processes that yielded the particular news accounts being examined in the present study. The distribution of interview participants by journalistic specialism or ‘beat’ can be seen in Table 4.

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<sup>36</sup> Partly this seemed to be due to a relative paucity of full-time specialist science journalists, but this cannot be the only explanation for this lack of responses from tabloid journalists.

**Table 4: Interview Sample Journalistic Specialism Distribution**

<b>Journalistic Specialism</b>	<b>US</b>	<b>UK</b>
Science Correspondent / Writer	6	3
Science Editor	-	3
Medical/Health Correspondent	-	1
Medical/Health Editor	-	1
Other specialism (e.g. politics)	3	-

As can be seen in Table 4, the UK broadsheets assigned the therapeutic cloning story to science and medical journalists, with few exceptions. In the US, science and political (not medical) journalists were utilised most. The significant minority of political journalists assigned to this story in the US sample reflects the greater political contestation within American politics, as well as a greater willingness to view this as a political issue, not a purely technical one.

### **Advantages of Interviewing**

Semi-structured interviewing is the most appropriate method of data collection for facilitating participant engagement on a specific science communication topic, whilst maintaining the flexibility to explore interesting conversational threads as they unfold (e.g. Jensen and Holliman *in press*). By minimising restrictions on the scope of the conversation, semi-structured interviewing allows participants to answer freely based upon personal reflection, knowledge and experience. At the same time, this approach acknowledges and embraces the collaborative nature of the interview, “recognizing how interviewers reformulate questions and how respondents frame answers in terms of their reciprocal understandings as meanings emerge during the course of an interview” (Morse 1998: 52). In the present study, intersubjectivity was achieved dynamically through the use of probes and follow-up questions to delve into the essential aspects of participants’ perspectives on news production related to therapeutic cloning.

### **Data Analysis Phase 1: Grounded Methodology**

The present study employs a bespoke analytical approach that combines two forms of qualitative data analysis: grounded theory (Glaser and Strauss 1967; Strauss and Corbin 1998; Strauss 1987) and sociological discourse analysis (Hammersley 2003; Potter and Wetherell 1994). In order to build up to the discourse analytic stage of the study, I began with

close inspection of the data using the analytic tools of grounded theory, including systematic coding and categorisation of the data. Originally developed by Glaser and Strauss (1967; 2001), the grounded theory tradition is based upon the goal of deriving theory from the ‘ground’ up to limit the imposition of *a priori* paradigmatic assumptions on the data (Kuhn 1960). That is, grounded studies start at the descriptive, micro level of the data and work up to mid-level grounded theory. This stands in contrast to the positivist hypothetico-deductive model which works in the opposite direction (viz. first theory, then hypotheses, then data). Like most grounded researchers, I have not adopted the entire grounded theory approach (Bryman and Burgess 1994). Rather, I made pragmatic use of only its analytical tools, including data handling techniques, open coding and thematic category development. The final phase of conventional grounded theory aimed at mid-level theory development was excluded in this study, because of its emphasis on micro-level description to the exclusion of macro-level societal transformations and social theory. Thus, in order to encompass such broader considerations, the goal of developing a ‘grounded theory’ was set aside in favour of by a theoretically-informed adaptation of sociological discourse analysis (i.e., Data Analysis ‘Phase 2’).

Criticisms of grounded theory guided this decision to use only the grounded methodological tools, and to subsequently connect the results to social theory through discourse analysis. Despite grounded theory’s strength at providing “accessible methodological guidelines”, it has often been criticised for its “limited theoretical position” (Kushner and Morrow 2003: 31). In addition, the coding process can lead to increasingly abstracted and de-contextualised data. Consequently, many researchers draw upon broader theoretical perspectives such as critical and feminist theory in order to address some of conventional grounded theory’s limitations. These limitations arise “at the levels of metatheory, empirical analysis, and normative implications” (Kushner and Morrow 2003: 33). Moreover, adding the perspective of social theory to grounded methodology can better situate “contexts of action within larger social relations of power and structure” (Strauss and Corbin 1994: 35).

The kind of combined qualitative methodology approach employed in the present study has been specifically encouraged by grounded theory methodologists Strauss and Corbin (1998). They indicate that grounded theory “offers a cluster of very useful procedures – essentially guidelines, suggested techniques, but not commandments” (Strauss and Corbin 1998: 4). They also espouse the pragmatist view of social science developed by Dewey and Mead, thereby implicitly condoning the separation of these “useful procedures” from the

larger philosophical prescriptions about how a grounded analyst should best think about and study social reality. According to Kushner and Morrow (1994: 37), “grounded theory method may allow- but does not compel- researchers to extend their consideration of structural influences on social processes to depth analysis of the setting and context of intermediate and macrosocial organization”. In this study, such an extension to examine macro-level factors is achieved with the Phase 2 discourse analysis. However in the context of addressing broader theoretical concerns through discourse analysis, Strauss and Corbin (1994: 282) identify the “danger” that such an analysis will “be speculatively remote from the phenomena it purports to explain”. In response to this validity threat, “grounded theory methodology insists” that engagement with social theory “should be developed in that back-and-forth interplay with data that is so central to this methodology” (Lonkila 2001: 282). As such, this ‘grounded discourse analysis’ is designed to engage in a ‘back-and-forth interplay’ with the data throughout the analytic process.

## **Coding**

The pivotal first step in the data analysis process is line-by-line coding. Coding is the central task of grounded analysis (Lonkila 2001), and the most foundational for the present study. Specifically, a grounded study begins with “open coding,” which Strauss and Corbin (1990: 74) define as “the analytic process by which concepts are identified and developed in terms of their properties and dimensions”. This is accomplished by asking mental questions about the data, making comparisons, and developing labels and groupings for similar phenomena (e.g. Strauss and Corbin 1990). Next in the grounded approach is “axial coding”, which essentially consists of reconstructing data “in new ways by making connections between a category and its subcategories” (Strauss and Corbin 1990: 97)<sup>37</sup>. In this study both of these coding procedures were carried out on the entire sample using CAQDAS (computer-aided qualitative data analysis software).

As in Kelle’s (2000: 295) example of coding with computer assistance, the present grounded analysis began with 6 steps:

1. Formatting textual data
2. Open coding of data
3. Memo writing
4. Comparing text segments that have been assigned the same code
5. Integrating codes, and attaching memos to codes
6. Developing a main theme

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<sup>37</sup> The third form is selective coding, which is used to deductively test a core category once it has been constructed.

This coding process was iterative and non-linear. It yielded a highly organised, usable data set, but more importantly the emergent themes oriented and grounded the discourse analysis in Phase 2. Memos (Step 3 above) entered into the analysis primarily in this second phase, informing the discourse analysis and setting the stage for the write-up. The use of qualitative data analysis software facilitated the integration of the grounded methodology with the subsequent discourse analysis. Each layer of codes and memos from Phase 1 was recorded and annotated to the computerised data set, so that the discourse analysis could be continuously informed by the grounded analyses preceding it.

### **CAQDAS (Computer-Aided Qualitative Data Analysis Software)**

Using *ATLAS.ti* software to aid the data analysis was especially appropriate in this case given its close fit with the grounded methodological approach underpinning the study. Grounded theory has been highly influential in guiding software development in the field of CAQDAS, and “has taken an almost paradigmatic role” in the discussions surrounding its use (Lonkila 2001: 271). *ATLAS.ti* in particular was “explicitly developed to enable a grounded theory approach” (Seale 2000: 168), based on Strauss’s (1987) explication of the process of theoretical coding and grounded theory development (Flick 2002; Lonkila 2001).

However, CAQDAS has been criticised for alienating researchers from their data and sometimes causing an overemphasis on coding, resulting in the neglect of other approaches such as discourse analysis (Kelle 2000). This latter point was ameliorated in the present study as a result of the methodological triangulation provided through the use of both grounded coding and discourse analysis. In addition, the predominant opinion in the methodological literature appears to indicate that any minor limitations stemming from CAQDAS are more than outweighed by increases in productivity, reliability, consistency, and transparency (e.g. Carmel 1999b: 148).

### **Data Analysis Phase 2: Discourse Analysis**

The preliminary grounded results from Phase 1 of the data analysis offered an indication of potentially productive points of intersection between the data and social theory. In Phase 2, I searched the literature on theoretical concepts and broader social trends relevant to these points of intersection. I then returned to the data with knowledge of relevant theoretical concepts and empirical claims from the literature about aspects of modern society implicated in the data. I assessed and elucidated these knowledge claims in the literature by systemically and critically examining their levels of correspondence with the data. In this

way, the microscopic details of the production and content of press coverage about therapeutic cloning were connected to broader macrosociological concerns external to the particular research problem addressed in this study. This theoretically-oriented phase of the data analysis is discussed below under the auspices of a sociological ‘discourse analysis’ capable of locating the Phase 1 findings from the “grounded theory on a broader canvas” (White 2004: 51). In the discourse analysis, the goal is to understand the reality constructed in the text through the lens of a social constructionist epistemology (Gill 2000). Essentially, I explore constructions of therapeutic cloning within the sample data, as well as the ways in which these internal constructions link up to the broader social and institutional factors (e.g. Durkheim 1938).

While there are as many as 57 varieties of discourse analysis (Gill 2000), the type selected for the present study focuses on the constructive nature of discourse (Gill 2000; Parker 1994; Potter and Wetherell 1994), and the broader implications of such discursive constructions. The empirical focus on press coverage of therapeutic cloning is sustained by the context-centred and contingency-sensitive view of the research problem supported by the discourse analytic paradigm (e.g. Jupp and Norris 1993). This expansive Phase 2 analysis is built upon the internally focused grounded analysis, exploring how the framing of therapeutic cloning developed into its present form. The discourse analysis also considered the functions and consequences of the discourse for future debates on embryo research and cloning. Broadly speaking, “the discourse analyst is after the answers to social or sociological questions rather than to linguistic ones” (Potter and Wetherell 1994: 48). Adapted for the present context from the recommendations of Jupp and Norris (1993: 50), the agenda for the discourse analysis phase of the study included the following questions:

1. What public or institutional discourses are important to determinations of ‘right’ or ‘wrong’ in coverage of therapeutic cloning?
2. What are the consequences of such discourses appearing in these texts?
3. Who are the writers or speakers within these discourses and whom do they purport to represent?
4. What does a critical reading of the data uncover in terms of:
  - (a) What is framed as problematic or beneficial about therapeutic cloning;
  - (b) Which explanations are rejected or de-legitimised;
  - (c) What potential solutions are defined as undesirable or unnecessary?

These questions are explored by way of an elaboration on the findings of the grounded analysis. This Phase 2 analysis was supplemented by the application of extant research literature and theory, as well as fresh interrogation of the original data whenever relevant.

## Epistemological Considerations

Given the unique methodological blend utilised in the present study, it is important to acknowledge the research design's epistemological implications. 'Grounded discourse analysis' poses immediate challenges in terms of potentially conflicting epistemologies. Interpretivist or symbolic interactionist paradigms are typically associated with the grounded theory framework (cf. Blaikie 1993: 34; Charmaz 2001). Interpretivism takes meanings and interpretations and "elevates them to the central place in social theory and research" (Blaikie 1993: 176). The association with symbolic interactionism leads grounded theory to emphasise "the processual nature of human interaction in the social world" (Gill 2000: 33). However, these perspectives leave underexamined many structural, institutional, and historical factors that are not strictly interpretive or interactionist phenomena, but that are nevertheless important.

Discourse analysis on the other hand tends to rely on an epistemology that has been variously referred to as "social constructionism, constructivism or simply constructionism," and which is not necessarily coextensive with interpretivism (Gill 2000: 73). The epistemology of discourse analysis is characterised by "a critical stance towards taken-for-granted knowledge," a recognition that current understandings of the world are historically and culturally contingent, a belief that knowledge is constructed through social processes and a commitment to studying the ways in which these social constructions are linked to action and practice (Gill 2000: 73).

Despite the apparent contradiction in epistemological orientation between the grounded and discourse analytic approaches, many potential conflicts were overcome by thinking of the two phases of analysis as separate, but complimentary and conversant, components of the study. Thus, each component remained internally consistent in terms of its ontology and epistemology. However, the results of the grounded analysis easily fed into the discourse analysis, thereby enriching both components. This mutually supportive methodological structure yielded many of the benefits of 'complementary assistance' discussed by methodologist David Morgan (1998; *in press*). Research motivated by 'complementary assistance' "uses different strengths by connecting methods so that one contributes to the performance of another" (Morgan *in press*: 75). While Morgan's (1998) model is aimed at the combination of quantitative and qualitative methods, I contend that many of the benefits of this combination can be realised when fusing approaches from *within* the qualitative tradition.

### **Quality in Qualitative Research: Alternative Functionally Equivalent Criteria**

There is a growing body of methodological literature advocating quality assurance techniques (cf. Kvale 1996) to facilitate “distinguishing properly from improperly conducted qualitative research” (Thorne 1997: 117). Flick (2002: 280) argues that “the failure of qualitative research is discussed much too seldom”, thus giving the false impression that all issues related to the validity of qualitative research are already settled. Although further elaboration is certainly needed to develop firm, accountable criteria about what represents ‘good practice’ in qualitative analysis (Gaskell and Bauer 2000: 336), there is substantial agreement about some of the ways in which quality can be evaluated in a qualitative study. While some (e.g. Silverman 2000: 175) have attempted to apply the concepts of validity and reliability directly from the domain of quantitative methodology (albeit with a revised logic), many methodologists have begun using alternative criteria designed specifically for evaluating qualitative studies. Indeed Thorne (1997: 118) argues that “much of the ‘bad’ qualitative research” in the social science literature is the result of “the inappropriate application of quantitative quality measures”. As Bauer and Gaskell (2000: 342) note, “sampling, reliability and validity have served quantitative research well, but are just not appropriate for the evaluation of qualitative inquiry”. The functionally equivalent evaluation criteria they recommend include: triangulation, reflexivity, thick description, transparency and procedural clarity and deviant-case analysis. This study addressed each of these quality assurance criteria.

#### **Triangulation**

The data analysis design for this study introduced a form of methodological quality assurance known as ‘theoretical’ or ‘method’ triangulation. According to Kushner and Marrow (2003), linking grounded methodology to more general theoretical frameworks as in the present study’s ‘grounded discourse analysis’ could be viewed as enabling ‘theoretical triangulation’. They argue that the “mutually corrective and synergistic” interplay between approaches such as grounded theory and sociological discourse analysis can offer “an effective means of bringing out the strengths and dealing with the limitations of each perspective” (Tindall 1994: 32). The benefits of this methodological blending can also be understood under the rubric of ‘method triangulation’, which “entails the use of different methods to collect information” in order to lessen the particular “limitations,” “validity threats and distortions” inherent in any single method (Tindall 1994: 147). Combining grounded methodology with discourse analysis exemplifies method triangulation: That is,

each method's weaknesses are reduced through their synergistic collaboration. For example, discourse analysis helps ameliorate grounded theory's excessive emphases on de-contextualised descriptive features internal to the data; meanwhile, grounded methodology gives the Phase 2 discourse analysis a firm empirical foundation in the data.

### **Thick Description**

Thick description involves the use of extended verbatim extracts from the data, which empower the reader to either agree with the researcher's conclusions or to come to different interpretations. "The term 'thick description' or 'dense description' is used when context, meanings and interpretations that elucidate the research process are provided, rather than mere statement of facts independent of intentions or situations" (Johnson and Waterfield 2004: 127-128). Done correctly, this procedure should bring readers "into the social milieu of the social actors," providing "insights into the local colour, the language and the life world" of the agents under study (Gaskell and Bauer 2000: 347). This form of quality assurance was thoroughly developed in the Results chapters that follow. Rather than proffering isolated quotes of 1-3 words or a single sentence, longer segments of text have been displayed wherever possible to exemplify more of the depth and richness of the original data set. Moreover, major findings are first introduced by dissecting an extended extract to demonstrate the contours of the discursive phenomenon, followed by more succinct and diverse examples of the pattern.

### **Transparency and Procedural Clarity: The Audit Trail**

Johnson and Waterfield (2004: 127) identify the importance of maintaining a methodological 'audit trail', a term that "derives from a fiscal audit that looks for sources of error or deception by examining the way in which the accounts are kept". This method of quality assessment was addressed in this study primarily through the use of CAQDAS. Gaskell and Bauer (2000: 346) argue that CAQDAS compels transparency and procedural clarity "by technological fiat". *Atlas.ti* allowed each step of the analytical process to be digitally captured and maintained for later re-evaluation. This software-based capability is invaluable when it comes to maximising procedural clarity and transparency in the data analysis process. One part of the quality assessment system for this study involved periodically going back through the grounded coding procedures and the chains of induction, to re-examine theme development and empirical interpretations. When questionable inductions were identified, they were corrected and the changes were integrated into the final

*Atlas.ti* hermeneutic unit to ensure that empirically-based inferences and discourse analytic interpretations were based on a solid foundation.

### **Deviant-Case Analysis**

To further promote quality and accountability in this study, an iterative process of deviant-case analysis was enacted. After developing preliminary interpretations and thematic categories, I perused the data looking for deviant cases to improve and refine my initial understanding, or to try to disprove it completely (Green 1998). When deviant cases proved problematic or insoluble with the then-current understanding, I returned to the beginning by recoding and abducting in order to account for these data. After arriving at a new understanding, the procedure was repeated as necessary until the explanatory framework adequately accounted for the full data set. Finally, at least one key finding that diverged from the main thrust of a given results chapter was selected for explication. The use of deviant-case analysis represents acceptance of the necessarily limited nature of both the interpretive and report-writing components of empirical research. Subjectivity is necessarily implicated in the selection and prioritisation of themes for the results chapters below. Specifically seeking out and explicating deviant cases in this manner is also an important acknowledgement of the ultimately polysemic nature of media texts, as well as the heterogeneity and irreducible complexity of social reality. As such, this quality assurance procedure is a key expression of the interpretivist and constructivist epistemologies underpinning this study.

### **Reflexivity**

“Reflexivity...is about acknowledging the central position of the researcher in the construction of knowledge” (Tindall 1994: 151). Many qualitative researchers view reflexive evaluation of the research process as an essential dimension of quality assurance (Flick 2002; Johnson and Waterfield 2004). In the present study, reflexive consideration of the analytic process was undertaken periodically to evaluate the potential influence of bias and other personal factors on the analyses and results. These periods of self-reflection were complemented with open discussions of potential problems with other researchers in order to get outside perspectives on the quality of my work and my reflexive process.

The ‘reflexivity’ method of qualitative quality assurance encourages the open acknowledgement of biases that researchers inevitably bring to a study (see Angen 2000). Even the most casual of readers of this dissertation will detect a normative framework underlying and partially structuring the explanations proffered in this dissertation. In keeping

with the prescribed qualitative research methodology reviewed above, I explicate this normative perspective below. By making this framework explicit, readers of this manuscript may judge for themselves whether it is legitimate, and how it may be reflected in this dissertation. This step will help to minimise the imposition of latent, manipulative or ideological framing of the research results.

Two main theses comprise my *a priori* normative position in this dissertation:

1. Following the central precepts of the neo-Marxist Frankfurt School's critical theory framework (e.g. Adorno 1991; Benjamin 1992)<sup>38</sup>, the domination and instrumentalisation of individuals, groups and modes of thought is to be opposed. Conversely, emancipation (i.e., freedom from domination) is desirable and should be supported in word and deed.
2. While I acknowledge that unrestricted, unreflective democracy or 'mobocracy' is usually undesirable (e.g. Plato 1900), I hold the normative position that *democratic consent* is an essential requirement for the governance of science (Beck 1992; Beck 1997; Beck 1998a; Beck 1999). It is assumed herein that a free and critical press (Mill 1858/1992; Milton 1644) and citizen involvement (Bauman 1999; Putnam 2000; Rousseau 1953/1762) are necessary, but not sufficient, conditions for achieving authentic public consent or rejection with regard to techno-scientific development. Moreover I broadly endorse the arguments of Wynne (2003; 1992; 1993; 1996), Irwin (1995; 2001) and other like-minded science and technology studies (STS) scholars (e.g. Jasanoff 2003) regarding the pivotal role of the lay public and non-professional expertise in effective and legitimate science policymaking.

### **Concluding Methodological Considerations**

In this chapter, I have delineated the sampling and analytic procedures, as well as the methodological and epistemological commitments underpinning this study. The procedures used to ensure the quality of this grounded discourse analysis were then reviewed. The consistent goal maintained throughout the research design was to effectively integrate the microscopic details of the data with macroscopic social trends and relevant social theory, while maintaining a high standard of methodological rigour. Yet it is important to acknowledge a structural limitation within this design.

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<sup>38</sup> Most prominent in this tradition are Horkheimer, Adorno, and Benjamin in the first instance, and Habermas more recently.

Beck (2006) delivers a trenchant methodological critique as part of his theory of cosmopolitanisation, or 'globalisation from within'. He criticises the traditional tendency of empirical sociology to reify the nation as an enclosed unit of analysis and thereby focus only upon variables arising from within rigidly defined national borders. In such instances, "society is equated with society organized in nationally and territorially delimited states" (Beck 2006: 24). In that the nation is the unit of analysis for the present study, it falls foul of Beck's critique. However, the bi-national sample facilitated the identification of both national differences and transnational similarities implicating broader, even global, phenomena. Moreover, the Phase 2 discourse analysis was specifically attuned to consider the role of global transformations, including the cosmopolitanisation of nations, regions and cities.

## CHAPTER 3

### UTOPIAN / DYSTOPIAN HYPE AND JOURNALISTIC SCEPTICISM

Imagine being able to grow magic cells to repair or replace any part of the human body...These create-a-cure wonders are called stem cells and they have the potential to prevent, or treat, almost any illness or injury. (Symons, *Sun*, 11 August 2005)

#### Scientific Utopianism in the Elite UK Press

The present data show that just as in the UK embryo research debate in the 1980s patient groups, scientists, and politicians deployed a narrative of hope which resonated through the medium of the elite British press (Mulkay 1994; Mulkay 1995c; Mulkay 1997). This hope narrative was constructed on the basis of scientific hype which identified as the mechanism by which present-day suffering could be transformed into an idealised future in which many of the worst illnesses and genetic disorders of modern society have been eradicated. However with the fall of Hwang in late 2005, just as with so much promissory science before it, “non-scientists suffered an emotional whipsaw of hope and the dashing of hope” (Toumey 1996: 97).

#### The ‘Rhetoric of Hope’

Therapeutic cloning was presented in the elite UK press as having almost miraculous curative power.

Only somebody with the most absolute belief in the sanctity of all living human tissue could oppose *the near-miraculous ingenuity of this kind of science, with its almost miraculous benefits*. Jesus was rather keen on miraculous healing himself. (Emphasis added; Marrin, *Sunday Times*, 3 March 2002)

One facet of this narrative was the introduction of tragic personal stories, tied into the larger issue of therapeutic cloning within the media and political fields. The following data extract exemplifies the integration of the personal, political, and scientific in this coverage:

Samantha, a mother of five young children, has already had four strokes. *A controversial new technology which uses cells from human embryos could help her and millions of others...Six days after the birth of her twins..., Samantha Panting suffered a massive stroke. Aged just 30, she was left partially paralysed and unable to talk - with five children under seven to care for. Although she made an almost complete recovery, since then she has had three more strokes...*

Today Panting...is forgetful because of the damage the strokes have done to her short-term memory; her right hand is also weak. Another stroke would cause more deterioration...she knows she could be struck down again at any time and fears not being able to play a full role in her children’s lives. (Emphasis added; Waterhouse & Rogers, *Sunday Times*, 24 December 2000)

After establishing this personal narrative of a woman desperately in need of help, the political angle is grafted onto the story.

*Last week MPs gave the go-ahead to controversial research which offers hope to Panting, to thousands of other stroke victims and potentially to millions of others suffering from acute conditions and degenerative diseases. (Emphasis added; Waterhouse & Rogers, Ibid.)*

Finally, the article broadens the hope-based discourse from the personal example of Panting, to an entire utopian vision of a “new medical era” comprised of ‘innumerable’ cures and a specific timetable for their arrival (5-10 years)<sup>39</sup>.

*This research, which uses cells from human embryos, could offer the prospect of a cure for cancer and a way of repairing vital organs such as the liver and heart. It could herald a whole new medical era...New brain cells could cure Parkinson’s and Alzheimer’s disease and even help to prevent strokes in people such as Panting. From stem cells, new nerves could be grown to treat paralysis; new lung linings could be grown for cystic fibrosis sufferers; diabetes, blindness and innumerable other conditions could become curable. The first treatments could be available within five to 10 years. (Emphasis added; Waterhouse & Rogers, Ibid.)*

The recounting of these future events as if they had already occurred, as well as the provision of a specific timeline, places this extract within the realm of prophecy. Mulkay (1997: 70-71) identified a similarly prophetic ‘rhetoric of hope’ in UK embryo research debate: “The primary message [in the elite press]...was that the use of science-based techniques offered hope...In these texts, the future accomplishments of embryo research become strangely tangible”. Haran et al. (2007: 47) describe this prophetic framing as a form of ‘temporal contraction’, that is, “discursive renderings involving the condensation of the timelines for curing through technoscientific cloning” (also see Kitzinger and Williams 2005).

The construction of cloning cures as inevitable, tangible and imminent had important implications in the UK political field. The following extract shows how the ‘rhetoric of hope’ bridges the personal, political, and scientific spheres. Specifically, patient suffering (i.e. the *personal*) was used as the basis for *political* decision-making regarding the regulation of the *scientific* field:

*The government is aware of the concerns that people with genetic disorders such as Alzheimer’s or Huntington’s disease and their families have, namely that the [current law] constrains research into these conditions. It has therefore asked the Chief Medical Officer’s group to report to ministers early next year. (Dalyell, Opinion, New Scientist, 21 August 1999)*

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<sup>39</sup> In Chapter 5, the personal or ‘human interest’ dimension of this utopianism will be explicated in much greater depth. This chapter focuses upon the role of the broader utopian vision in the therapeutic cloning debate, and its relation to notions of scientific progress.

## Scientific Progress

The elite UK press and science advocacy publications such as the *New Scientist* were rather pessimistic about therapeutic cloning's legislative prospects in the months before the British Parliament approved it. The following extract protests that Anglo-American politicians were being too slow to endorse therapeutic cloning, thereby placing patients in jeopardy and threatening scientific progress:

For the first time there is a realistic hope of designing treatments for paralysis, head injuries and stroke, and progressive neurological diseases such as multiple sclerosis and brain cancer. But *just as scientists pick up speed in their quest for new therapies, politicians are applying the brakes*. The British Parliament recently voted down proposals to allow researchers to study stem cells harvested from embryos - cells that may ultimately help paralysed people walk again and treat devastating neurological diseases. And if the Republicans prevail in the contested US presidential elections, they will likely reverse an earlier decision allowing such research to be publicly funded...these moves...*could delay long-awaited advances by years*. (Emphasis added; Knight, Motluk & Phillips, *New Scientist*, 18 November 2000)

A complimentary frame in many elite UK press articles constructed legislative restrictions on therapeutic cloning as impediments to patients' hopes for cures.

*Could the cure for all diseases be banned?*

A UN treaty against cloning will not technically trump domestic laws, such as those in Britain...However, most experts feel that it would smother the field in an atmosphere of hostility, spelling a slow death for one of medicine's most promising weapons in the war against sickness. (Ahuja, Features, *Times*, 17 June 2004)

As seen above, state intervention limiting therapeutic cloning research was framed as an immoral barrier to the realisation of patient cures and scientific utopia. The American scientist's commentary in the following elite UK press extract indicates a similar concern about having therapeutic cloning utopia delayed or denied because of putative American legislation:

"Nobody wants to invest in the work here because it might be outlawed at any time. It is a real tragedy. I have calculated that two people die of heart disease, Parkinson's or diabetes - all curable with stem cells - every minute that we delay research on this". (Medical correspondent, Rogers, *Sunday Times*, 14 July 2002)

Hence, the object of outrage in this debate was directed away from the destruction of early embryos during the therapeutic cloning process and towards the immorality of overbearing government regulation of the technology. In the extracts below, the 'outrage'

was the UK government's decision to have an expert panel consider the therapeutic cloning issue<sup>40</sup>:

**Extract 1)**

*Scientists are outraged by the government's procrastination. Lord Winston...has said: "If you could use tissue from human embryos to save hundreds of lives, there must be a moral imperative to do it". (Emphasis added; Leake & Dobson, 'Home News', Sunday Times, 12 March 2000)*

**Extract 2)**

The decision [to refer the issue to an expert panel] has come under fire from scientists and many media commentators, with some arguing that the government is running scared of public opinion. (Science writer, Coghlan, *New Scientist*, 3 July 1999)

Extract 1 above is indicative of the intertwining of a utopian narrative with a (successful) political agenda favouring unfettered techno-scientific development (also see Mulkay 1995a; also see Mulkay 1997).

*The Enlightenment Legacy*

While scientific utopianism looks forward towards a new and better future, it draws inspiration from the grand narratives of the past. Central to modern utopianism is the mythical notion of scientific progress<sup>41</sup>, rooted in the Enlightenment. The following statement of faith in human progress by Condorcet amidst the French Revolution exemplifies the sentiments of many of the *philosophes* of the 18<sup>th</sup> century, no less than the myriad proponents of scientific progress in the 19<sup>th</sup> century and up to today:

Nature has set no term to the perfection of human faculties...The perfectibility of man is truly indefinite and...has no other limit than the duration of the globe upon which nature has cast us. This progress will doubtless vary in speed, but it will never be reversed. (de Condorcet 1955/1795: 4)

Even in the midst of a critique of the arts and sciences, Rousseau constructs an image of enlightenment and human progress (Frankel 1948: 76; Wokler 2001: 25)<sup>42</sup>:

It is a noble and beautiful spectacle to see man raising himself...from nothing by his own exertions; dissipating, by the light of reason, all the thick clouds in which he was by nature enveloped. (Rousseau 1993/1750: 4)

There is an obvious utopian thread in such declarations of human progress. In the present sample the meta-narrative of Progress was most often expressed alongside the view that

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<sup>40</sup> Ironically this expert panel (the Donaldson committee) went on to fully endorse therapeutic cloning.

<sup>41</sup> This view of Progress through human reason can be seen in thinkers from the very incipient underpinnings of the Enlightenment. For example, John Milton was convinced that there were no pre-fabricated utopias; humans had to work to create their own utopia and discover Truth for themselves.

<sup>42</sup> Although Rousseau sometimes criticises elements of Enlightenment thought and the idea of scientific progress in particular (Wokler 2001: 58), he ultimately remains within the Enlightenment tradition as "an apostle of human progress, of the perfectibility of the natural man" (Frankel 1948: 76).

scientific reason and technological innovation have provided the mechanisms for dominating nature and leading society into a new utopian age (cf. Adorno 1991; also see Jensen *in press-b*). “Scientists, for example, argue that the acquisition of knowledge is so important for the long-term interests of society that freedom of inquiry must override other considerations” (Nelkin 1992: xviii). Indeed, the rhetoric of scientific progress is part of both the *doxa* and *illusio* of the scientific field, which is transmitted into the political field via the meta-field of journalism (e.g. Gutteling et al. 2002: 111; also see Chapter 5).

The following extract offers rhetoric comparable to the Enlightenment quotations above, framing embryonic stem cell research as one important step in the long march of scientific progress:

One of the most powerful arguments in favour of stem cell research has to do with...evolution. Humans...are interrupting evolution. People no longer die, childless, of serious genetic disorders - modern medicine enables them to live...I can hardly think of anything more exhilarating...Stem cell research is a triumph of human invention and compassion; it would be a great loss to humanity if anyone succeeded in stopping it. (Marrin, *Sunday Times*, 3 March 2002)

Thus the myth of Progress gave therapeutic cloning “a natural and eternal justification” (Barthes 1973: 143). This scientific utopianism is almost religious in its unquestioning belief in humans’ ability to triumph over nature using scientific technologies such as stem cell research. As social theorist Zygmunt Bauman (1989: 68) states: “With the Enlightenment came the enthronement of the new deity, that of Nature, together with the legitimation of science as its only orthodox cult, and of scientists as its prophets and priests”. In the press coverage of therapeutic cloning, patients played the role of congregants in this devotion to scientific utopianism. For example, one such parishioner was now deceased quadriplegic actor Christopher Reeve, who was seeking a cure for his spinal paralysis:

It remains to be seen just how much progress politicians will allow scientists to make. “Scientists know a lot, but the obstacle of politics will affect implementation,” says Reeve. “What happens in a Bush presidency, God forbid”. (Knight, Motluk & Phillips, *New Scientist*, 18 November 2000)

Even *The Guardian*, one of the most sceptical elite British newspapers, helped to purvey the utopian hopes that adhered to therapeutic cloning:

**Extract 1)**

The committee said: “The science is astonishing and its implications profound”. From it could follow:...The possibility of regenerating heart cells destroyed by a heart attack. (Science Editor, Radford, *Guardian*, 21 March 1997)

**Extract 2)**

The first cloned human embryo has been produced... This is another step down a research road that could lead to an enormous breakthrough in degenerative and chronic disease control. Although the embryo clones were produced using a similar technique to the one used to create Dolly the sheep, the purpose was not reproductive, but for therapeutic medical application. It offers new hope to millions of people suffering pain and misery. (Commentary, *Guardian*, 27 November 2001)

Such pro-cloning hype was intermingled with the legitimating discourse of Progress, as can be seen in the extract below as well:

Professor Hwang said: “We are *bringing science a step forward* towards the day when some of humankind’s most devastating diseases and injuries can be treated through the use of therapeutic stem cells”. (Emphasis added; Science Correspondent, Henderson, *Times*, 20 May 2005)

### *Caricaturing the Opposition: Galileo and Religious Irrationality*

The framing of scientific discoveries in terms of the grand narrative of Progress<sup>43</sup> was a powerful and pervasive feature of the discourse of hope and positive hype across the entire sample of Anglo-American press coverage of therapeutic cloning<sup>44</sup>, though it varied in volume and quality according to press genre. For example, the following commentary in the *News of the World* lays out a case in favour of medical and scientific progress over religiosity, but in a rather more colloquial vernacular:

The medical profession must press ahead with this important research... If I needed a new organ to save my life I would be extremely grateful to the laboratory doctor who could culture one for me. The Vatican has always been anti-progress. Five hundred years ago it was opposed to Galileo. Today it is opposed to medical science. How can a church that wants us all to be religious Dollys object to medical science using cloning to save life? (Bishop Buckley, Opinion, *News of the World*, 3 September 2000)

*The Economist* makes a similar point by citing the American political context, which was framed in this source quotation as an example of anti-Progress, religious irrationality:

Senator Tom Harkin rather magnificently told the president to “take your ranks alongside Pope Paul V, who in 1616 tried to stop Galileo”. (*Economist*, 14 April 2001)

The use of Galileo’s story above to frame opponents as ‘anti-progress’ mirrors the pattern identified by Mulkay (1995a: 501) in the UK embryo research debate: “Galileo was an important point of reference for... support[ers] of embryo research. For these speakers,

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<sup>43</sup> When capitalised in this dissertation, ‘Progress’ refers to the body of related discourses promoting the idea of human’s irresistible triumph over nature through increasing technological sophistication. ‘Progress’ is used as a particular, proper noun in the same vein as the concept of the ‘Enlightenment’.

<sup>44</sup> Exceptional examples of countervailing data that opposed the Progress narrative are considered in the ‘Deviant Case Analysis’ later in this chapter.

Galileo was a scientific martyr to religious extremism[,]...a warning against relying on religion today to decide questions of scientific truth, yet also the assurance of the eventual triumph of the scientific world-view". Indeed the following extract juxtaposes the religious and anti-abortion perspective with the wisdom of supporting medical science:

Early in the debate, religious groups and the anti-abortion lobby appeared to hold the moral high ground. But now the rights of people to gain access to the best that medicine can offer are wisely being taken much more seriously. The use of stem cells could bring about a real revolution, making it possible to repair worn-out organs and damaged brains. (Editorial, *New Scientist*, 19 August 2000)

### *The UK Government's Romance with Scientific Progress*

Bauman (2000: 132) asserts that the concept of progress is comprised of two interrelated beliefs: (1) "that 'time is on our side'" and that (2) "we are the ones who 'make things happen'" (see corresponding examples from the data below):

#### **Extract 1) 'Time is On Our Side'**

This year the 20,000-plus neuroscientists...let slip their optimism that repairing damage to the brain and spine is finally within reach. Christopher Reeve summed up the mood. "*There is no reason why this problem and other disorders of the brain and central nervous system can't be overcome,*" he told the meeting. Researchers agree. "*We can do it soon. We must do it soon,*" said Dennis Choi, outgoing president of the society. (Emphasis added; Knight, Motluk & Phillips, *New Scientist*, 18 November 2000)

#### **Extract 2) 'We Make Things Happen'**

... Such folk, in resisting medical advances, would leave man's sufferings to the tender mercies of the inventor of cancer and earthquakes. But the truth is that *the fate and well-being of mankind is our own responsibility, and happily...the world contains enough human intelligence and kindness to offer fragments of hope for the future.* In promising to cure some of the most dreadful afflictions we or those we love might suffer, stem cell research stands high among those hopes. (Emphasis added; Grayling, *Guardian*, 1 December 2001)

Bauman (2000: 132) argues further that the "self-confidence of the present" and trust in Progress rest on the two beliefs in human potential exemplified in the examples above. However, he contends that such self-confidence and trust in the future is severely undermined by the lack of a clear contemporary force or agency capable of moving the world forward. Thus he asserts that "the foundation of trust in progress is nowadays prominent most for its cracks, fissures and chronic fissiparousness" (Bauman 2000: 133). Nevertheless, Bauman (2000: 134) predicts that the "modern romance with progress" will continue in the form of a permanent quest for a state of perfection, giving meaning to the individual's task of living and re-establishing trust in the new 'liquid modernity'.

In the debate over therapeutic cloning this “romance with progress” was reinforced by the official pro-science disposition of the British government, as communicated through the media. The Government’s public sponsorship of scientific progress constitutes an important component of the larger utopianism of therapeutic cloning. Indeed, at several points in the debate Prime Minister Tony Blair attempted to frame certain grassroots protest movements as ‘anti-Progress’ in order to de-legitimize their political positions opposing certain areas of scientific research.

Tony Blair has promised to break down the “anti-science fashion” in Britain, declaring that *the Government will never give way to misguided protesters who stand in the way of medical and economic advance...* Mr Blair gave warning that research work would be lost...*if animal welfare activists and other protesters were allowed to get away with stopping projects that could save lives...* “*It is time to defend science, to make clear that the Government is not going to allow misguided protests against science to get in the way of confronting the challenges of making the most of our opportunities*”.  
(Emphasis added; Political Editor & Science Correspondent, Webster & Henderson, Home News, *Times*, 20 May 2002)

The Progress discourse served a legitimating role for Blair’s position. His adaptation of the grand narrative of Progress gives the largely economically-motivated pro-science position of the British government a politically appealing veneer of utopianism in the mediated public sphere.

He called for an end to the air of suspicion and mistrust that sometimes surrounded the work of scientists and the misplaced fears and ignorance it often generated. Mr. Blair said *there were huge opportunities in science, for medical progress...* He will say that scientists should be applauded and admired and should not have their work denigrated. (Emphasis added; Political Editor & Science Correspondent, Webster & Henderson, *Ibid.*)

As evidenced above, Blair placed his government within a scientific paradigm through his choice of legitimation strategies. He did not justify his views on this issue with reference to democratic consent. Rather, Blair advocated respect for expert authority as the basis of his utopian vision for a Britain in which techno-scientific development features prominently and many of society’s ills are cured through scientific progress.

### **The Janus-face of American Press Coverage**

The American coverage of therapeutic cloning drew upon forms of utopian discourse similar to the elite UK press. However dystopianism played an equally important role within this sample. This utopian / dystopian dualism is explored below, considering each pattern in turn. Then the way in which these two extremes are interwoven in the news will be elaborated under the term ‘balanced hype’.

## Utopianism in the American Press

The US coverage also included examples of the Progress narrative tied to therapeutic cloning.

### Extract 1)

Democratic Sen. Dick Durbin...said, "With this new breakthrough, *the* [US] Senate will step back and say we can see that we can't stop the march of science". (Emphasis added; Regalado, McGinley & Carroll, Front page news, *Wall Street Journal*, 26 November 2001)

### Extract 2)

Members of Congress...oppos[ing] embryonic research risk being seen as opponents of *medical progress*- of wanting to *close off an avenue of research* and thereby condemning people who could be cured. "There are ethical concerns in not *proceeding* with this research," Larry Goldstein of the American Society for Cell Biology told Specter's subcommittee last spring. (Emphasis added; Allen, *Washington Post*, 15 October 2000)

The following extract frames scientists as unfairly restricted from achieving progress through therapeutic cloning research.

A deputy director at the National Science Foundation...warned that "scientists may be forced into rebellion in order to carry out research prohibited unnecessarily by powerful institutions". (Pethokoukis, Front cover story, *US News & World Report*, 31 May 2004)

Likewise, the following extracts emphasise the inevitability of scientific progress in the wake of Dolly's debut on the world stage (Extract 1) and nine years later during the struggle over releasing California State funding for therapeutic cloning research (Extract 2):

### Extract 1)

Even if laws are eventually enacted to ban human cloning research in the US, the work can always move elsewhere. (Editorial, *New Scientist*, 1 March 1997).

### Extract 2)

"They can slow us down," [scientist] Klein said, "but they can't stop us." (Lin, California Metro, *LA Times*, 3 January 2006)

Even anti-cloning Republicans had to establish their support for scientific progress in order to legitimate their criticisms of therapeutic cloning:

Senator Frist, who is a heart surgeon, said he understood the concerns of scientists but said that his bill would not interfere with medical research or limit general scientific cloning. It would limit only human cloning. (Alvarez, *New York Times*, 12 February 1998)

In addition to the Progress narrative, the American press also presented a utopian 'rhetoric of hope' that was functionally equivalent to the hype already shown above in the elite British newspapers. Human interest stories based on personal suffering were intertwined with political and scientific considerations. The prophetic framing of therapeutic cloning as

an inevitable source of cures, if only it is given the resources, is encapsulated in the investment metaphor proffered by this agent of 'life politics' (Giddens 1991).

For Chris Chappell, 41, a Denver stockbroker who was paralyzed from the waist down after a mountain bike accident, the potential stakes are personal. He says the debate could affect his chance to walk again. "*The only thing that's holding me and others back is money and time,*"..."*This is an investment in the next generation*". (Emphasis added; Stone, *USA Today*, 23 May 2005)

The following extract also emphasises the inevitability of this putative panacea's fruition, drawing upon the spatial metaphor of forward progress (Hellsten 2000):

*The work is advancing. "With adequate funding, there's no question we could be in clinical trials in two or three years"*<sup>45</sup>, said Robert P. Lanza, medical director of Advanced Cell Technology Inc...Dr. Thomas B. Okarma, president and chief executive of the Geron Corporation..., a leader in embryonic stem cells, said his company hoped to ask the Food and Drug Administration to approve a clinical trial in 2005, using cells derived from embryonic stem cells to treat spinal cord injuries. Such treatment has restored mobility in some paralyzed rats, he said. (Emphasis added; Pollack, Dean & Dreifus, *New York Times*, 13 February 2004)

As in the British press, the narrative of scientific progress was fused with hype signalling the cures promised by therapeutic cloning research:

"We cannot now afford to be slowed down by opponents who do not believe in the promise of this research," said Bob Klein, chairman of the California Institute for Regenerative Medicine's board of directors...For many patients, embryonic stem cell research remains the only hope for recovery. (Garvey, California Metro, *LA Times*, 24 August 2005)

The utopianism identified in the extracts above fulfils one half of a pattern evident in US press coverage of therapeutic cloning, which I have labelled 'balanced hype'. This term applies to news stories populated in more or less equal measure by both utopian and dystopian hype. These balancing positive and negative statements are frequently red herrings based upon scientifically faulty or highly improbable notions about human cloning and its implications. Moreover the two sides represented in 'balanced hype' are rarely reconciled or addressed critically by US journalists leery of appearing to take sides by asserting their own analyses of their sources' claims. This finding is in line with Nelkin's (1990) observation that the norm of objectivity is still dominant in the US press. This *illusio* is operationalised in American journalism through the "belief that verity can be established by balanced presentation of different points of view", or "equal time" for opposing perspectives on the same issue (Nelkin 1990: 46). At least in the case of American press coverage of therapeutic

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<sup>45</sup> This specific claim can be easily identified given that, as of October 2007 (more than three years on), there are no clinical trials on the horizon for therapeutic cloning.

cloning. The result of this performance of journalistic objectivity and balance was press content hyped in both pro- and anti-cloning directions. The apparent logic behind this approach is that by placing excessive weight upon the extremes of both the pro- and anti-cloning positions, the reporter would appear objective and balanced.

### **Dystopianism in the American Press**

“Science has been abused in the past,” Mr. Frist warned...“We can look back at what Hitler did in the name of science”. (Alvarez, *New York Times*, 12 February 1998)

In addition to the utopian hype identified above, a pattern of dystopianism was also visible in the US press coverage, comprising the second half of the balanced hype sub-theme. Below, Extract 1 is excerpted directly from President Bush’s ‘State of the Union’ speech placing cloning within the conceptual category of ‘mad science’:

Tonight I ask you to pass legislation to prohibit the most egregious abuses of medical research: human cloning in all its forms, creating or implanting embryos for experiments, creating human-animal hybrids and buying, selling or patenting human embryos. (President Bush, *LA Times*, 1 February 2006)

The following extracts flagged dystopian scenarios using symbolic materials from the *Brave New World* and other aspects of the cultural genealogy of human cloning:

#### **Extract 1)**

The National Right to Life Committee, an antiabortion group[,] call[s] cloning research a “nightmare project” that will lead to “human embryo hatcheries”. (Regalado & Song, *Wall Street Journal*, 19 March 2002)

#### **Extract 2)**

“We will inevitably end up with fetal farms where embryos are clinically and commercially developed into fetuses, grown for parts and potential cures,” said Rep. Paul Loscocco, a Republican. (Emphasis added; Anonymous, ‘The Nation’, *LA Times*, 1 April 2005)

Likewise dystopian arguments against cloning are put forward in the following commentary co-authored by one of the most prominent neoconservatives<sup>46</sup> in the US, Bill Kristol<sup>47</sup>. The line of argument is fairly typical for strong opponents of therapeutic cloning covered in the US press. First a hyped and largely fictional vision of reproductive cloning is conjured in sensational detail:

The idea of mother-daughter twins or genetically-identical “daddy juniors” stirs horror in us. Our moral sense revolts at the prospect, because so many of

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<sup>46</sup> In the United States the accepted term is ‘neoconservative’, but in Europe this is known as ‘neoliberal’.

<sup>47</sup> Kristol is founder and editor of the neoconservative magazine *The Weekly Standard*, a high-profile pundit on American television’s conservative *Fox News Channel*, and founder of the Project for a New American Century which brought together the most powerful neoconservatives in the country beginning in 1997, including Richard Cheney (Vice President), Paul Wolfowitz (President of the World Bank), and Donald Rumsfeld (former Defense Secretary).

our cherished principles would be violated: the principle that children should not be designed in advance; that newborns should be truly new, without the burden of a genetic identity already lived;...and that replacing lost loved ones with “copies”...denies the uniqueness and sacredness of their existence. (Cohen & Kristol, Letter to the Editor, *Wall Street Journal*, 14 December 2001)

Next, this dystopian vision of reproductive cloning is tied to therapeutic cloning, and cloning proponents are chided for their attempt to separate the two concepts:

Research advocates say that they, too, are against “reproductive cloning”...Once we begin stockpiling cloned embryos for research, it will be virtually impossible to control how they are used. We would be creating a class of embryos that, by law, must be destroyed. And the only remedy for wrongfully implanting cloned embryos would be forced abortions. (Cohen & Kristol, *Ibid.*)

Thusly connected, both therapeutic and reproductive cloning are seen to portend a dystopian future. Just as in *Frankenstein*, “the governing myth of modern biology” (Turney 1998: 3), good intentions devolve into dystopia:

The cloning debate is...the “opening skirmish”...in deciding whether we wish to “put human nature itself on the operating table, ready for alteration, enhancement, and wholesale redesign.” Lured by the seductive promise of medical science to “end” suffering and disease, we risk not seeing the dark side of the eugenic project...And in trying to stamp out disease by any means necessary, we risk beginning the “compassionate” project of killing off the diseased themselves. (Cohen & Kristol, *Ibid.*)

This form of moral argumentation is precisely what Evans (2002b) describes as ‘thick’ ethical discourse. It focuses upon what ends are legitimate and desirable for biotechnology to address, rather than simply the most efficient means of achieving pre-given ends. The dystopianism it promotes, however, may have negative implications, which will be considered in the Chapter Discussion.

### **Balanced Hype in the American Press**

As I have argued above, while the US newspapers exaggerated the scope and certainty of therapeutic cloning’s utopian potential, such exaggerations were typically accompanied by negative, often dystopian statements about the technology within the same article. The following extracts succinctly exemplify this pattern of ‘balanced hype’:

#### **Extract 1)**

The trade offs are immense: averting a *nightmarish medical mishap* or standing in the way of the next breakthrough in *combating cancer or Alzheimer’s disease*. (Emphasis added; Shadid, Business, *Boston Globe*, 4 April 2001)

### **Extract 2)**

Dr. Wilmut and his colleagues at the Roslin Institute here, seven miles from Edinburgh, have suddenly pried open one of the *most forbidden- and tantalizing-* doors of modern life. (Emphasis added; Science Writer, Specter & Kolata, Front page news, *New York Times*, 3 March 1997)

Likewise the extract below shows the US press's tendency to enforce balance by reporting the two poles of an issue while offering no critical analysis or synthesis. The article begins by establishing dystopian arguments against therapeutic cloning using farming metaphors<sup>48</sup>:

HURON, S.D. - In this rural state where corn, cattle, and pork provide a livelihood for many people, voters have been warned about another kind of farm, where human embryos would be created for profit. In Iowa, the National Right to Life Committee has blasted the state's Democratic senator, Tom Harkin, suggesting...he 'doesn't...know the difference between animals and human beings.' The antiabortion lobby has pondered...whether Senator Jean Carnahan, a Democrat, will 'decide that it's just not right to make human embryos and harvest them like crops'...US representative Jim Talent, a Republican who favors a total ban on cloning... 'doesn't want to live in a world where he's walking down the street and sees himself walking in the other direction.' (Milligan, *Boston Globe*, 7 July 2002)

The dystopian 'embryo farm' and 'clones are copies' metaphors then give way to the rhetoric of hope as the article concludes:

Senator Tim Johnson, a South Dakota Democrat [said] 'I've had a lot of South Dakota families come to me with tears in their eyes, with children who are diabetic, parents who have Alzheimer's, pleading to allow the research to go forward'... 'Research that's going on right now could hold the key to curing MS and hundreds of other diseases...[;] research Congressman John Thune wants stopped'... Jerry Zucker, a member of Cures Now, which advocates therapeutic cloning... 'To say it's better to destroy these [embryos] than to use them to save lives is insane,' said Zucker, whose 14-year-old daughter Katie has diabetes. (Milligan, *Ibid.*)

Thus an artificial balance was constructed using both pro- and anti-cloning hype. As discussed above, US journalists sought to project the ideal of objectivity and balance by presenting both extremes of the issue. In the case of therapeutic cloning those extremes were on the one hand comprised of promises of cures for suffering patients, and on the other hand based on dystopian scenarios inspired by the cultural genealogy of human cloning. This impulse in American journalism to create a 'balanced' account can be contrasted with elite UK journalists' (at least partial) rejection of this norm. One UK interview participant

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<sup>48</sup> The fact that this Boston Globe story centres upon how the therapeutic cloning issue is playing out in rural South Dakota (far from Boston) bolsters this publication's categorisation as a national newspaper in this study.

develops a distinction between political and science journalism to justify the imbalanced, pro-therapeutic cloning framing in his and other elite UK news publications.

The key difference is the subject matter you're working with. Science is very different than, say, politics, where there are always two sides to an argument, and there's not necessarily a right or a wrong one- and thus it's very easy to set up debates and controversies and 'he said, she said' arguments. [With] science...it can be very misleading to do that...And that's something I certainly try to avoid doing...Very often there is a...sort of fetishisation of balance...Sometimes you actually have to be biased in order to tell the story properly. All opinions in science are not equal...And I think the responsible science journalist does have to be aware of that. (Science Correspondent, elite UK newspaper, 'Richard' 2005)

Richard rejoins his questioning of the goal of journalistic balance later in the interview:

Balance can be a tricky issue because when specialist expertise tends to be exclusively on one side, then actually you don't want to balance things. (Science Correspondent, elite UK newspaper, 'Richard' 2005)

A similar position was expressed by 'Aaron', who used Holocaust denial as an example of why balance was not a legitimate journalistic goal:

And 'balance' too is very interesting. I will not go looking for a scientist who will say 'global warming is all crap'...I wouldn't dream of approaching a Holocaust denier and saying 'here we've got these people saying that six million Jews died in Auschwitz. What do you think?' ...That would be grotesquely irresponsible...

I don't think...[journalists] should be forced into balance. People have opinions...but it doesn't mean you have to agree with them or that you have to report these people fairly. In the case of science, you have to make judgements according to the day, the amount of space at your disposal, and the actual issue in the story. (Science Editor, elite UK newspaper, 'Aaron' 2005)

Richard and Aaron's rejection of the goal of 'balance' in science journalism can be contrasted with the 'balanced hype' found in American press coverage and the dualistic hype identified below in the British tabloids.

### **Haphazard Hype in British Tabloid Coverage**

The present data suggest that the *illusio* of journalistic objectivity does not define the *doxa* of the journalistic sub-field of British tabloids<sup>49</sup>. Tabloid journalists appear to operate unfettered by this journalistic norm, thus allowing a more haphazard and lopsided form of hype to emerge. In both quantitative and qualitative terms, the ubiquitous hype in the UK tabloids surpassed the US press's cloning coverage. In the first instance, the UK tabloids enthusiastically summoned dystopian hype throughout the nine-year sampling frame from

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<sup>49</sup> However this is only a tentative hypothesis based on documentary evidence as no tabloid journalists participated in the interview component of this study, and I have no ethnographic data available.

1997-2006 (cf. Kitzinger and Williams 2005: 736). In the following extract, Ian Wilmut must react against the notion of Dr. Frankenstein, which Haynes (1994: 92) identifies as an influential “archetype...[and] the dominant image of the scientist in twentieth-century fiction and film”:

Prof Wilmut denied playing God and said that he was against reproductive “Frankenstein-style” cloning which could lead to people cloning to grow spare body parts...But the development was slammed last night by religious groups and the Society for the Protection of Unborn Children - who have been opponents of cloning - branding it “a licence to kill”. (Mackay, *Mirror*, 9 February 2005)

The tabloid predilection for dystopianism extended to the construction of idiosyncratic news stories that never appeared elsewhere in other press genres. Thus the following extract conjures the risk that therapeutic cloning could lead to reproductive cloning, indicating that there were both general ‘alarm bells’ and specific concerns from expert source *Dr. Peter Dixon*:

The spectre of human embryos being cloned in Britain then taken abroad to develop into carbon copy babies emerged last night. *Alarm bells sounded* after the scientist who created Dolly the sheep announced he was preparing to branch out into human embryo cloning...One leading authority on cloning ethics...Dr Patrick Dixon told the Mail: ‘I predict that human clones made in Britain will be implanted and born elsewhere...There would be nothing to prevent a woman acquiring a cloned embryo, jumping on a plane and going to a doctor abroad who would implant it in her womb’. (Emphasis added; Norris & Roberts, *Daily Mail*, 21 January 1999)

Most frequently, the British tabloids published cloning coverage that was a confusing mishmash of pro- and anti-cloning hype. The UK’s widest circulating newspaper, *The News of the World*, provides a number of examples of dualistic hype, as well as sensationalism seemingly for its own sake:

The government’s decision to allow the cloning of human organs is certain to cause uproar. *On the one hand it brings hope of life to desperately ill patients who would otherwise die for want of replacement organs. On the other there are those who find interfering with the building blocks of life utterly unacceptable. Because cloning involves altering the course of development of human cells, it raises deep-seated anxieties in us all...For the sake of the thousands who could be saved by this great leap forward in medical technology, we lead the debate with an exciting article today.* (Emphasis added; Editorial, *News of the World*, 21 May 2000)

As it turned out, this editorial was wrong in its prediction of a public uproar over the UK government’s approval of therapeutic cloning research. However, the *News of the World* persistently hyped the issue. The following extract emphasises utopianism, predicting cures which have to date still failed to materialise:

The cloning of human organs in Britain has been given the go-ahead...The first body parts could be used for heart, lung, liver or kidney transplants within the next six years - ending the heart-rending search for suitable donors. (*News of the World*, 21 May 2000)

The commentary extract below cites dystopian fears while simultaneously endorsing therapeutic cloning:

People are frightened to death by cloning. They imagine armies of dictators, strange cults and gay men on Oprah Winfrey's sofa cradling mini-me babies. And fears about what a few loony tunes might do are now driving legislation...

Stem cells are...of immense interest because of their potential to cure currently incurable problems- such as repairing stroke or Alzheimer-damaged brains, heart-attack ki-boshed tickers and accident-induced paralysis.

...Of course people are right to be squeamish about creating "spare part" embryos. But...every time I see someone suffer the devastating consequence of stroke, I want to hurry that work, not slow it down or ban it. (Parry, Opinion, *News of the World*, 12 November 2000)

The following tabloid extract blends utopianism with the definition of therapeutic cloning as 'controversial'. This could be viewed as an example of 'conflict' framing, which Kitzinger (Kitzinger 1999: 63) identifies as a key element of media coverage of scientific risk:

*We will lead world in controversial research*

The controversial cloning of human organs is to be given the go-ahead by the government. British scientists will be the first in the world to be allowed to develop the technology which will enable them to "grow" organs in other animals.

The first human parts- cloned from a patient's cells- could be used for heart, lung, liver or kidney transplants within the next six years. If successful, artificially created replacement organs could always be available and 'end the heart-rending search for a human donor'. Health Secretary Alan Milburn and Home Secretary Jack Straw are set to...make the medical miracle possible. (Kirby, *News of the World*, 21 May 2000)

As the article continues, the discourse of pro-research utopianism is developed with the promise of cures for Parkinson's and cancer and the obviation of organ donation.

Mr Donaldson pointed out the technology will end the heart-breaking ordeal many people face when suffering a serious illness - the knowledge they will die unless a donor organ is found...

But replacement organs could be just the tip of the iceberg...Experts say they will soon be able to develop cloned brain cells for patients suffering from Parkinson's Disease...White blood cells could also be developed to aid leukaemia sufferers. (Emphasis added; Kirby, *Ibid.*)

In addition to pushing its utopianism slightly further, the tabloids' tendency to frame cloning as controversial represents a significant divergence from the UK broadsheets' dominant construction of therapeutic cloning as unproblematic.

Ultimately, a highly schizophrenic pattern emerged in the British tabloid coverage wherein the distribution of utopianism and dystopianism within and across news stories seemed to be largely haphazard for much of the last decade of human cloning coverage. Positive tabloid stories about cloning would also allude to dystopian concerns. Negative stories based on doom scenarios also reinforced positive hype about the certainty of cures, sometimes in the same sentence! Overall the most consistent pattern was the *absence* of realistic or moderate coverage, or ‘thick’ critical analyses (Evans 2002b) of the issues implicated by the development of therapeutic cloning technology.

### **Dystopian Science Fiction in the Anglo-American press**

Some examples of dystopian science fiction (e.g. *Frankenstein*) have been mentioned above in the discussion of ‘balanced’ and ‘haphazard’ hype. However, this section will engage with science fiction-based dystopianism as a phenomenon in its own right. Specifically, science fiction emerged as a key vehicle for communicating symbolic meaning and fuelling the dystopian dimension of therapeutic cloning hype. Both the US press and the UK tabloid coverage of therapeutic cloning were rife with doomsday scenarios conjuring ‘dreaded risk’ (Slovic 1987; Slovic 2001), many of which were rooted in the cultural genealogy of human cloning. This dystopianism was based in part on eliding the distinction between cloning for live birth and cloning for embryonic stem cell research (also see Haran 2007), and then applying the (real and imagined) hazards associated with the former to the latter.

Science fiction films and books featuring human cloning were an integral part of the public debate. Sometimes these fictional accounts were merely alluded to, as in this front page headline from the *Wall Street Journal*: “Brave New World: Stem-Cell Researchers Make Cloned Embryos Of a Living Human” (Regalado, McGinley, & Carroll, Front page news, *Wall Street Journal*, 26 November 2001); or the extract from *Newsweek*: “‘This is essentially the method of Brave New World.’ Ronald M. Green, an ethicist at Dartmouth College, on the technique used by Oregon researchers to clone a monkey, which involved splitting an embryo and replanting its remains” (Editorial, *Newsweek*, 24 January 2000). Science fiction references provided packets of pre-fabricated meaning, obviating the need for the journalist to sketch out the full contours of a potential dystopia:

Genetic engineering is moving quickly, promising to eliminate disorders such as Down syndrome and cystic fibrosis. Soon we’ll be able to do more than cure disease. Questions of social equality then begin to blur with questions of genetic equality--should a child be “punished” for having parents whose genes

predispose him to obesity or shallow intellect? Shortness? Baldness? Once we've eliminated these "defects," why not be more proactive--try to build another Einstein or Shakespeare? Little wonder Huxley's *Brave New World* and Shelley's *Frankenstein* have replaced Orwell's *1984* as the popular literature of political debate. (Editors, *US News & World Report*, 20 August 2001)

As can be seen in the extract above, allusions to science fiction were particularly favoured when the authors were seeking to communicate the possible dystopia awaiting us at the base of a scientific 'slippery slope'. Indeed, science journalists and their sources in even the elite US newspapers reported such scenarios as plausible concerns worthy of inclusion in the public debate over human cloning:

For the ethicist Dr. Arthur Caplan of the University of Pennsylvania, the possibilities include the Dorian Gray scenario, named after Oscar Wilde's story, "The Picture of Dorian Gray," whose eponymous hero stays young while the picture of him ages. A child who is a clone would have to look at a parent who is his or her aging identical twin.

Another possibility is what Dr. Caplan calls the Woody Allen scenario, referring to Mr. Allen's affair with Mia Farrow's adopted daughter, Soon-Yi Farrow Previn. If a man's wife clones herself, Dr. Caplan asked, "How is he going to fight off the emotions or feelings" when he sees her clone at the nubile age of 22? Especially, he adds, since he knows that the clone is not, strictly speaking, her daughter but a twin sister.

Time magazine columnist Charles Krauthammer envisions a world in which headless people are cloned and stocked for spare body parts. That, he argues, to the puzzlement of scientists who say his scenario is just plain wacky, is why cloning must be banned. (Kolata, *New York Times*, 22 February 1998)

If such dystopian allusions are found in the science coverage of the vaunted *New York Times*, it should not be surprising that fiction and reality are even more thoroughly conflated in British tabloids. The tabloid *The Daily Mail's* coverage was fiercely anti-cloning, and this was reflected in their presentation of an essay drafted for the newspaper by founder of the Conservative Philosophy Group Dr. Roger Scruton. Scruton is described not as a conservative but instead with the neutral label, "one of Britain's most respected philosophers" and a "Visiting Professor of Philosophy at Birkbeck College". The commentary begins with science fiction allusions:

With a presumption bordering on the reckless, human beings are trying to accelerate the process of evolution to...satisfy their own short-term desires...Each such development is greeted by a mixed chorus of joy and alarm, some...foreseeing a trail of Frankenstein-like experiments, leading to the kind of spiritual chaos foretold by Aldous Huxley in *Brave New World*...

We have been warned that we are standing on the brink of Huxley's world. Now I believe we have entered it...The cloning of Dolly the sheep from a single cell has been followed by massive pressure to extend the technique to

humans: to women who cannot conceive, to homosexual couples seeking a new route to reproduction, to someone grieving for a dead child and hoping one day to hold a perfect living replica. It offers a kind of hope. But at what cost? (Scruton, *Daily Mail*, 14 July 2001)

In the final paragraph in the extract above, this commentary draws upon an ‘infectious disease’ policy metaphor (Schön 1993)<sup>50</sup>, in which one area of immorality is tied to perceived social ills across society. In this case, the moral ill of ‘homosexual couples’ parenting was tied to human cloning. Below Professor Scruton summons the dystopia of a second Holocaust<sup>51</sup> in which women will purge men from the globe on the path to lesbian hegemony:

The cost of cloning is far greater than the current warnings imply. For it...threatens the reproductive strategy that has so far served mankind...Scientists...have begun work on...a technique for producing girls (the result would of necessity be a girl) from girls without the need for sperm.

This *final solution* to the ‘man problem’ has been put forward in all seriousness, as a way of *helping lesbian women* to...give *lesbian couples* the means...to make their own contribution to the *all-female society* to which radical feminists aspire. (Emphasis added; Scruton, *Ibid.*)

This essay finishes with an unusual melding of utopian and dystopian imagery:

I have the terrifying vision of a future in which there are no young people any more, except those manufactured by the bionic geriatrics who control things, and who use all the gifts of the Earth, including those that belong by rights to future generations, to outstay their welcome on a planet whose resources they devote entirely to themselves. Physical ageing has been overcome...Senility and disease have been driven over the horizon out of sight, and - since the planet is now choc-a-bloc with permanent residents - normal forms of reproduction have been outlawed, as in Huxley’s *Brave New World*.

Scientists may welcome this final triumph over our mortality; but to me it is the Devil’s work - and sure proof that the Devil works most effectively when people don’t believe in him. (Scruton, *Ibid.*)

The extract above referenced the classic cloning dystopias from *Brave New World* and *Frankenstein*, longstanding favourites for opponents of particular domains of scientific development (Back 1995; Mulkay 1996). For example, in the UK embryo research debate “Frankenstein’s prominence suggested strongly to readers that...these scientists were dangerous and must be held on a tight rein” (Mulkay 1996: 161). However, the present sample also revealed allusions to more recent dystopian scenarios presented in Hollywood films. The following extract from the *Mirror* advances the recent science fiction film *Godsend* as a plausible representation of the future (also see Kitzinger and Williams 2005):

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<sup>50</sup> The analogical reasoning here is subtly distinct from the typical slippery slope metaphor.

<sup>51</sup> Describing the feminine takeover as a “final solution” to the “man problem” is clearly meant to allude to Hitler’s ‘final solution’ to the problem of the Jews: the Holocaust.

With the wonderful world of science advancing at an alarming rate, it's not hard to imagine a time when rather than grieve for the death of a loved one, you simply send in the clones.

But ought there to be clones? Not if the nightmare scenario depicted in British director Nick Hamm's deeply frightening film is anything to go by. When devoted parents Paul...and Jesse Duncan's...beloved eight-year-old son Adam is killed in a terrible car crash, their anguish is profound. But after they lay their little boy to rest the distraught couple are approached by a man with a plan. "You can have him back," promises Dr Richard Wells, an expert in stem cell technology who practices his illegal medical skills at the sinister Godsend Institute. Dr Wells has the ability to recreate a baby who will grow into a perfect replica. But the big question is - what happens after this modern miracle passes the point when his predecessor died? ...A latter-day Damien, Adam develops into a spine-chilling kid...Dr Wells, whose life-creating surgical brilliance makes him a disturbing cross between the good Lord and Lucifer. (O'Sullivan, *Mirror*, 2 July 2004)

As explanatory devices (Mulkay 1996: 164), allusions to cloning films could be used to connect the news events of the day to readers' pre-existing cultural knowledge (Nerlich, Clarke and Dingwall 2000; Nerlich, Clarke and Dingwall 2001; Peterson, Anderson and Allan 2005; Tudor 1989a; Wellcome 1998):

#### *Deja Vu--Again*

Woody Allen mocked cloning in his futuristic film *Sleeper*, in which the klutzy hero finds himself in charge of stealing a nose to keep followers from cloning their Big Brother-like leader. Ira Levin's *The Boys From Brazil* has little-boy Adolf Hitler clones running around. Fast-forward 25 years or so, and suddenly cloning has jumped from book pages and the big screen to Capitol Hill. Citing potential abuses (little Adolfs and Big Brothers?), President Bush last week called on Congress to ban all types of human cloning. (Stein, *US News & World Report*, 22 April 2002)

Most journalistic uses of science fiction films involved conjuring elaborate dystopias and emphasising the imminence of reproductive cloning. The following extended extract dilates upon the cloning film *The 6<sup>th</sup> Day*. The headline for this article is, 'And man created man'<sup>52</sup>:

Some of what you will see in the future as depicted in *The 6th Day* will not arrive for many days, if not years -- or centuries. The rest may already be here.

The Arnold Schwarzenegger science-fiction thriller, opening Friday, posits a world full of wacky wonders...the cloning of pets and humans (that's somewhere between fact and fiction). In the film, animal owners whose dogs and cats die merely have to take them to a company called RePet, and a cloned Fluffy is back in their arms that night. The same technology is used to...clone people -- including Ah-nold. It could happen. (Seiler & Friend, *USA Today*, 16 November 2000)

The journalists' sources described the film as purely fictional:

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<sup>52</sup> This is an allusion to the Biblical quotation, 'and God created man'.

The husband-wife team who wrote the movie, say they knew nothing of cloning at the time...Though Marianne Wibberley has a scientific background, she did not tap it for *The 6th Day*. "Honestly, it was just us making stuff up," she says.

Undeterred by this information, the journalists' intermingling of fact and reality is sustained (cf. Haran 2007).

Roger Spottiswoode, the film's director, says the production began before the announcement that Ian Wilmut and colleagues in Scotland had cloned Dolly the sheep in 1997... *The 6th Day* had to speed up its schedule to keep up with newspaper headlines.

"When we started the film, a lot of this cloning technology wasn't there," Spottiswoode says. "We felt like we were playing catch-up for what was supposed to be a science-fiction movie." It was a classic case of art imitating science. (Seiler & Friend, *Ibid.*)

Alluding to *Frankenstein*, the authors go on to explain what would need to happen in order to clone Schwarzenegger in real life:

We can invoke Dr. Frankenstein, who learned that lightning is a handy tool when playing God. For our egg, an electric jolt from a battery will do the trick...

We'll probably have miscarriages, some deformities and things like that. Any scientist worth her lab coat knows that the mistakes would pose a public relations problem. But once we have our blastocyst, all we have to do is implant it into someone's womb...and nine months later, voila, baby Arnold. (Seiler & Friend, *Ibid.*)

The science fiction narrative is presented in detail. However, there is also some critical commentary (cf. McManus 1994) about the plausibility of this scenario, which differentiates this article from the typical hype in the British tabloids. These snippets of journalistic analysis, emphasised below, may reflect the norm of objectivity.

*The 6th Day drastically departs from the above scenario with cloning techniques that are remarkably efficient but implausible.*

In the movie, a full-grown clone can be manufactured in two hours, thanks to the use of "blanks" -- adult- and child-size generic bodies -- that await your DNA imprint. The Wibberleys have scientists back up the brains of the people they clone, much as you would back up files on a computer disk, then implant the cloned person's memories...

*The sad reality is our baby Arnold won't have the original's Austrian accent if he grows up in the USA, nor will he have Schwarzenegger's memories. Two decades will pass before the baby grows up and takes over from the original. (Emphasis added; Seiler & Friend, *Ibid.*)*

As the article continues, it follows the typical pattern for dystopianism in the American press: Even if the dystopia is acknowledged to be implausible, the journalist takes it as the foundation for further 'slippery slope' speculation.

But even though *The 6th Day*'s cloning technology doesn't exist yet, if it ever will, the movie raises some timely ethical issues.

In the film, right-to-life-type religious people fight cloning, feeling that man is taking God's work into his own hands. "That I understand," Schwarzenegger says, "because if you claim God created man, obviously, if man can create himself, it gets a little bit confusing. After all, if God has created us, he has created us in a way that has allowed us to become smart enough to re- create ourselves, not just creating babies but making a carbon copy of ourselves." (Seiler & Friend, *Ibid.*)

Although the extract above is hype-based, it is nevertheless more 'thick' than the coverage in the elite UK press (see Evans 2002b). Indeed, the following extract from the article above is indicative of the potential value of science fiction allusions as a method of communicating critical messages about science. Namely, these doom scenarios access 'counter-myths' of science (Fiske 1990) that seem to facilitate journalistic questioning of official and scientific accounts. This opens the debate to a greater plurality of perspectives than, for example, were evident in the elite UK press sample:

#### *Crossing the line*

...Schwarzenegger's nemesis in the film, a rich biotech entrepreneur named Drucker (Tony Goldwyn), is not only cloning fish to feed the world's hungry, but cloning people, too. There's a chilling scene with a congressman who is morally opposed to human cloning. His son is dying of a brain tumor... The only way to save the son is to clone him whole. But that's illegal. He asks the congressman why his son should die... The congressman sees the light and promises to work on his pals on Capitol Hill.

"Bosh!" you may be saying to yourself. This could never happen. *Who would ever believe that scientists would advance a controversial technology in the lab without telling the public?* Who would believe elected officials would act in a selfish way? And, here's a good one, *who would believe that scientists and politicians would let greed win over ethics?* Only in Hollywood. Right? (Emphasis added; Seiler & Friend, *Ibid.*)

The questioning of technocracy in the above extract can be viewed as an important dimension of pluralistic public discourse on this issue (Bauman 1999; Fraser 1992), potentially promoting both the critical, or '4<sup>th</sup> Estate', function of the press and the overall 'thickness' of the public debate (also see Toumey 1992).

### **Attacking Dystopian Science Fiction in the Elite UK Press**

However the grounding of critical messages about science in the cultural domain of dystopian science fiction may limit their efficacy in debates over science policy (Jensen *in press-a*). This is because dystopianism so easily lends itself to being used by proponents of therapeutic cloning (especially in the elite British press) to propel a 'deficit' model of public opposition to science (also see Mulkay 1996). That is, dystopianism can be used to frame the

opposition to cloning as uninformed and simplistically guided by nothing more than a murky cocktail of fictional films and scientific ignorance (see Kitzinger and Williams 2005; Mulkey 1996). This was the primary way in which science fiction was used in the elite UK press, according to Kitzinger and Williams (2005: 736): “Explicit references to science fiction are not used by opponent of embryo research, but appear instead only when attributed to them by proponents of the research”.

This use of science fiction to construct an archetypal ‘straw man’ opponent of therapeutic cloning- whose views are based purely on Hollywood films and dystopian literature- has been seen before in the embryo research debate of the late 1980s in the UK (Mulkey 1997: 127). Then and now this rhetorical tactic has served to thin bioethical debate by discounting the validity of opposition perspectives, and avoiding authentic engagement or debate.

An additional facet of elite UK press’s limited use of science fiction was the rhetorical performance of first conjuring and then debunking perceived public misconceptions about therapeutic cloning. The following example from *The Daily Telegraph* frames the opposition to cloning as deriving from faulty information and dystopian scenarios propagated by science fiction films. It is subtitled, “Copycat humans are flourishing - *but only on film*” (italics added):

Over the years, Hollywood has invested millions in cloning fantasies. In Woody Allen’s 1973 film *Sleeper*, the cloning of a dictator was attempted from his only surviving body part: his nose. Two years later, carbon copy wives appeared in *The Stepford Wives*. Copies of Adolf Hitler starred in the 1978 film of the Ira Levin novel *The Boys From Brazil*.

In 2000, Arnold Schwarzenegger has a spot of bother with his clone in *The Sixth Day*. And in the forthcoming film *The Island*, Lincoln Six-Echo (Ewan McGregor) has been bred by a scientist (Sean Bean) for spare parts. Although scientists will find the spare-part premise of *The Island* disgusting and daft, Prof Wilmut is now working with Prof Hwang to create cloned human embryos...to understand disease, test treatments and even use stem cells for repair. In short, despite Hollywood’s efforts to make it look easy, even a totalitarian dictator would find it tough to indulge a narcissistic cloning fantasy. (Science Editor, Highfield, *Daily Telegraph*, 5 August 2005)

Below a public scientist is cited defending the achievement of the British scientists responsible for cloning Dolly from the perceived misconceptions that are seen to be responsible for public apprehension about it:

Sir Giles said the achievement of the Roslin scientists was extraordinary. “I think there was no doubt that the media furore which provoked the suggestion that human cloning was round the corner and the master race was a week or two ahead, helped really to diminish it [the Dolly cloning]. That must be

redressed,” said Sir Giles. (Science Editor, Radford, *Guardian*, 21 March 1997)

Instead of authentic engagement with the realistic concerns on each side of the debate, pro-cloning advocates use this archetype of the ignorant opponent as an easy target to preemptively curtail the debate (Haran 2007; Kitzinger and Williams 2005). This helped to orient the discussion in the elite UK newspapers around the task of correcting misconceptions and debunking scientific myths in order to improve therapeutic cloning’s standing with the public (see Radford 2006), activities well within the domain of a ‘deficit’ model of science and society.

### **Backstage<sup>53</sup>: Journalist Interview Results<sup>54</sup>**

The pro-science bias in the elite British press coverage was explained by interview participants as a symbiotic, mutually beneficial arrangement between scientists and science journalists (see Chapter 5):

Science writers get in league with scientists to hype the story because that’s how you get into the paper. (Health Editor, elite UK newspaper, ‘Charles’ 2005)

Hyping the likelihood and imminence of cures from therapeutic cloning was presented as a necessary adaptation to the professional context of journalistic practice by several UK science correspondents. The following example comes from the science editor at an elite UK newspaper.

If someone produces yet another paper saying they’ve notched up another advance on the understanding of molecular biology through experiments in mice, we do not report it. Because if we did, we’d be in competition with yet another story from the football world, following a stream of prostitutes and a trail of white powder. Which one are people most going to read? (Science Editor, elite UK newspaper, ‘Aaron’ 2005)

In the supporting example below, a science correspondent from an elite British newspaper elaborated upon this theme:

The stories I write are not competing against other science stories for a set slot that is in the paper. They’re competing against the Michael Jackson trial, Blair and Bush on the Iraq war, and so on. If a science story on a given day isn’t

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<sup>53</sup> The use of the term *backstage* here alludes to Goffman’s dramaturgical theory of human behaviour. The interview data offers a glimpse of the news production process which occurs behind the curtains and out of sight of readers. Obviously the interviews for this study took place within the context of impression management, and constituted another kind of front stage performance for the journalist participants. However the interviews took place literally behind-the-scenes in various news rooms. Moreover, anonymity was granted to participants. As such, I believe it is reasonable to view the interview data as ‘backstage’, especially relative to the brightly-lit front stage of published news content.

<sup>54</sup> As discussed in the Methods chapter, this study is limited by the fact that no British tabloid journalists responded to interview requests.

interesting enough, it won't be replaced by another science story. (Science Correspondent, elite UK newspaper, 'Richard' 2005)

### **Journalistic Scepticism**

It is striking that despite the extant pattern of utopian hype in the elite British press content, the majority of British science journalists in the interview sample were at least rhetorically sympathetic to the need for a more critical science journalism:

We [science journalists] are here to be as critical of science as objectively- as critical of science as sports journalists are of sport and political journalists are of politicians. It's like- [as] science writers, we are not here as PR, you know. Science writing where people are just trying to explain ends up as a glorified PR job because science journalism is a different thing...The definition of news is bringing up something that someone somewhere doesn't want to be printed...And there should be far more emphasis on that objective criticism. (Science Correspondent, elite UK newspaper, 'Danny' 2005)

The problematic nature of both utopianism and dystopianism is discussed by the following British journalist. First, he indicates that journalists should not be too pro-science (i.e. utopian):

Science journalism...What it isn't about: Is it's not about cheerleading for science. (Science Correspondent, elite UK newspaper, 'Richard' 2005)

Next, Richard points to the problem of being overly negative (i.e. dystopian) as a science correspondent:

There are a lot of bad scare stories that do get reported based on very flimsy evidence, and I think one either has to report those with caveats, or sometimes not at all. It's a difficult judgment. I think most of the time we get it right. Obviously sometimes everybody gets it wrong. (Science Correspondent, elite UK newspaper, 'Richard' 2005)

A similarly sceptical account is offered by 'Zeynep' below, who attributes utopianism in part to scientists' tendency to hype their research (also see Chapter 5):

A lot of the sensationalist coverage-...part of the problem is that scientists have a tendency to over talk...You have to be by nature optimistic to go into science: You have to believe that what you are doing is exciting and you'll make a difference to go on...And so scientists tend to be a little overly- I don't want to use the word hype- ...but they do have a tendency to look on the bright side of their technology and that it's going to deliver much more than it can. (Medical Correspondent, elite UK news periodical, 'Zeynep' 2005)

Likewise backstage comments from American journalists also indicated a more sceptical orientation towards scientific knowledge and the promissory science of therapeutic cloning than was evident in front stage press content:

The politics isn't the reality of what's going on in the field [of therapeutic cloning]. The reality is that there's a good chance that none of this shit is

going to yield very many cures for anything. They ain't going to grow new brains out of those things...This whole issue is a joke that it has such high prominence. (Science Correspondent, US newspaper, 'Carl' 2005)

At base, this scepticism reflected a commitment to the *illusio* of 4<sup>th</sup> Estate, 'watchdog' journalism. The following extract delineates this professional commitment to acting as a public watchdog by questioning powerful institutions:

[Science] journalism has a lot of different roles...The role that interests me the most and I think a lot of reporters the most, which is a more sort of 'watchdoggy' role...There's a range of stories that can be done about science institutions: How well are they managing their funds?...Are scientists disclosing where they're getting their money from? Is there any risk to the public?

...You can't get to the truth with a capital T but you can at least do your homework so you're not just being a stenographer and writing down what people say in regards of accepting it on blind faith. (Science writer, US news periodical, 'Becky' 2005)

#### *Interdicting Journalistic Scepticism: Five Limiting Factors*

These backstage expressions of scepticism would at first blush seem to suggest that Anglo-American science journalism has the potential to enact a 4<sup>th</sup> Estate role in debates over scientific issues such as therapeutic cloning. However, the paradoxical fact that hype, not scepticism, dominated front stage press content raises the question: Why did these backstage expressions of journalistic scepticism fail to translate into front stage scepticism, and hype-free press content? Champagne (2005: 50) points out that journalism is defined by an "impossible autonomy", or at least an "autonomy that must always be re-won because it is always threatened. Journalistic production is always strongly dictated by the social, especially political and economic, conditions in which it is organized". Below I identify some of the social conditions that limit journalistic autonomy in this way through an examination of five factors that may have intervened to skew therapeutic cloning coverage towards hype and away from the 4<sup>th</sup> Estate *illusio* articulated by participants. These factors include:

- 1) The inter-media agenda-setting effect (McCombs 2005)
- 2) Organisational constraints on science journalists' independent judgments of newsworthiness (Bourdieu 1998a; Champagne 2005; Herman and Chomsky 1988).
- 3) Personal pro-science biases.
- 4) The agonistic pursuit of prominent (especially front page) placement in the newspaper.
- 5) Dependence upon technocratic and scientific sources undermining the feasibility of presenting a critical perspective (Peterson, Anderson and Allan 2005). This factor is addressed in Chapter 5.

These factors limit the autonomy of the journalistic field, reflecting the fact that “journalists are caught up in structural processes which exert constraints on them such that their choices are totally pre-constrained” (Bourdieu 2005: 45). The following extract exemplifies the systematic process of journalistic compromise that occurs within news organisations:

There are many stories that you don't write...[because you think] 'I don't rate this study. It's not properly done. The results are implausible; therefore I'm not going to write it'. And a lot of the time you can do that, *but there are occasions when you can't*. If it's on the [news] agency wires [e.g. Reuters] and the news desk have seen it, and they think its interesting, then they will press you to write it and you then have to make the best of it and try.

A classic example of this recently was where...a [journal article] show[ed] that mobile phones were more dangerous if you in the country than if you were in the town...*I had to write it because everybody* [at the other broadsheets] *was going to write it*. And I did point out [the flaws in the study] but of course the published version [of the article] didn't contain this final few para's that pointed out the study was untrustworthy. But, you know, it's not a perfect world. (Emphasis added; Health Editor, elite UK newspaper, 'Charles' 2005)

As seen in the above extract, the first reason that expressions of commitment to 4<sup>th</sup> Estate journalism may have failed to translate into correspondingly sceptical front stage press content is ‘inter-media agenda setting’, which refers to the influence of one news organisation upon the news production process of another. Concern about being ‘scooped’ on a story by another news organisation can constitute sufficient newsworthiness to motivate coverage. “Important news is thus news that is considered important by the whole of the media and picked up as such” (Champagne 2005: 61). *New York Times* science editor Nicholas Wade noted that sometimes science journalists “are asked to get a story at very short notice, such as late at night when the editors see the *Washington Post* has some story, and ask you to match it” (Gitschier 2005: 280). This inter-media influence can even occur when a newspaper merely *believes* that other newspapers are likely to publish an article on a particular scientific development.

There is an undoubted sheep mentality among newspapers whereby... Sometimes stories are covered because you think other newspapers will cover them...Another paper covering something gives it credibility so you end up going along...Someone publishes a story and everyone else follows it the next day religiously without ‘umming’ and ‘arring’ and being critical of it. (Science Correspondent, elite UK newspaper, 'Danny' 2005)

As Bourdieu (2005: 44) notes, as a result of the “competitive struggle” between newspapers, “They steal each other's front page stories, editorials, and subjects”. However, Champagne (2005: 61) notes that “prestigious” media outlets such as the “serious” or elite press have greater ‘consecrating power’ in this context: “Because they are read more, their stories are

picked up more often by other outlets”. Kitzinger also identified this pattern in her meta-analysis:

Media interest feeds off itself...Once a critical mass of media interest builds up this is likely to spiral through different media outlets. (Kitzinger 1999: 64)

Secondly, funding and personnel limitations restricted science journalists’ ability to question the scientific utopianism surrounding therapeutic cloning. A British journalist summarised the centrality of such business concerns in the news process: “Particularly on a UK newspaper, all journalists have the same job, which is to provide stories that interest our readers. Newspapers are a business. Our business is selling newspapers. We can’t file stuff simply because it’s worthy” (Science Correspondent, elite UK newspaper, 'Richard' 2005). Indeed “news production finds itself caught in a production logic characterized principally by intense competition and speed” (Champagne 2005: 53). A key example of the role of such organisational limitations on individual journalists’ news judgments was cited by American science journalist ‘Becky’, who had planned to conduct an investigative report on therapeutic cloning:

Diseases like Parkinson’s and Alzheimer’s, they talk about using stem cells to treat them, but how would we actually do it? And [my editor and I] thought about looking at what had actually been done in the laboratory to get...stem cells to form new pancreatic tissue that could be used for transfusion. And what we would have reported is not a whole lot of hell has been done. I mean [cures] are the big goal, but if you actually look at what they’ve actually been able to do, it’s almost nothing. And so we thought that would be a really useful ‘process of science’ story to give people a reality check. I mean, there are all these claims being thrown about, but let’s go look at the Petri dish, as it were, to see what the goods are. (Science Writer, US news periodical, 'Becky' 2005)

However cutbacks at her news organisation prevented Becky from undertaking this putative story:

But we never ended up doing [the story], just because...the science news at [my news periodical] got cut back. But I think that that was the kind of story we didn’t do enough of...I thought it would be a great story. (Science Writer, US news periodical, 'Becky' 2005)

This aborted journalistic venture is of particular note given that this interview took place in June 2005, before the Hwang scandal broke. If more of this kind of investigative reporting had actually taken place, it is possible that Hwang’s fraud would have been uncovered sooner.

Third, many of the journalists interviewed for this study evince a pro-science bias which may have made them reluctant to pursue critical or investigative reporting on the issue

of therapeutic cloning, even if they broadly endorsed the *illusio* of the press as 4<sup>th</sup> Estate. For example, the following extracts are suggestive of underlying scientism on the part of Anglo-American science and medical journalists:

**Extract 1)**

I tend to take the scientific point of view, probably to a greater extent than some readers would like me to. But I see myself as a kind of rationalist in a fairly irrational world. I'm not there to promote irrational ideas because there are tons of other people doing that job. So I tend to cling to science as a piece of driftwood in a wreckage to keep me afloat. (Health Editor, elite UK press, 'Charles' 2005)

**Extract 2)**

I am not a mystic. I'm accused of being a materialist in a lot of my interviews with right wing people. And that's an insulting way to say you believe in reality. 'Guilty': I believe in reality. I don't believe in boogie-men and ghosts. And if you want me to try and tell my readers that there are boogie-men and ghosts, fuck you. That's not my job. (Science Correspondent, US newspaper, 'Carl' 2005)

Utopian press discourse on therapeutic cloning reflected significant strains of just this kind of scientism. However 'Charles' (Extract 1 above) specifically connected his long-term commitment to scientific progress with his decision to redact his personal sense of journalistic scepticism about utopian claims from any front stage press content:

*Yes...you have to take a kind of slightly sceptical view of the benefits [of therapeutic cloning]. But if you believe as I do that understanding more about something does generally lead to improvements in clinical practice then you accept the general thesis that in the long run stem cells may be of value in the clinic. They may not be here in ten years or even twenty years, and they may not be as great as everybody says they are. But in the past, learning more about how the body functions has led to better treatments and there is no reason to suppose that won't happen in the future too. So I suppose that is my credo and therefore although I might have doubts about some of the more outrageous claims I wouldn't necessarily write a story saying that they are exaggerated.* (Italics added; Health Editor, elite UK press, 'Charles' 2005)

This journalist is satisfied that the hype over therapeutic cloning will fund basic research, which he believes will provide at least some limited long-term medical benefit. On this basis, he is self-censoring and quarantining any personal scepticism backstage, thus limiting his readers' to render 'informed' consent on this issue.

Finally<sup>55</sup>, journalistic hype was also driven by the agonistic pursuit of the professional milestone of front page story placement within the newspaper. This factor is rooted in the

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<sup>55</sup> The fifth factor, the role of technical and scientific sources, is addressed in detail in the 'Scientists as Sources' section in Chapter 5.

competitive individualism evident in most newsrooms. Bourdieu identifies this competitiveness as a defining feature of the journalistic field:

Within the field of journalism, there is permanent competition to...appropriate what is thought to secure readership, in other words, the earliest access to news, the 'scoop'...and so on...[This] has the effect, in fields of cultural production under commercial control, of producing uniformity, censorship and even conservatism" (Bourdieu 2005: 44)

However some participants justified the competitive quest for front page placement altruistically motivated by suggesting that it is an inherent social good to have science prominently displayed in the newspaper, regardless of the quality or veracity of the story's content. In the following extract, a British journalist explains that his science news department ran with the 'lesser' story of a British therapeutic cloning 'breakthrough' rather than the more significant Hwang breakthrough because it was more likely to get front page coverage:

It was the angle that was most likely...to ensure that the story got onto the front page...If it had just been the Korean thing,...it wouldn't have been as highly placed in newspapers, on news bulletins, and so on. And sometimes placement is just as important to what's actually written for a story's impact, if you see what I mean? (Science Correspondent, elite UK newspaper, 'Richard' 2005)

Speaking more candidly, recently retired *Guardian* science editor Tim Radford indicated in an academic conference speech that therapeutic cloning hype was a natural outgrowth of the norms of the journalistic field:

People accuse us of grabbing headlines. What a ridiculous charge. Of course we were grabbing headlines [with the therapeutic cloning story]. That's our job [as science journalists]!...The idea that I could turn a piece of science that no one had ever heard of or discussed before into something that would sit on the front page of *The Guardian*...was an enticement never to be turned down. If there is a headline around, I would like to grab it, thank you very much. (Radford 2006)

Radford went on to point out that the utopian hype that he and other elite UK journalists employed was essential to the journalistic telos of achieving prominent story placement within the newspaper:

You don't grab headlines by describing embryo stem cell research as 'an expensive laboratory process based on technology guaranteed to lead to many years of frustration and very small flashes of enlightenment'. *That will not sit on the front page of anything*. If it offers hope to Christopher Reeve, that's what you go with; *because it's a clear, simple image and it's going to get published*. (Italics added; Radford 2006)

'Charles' made a similar admission: "Perhaps we do tend to overemphasise or hype things a bit. Sometimes [*we*] *are just trying get things in the paper*" (Italics added; Health Editor, elite UK press, 'Charles' 2005). In addition to the fulfilment of their professional mission as journalists (Radford 2006), 'grabbing headlines' in this manner certainly has an element of self-promotion. Symbolic and financial capital accrues to journalists featured on the front page of the newspaper, and this was no doubt a contributing (albeit unacknowledged) factor in journalists' quotidian decision to promote hype and 'grab headlines' in the press coverage of therapeutic cloning.

Returning to the original question of why backstage scepticism failed to constitute commensurate front stage press content, the situation is succinctly summarised by Champagne (2005: 51):

The major contradiction within the operation of the journalistic field lies in the fact that the journalistic practices that best conform to journalists' ethical codes are very simply not profitable. The journalist ideally wants to be a stalwart servant of the truth at any price, but he belongs to a paper that bears a price and is situated within the economic enterprise with its own exigencies.

In this vein, Leighley (2004) notes that "one of the consequences of the melding of marketing and newsgathering is that journalists' personal influence on news content is reduced". Thus, even journalists committed to journalistic professional norms such as 'objectivity' and a 4<sup>th</sup> Estate or watchdog conception of the press find their autonomy constrained by numerous factors, which stem from the commercialisation of news production (Bourdieu 2005; Bourdieu 1998a; Hallin 2000; McManus 1994; McManus 1995).

### **Deviant-Case Analyses**

As discussed in Chapter 2, the deviant-case analysis examines data extracts that are apparently incommensurate with the main themes and sub-themes identified in the chapter. Since the main findings in this chapter centre on the pervasive role of hype, the cases analysed here evince sceptical or 'anti-hype' micro-patterns that run counter to the main current in the coverage. Below, I consider clusters of scepticism in the *New York Times*, *The Guardian*, *The Daily Mail* and *The Independent*.

### **Scepticism in Anglo-American Press Content**

Despite frequently indulging in similar hype to the other news publications, the *New York Times* and *The Guardian* evinced a greater level of sceptical coverage than the other publications in the sample.

### *New York Times Coverage*

The following news meta-analysis extract by *New York Times* science writer Gina Kolata identifies the American press's tendency to use dystopian hype in stories about human cloning:

The shocking notion that, some day, it might be possible to clone human beings seems to propel ethicists, press pundits and the like into flights of science fantasy. All offer their most provocative scenarios. (Kolata, *New York Times*, 22 February 1998)

Indeed during an interview I conducted with Kolata<sup>56</sup>, she revealed her commitment to combating hype with her news stories, as well as her scepticism about scientists' and the biotechnology industry's motives.

I'm really a total skeptic when it comes to any type of medicine and I feel that people are often being given exaggerated promises... my whole theme as a reporter is that people are always getting realistic expectations for lots of reasons: whether its in people's research interests to keep this thing going, it's in the drug companies interests to keep these things going, it's in the investors interests and I think it doesn't do people a service to tell them something is better than it is. That's why I think we have so much unnecessary medicine. People running around thinking this is going to cure them because some doctor says it does, well, you know, we end up with a lot of extra expense and extra time and extra suffering because people are not always honest about what their data really shows. (Science Writer, Kolata, 2005)

Interestingly however, Kolata goes onto justify this scepticism on the grounds that restricting hype is in the long-term interests of science (as opposed to claiming the mantle of the 4<sup>th</sup> estate for legitimation):

[Researchers hyping their data] can come back and haunt them later when things don't work out. Certainly that's true with gene therapy research, that was promised as the world's greatest thing. (Kolata, *Ibid.*)

Kolata primarily provided an analytical perspective, and did not bear the responsibilities of the more mundane reporting tasks assigned to the *New York Times* science correspondent Nicholas Wade. This left her freer to pursue a critical perspective on scientific issues that were in the news, and she said that this pursuit was typically supported by her editors at the *New York Times*.

The editors, I went up to them and said 'I have an idea' and they said 'fine'...They don't argue with me. (Kolata, *Ibid.*)

With a Master's degree in molecular biology, and editors Kolata describes as "very sophisticated", she feels confident enough in her assessment to be able act as "the science

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<sup>56</sup> This interview took place on 7 June by telephone from Cambridge to New York City. I am using Kolata's name because she emphasised that she did not need or desire anonymity and because these account of her actions seems unlikely to result in any kind of personal or professional harm for her.

police and saying what is ridiculous and what is not”, when she deems it necessary (Kolata, *Ibid.*). In line with Kolata’s comments, the importance of an (un)supportive editor in determining a journalist’s level of autonomy has also been identified as a key factor in news production. Based on her meta-analysis of risk reporting in the media, Kitzinger (1999: 64) concluded that “the most important audience of all” for journalists is “their editor. Editorial influence will often be more important than any one journalist’s opinion about a risk story (Dunwood & Peters, 1992)”. The present data suggests that this editorial influence may represent the myriad needs and pressures of a news organisation embodied in the journalist’s superiors as well as the ‘structure of feeling’ within the newsroom (Williams 1961).

The ability of Gina Kolata in particular, and the *New York Times* more generally, to offer a more autonomous, critical perspective than its competitors is likely tied to its unchallenged status as the most prestigious newspaper in the United States. Bourdieu argues that the degree of autonomy wielded by a particular journalist, such as Kolata:

Depends on the position occupied by his [*sic*] newspaper within the larger space of newspapers, that is, its specific location between the ‘intellectual’ and the ‘market’ poles. Then, the journalist’s own position within that newspaper...determines statutory guarantees. Finally, the journalist’s own capacity for autonomous production of news must be taken into account. (Certain writers, such as popularizers of science...are in a state of particular dependence). (Bourdieu 1998a: 69)

Kolata’s position within the *New York Times* science news department was discussed above. In terms of the newspaper’s location vis-à-vis other newspapers, Lule (2002: 287) contends that following the September 11<sup>th</sup> attacks, the *New York Times* “took on the role of chief priest and state scribe”. Champagne (2005: 61) notes that “certain [news] outlets hav[e] more ‘consecrating’ power within the [journalistic] field than others”. Like *Le Monde* in France, the *New York Times* is clearly the most influential ‘consecrating’ media institution in the US, and is thus able to partially resist the heteronomous pole and its economic imperatives (cf. Bourdieu 2005; Champagne 2005). In Marchetti’s (2005: 71) terms, a high level of ‘journalistic capital’- “the functional influence within the field of the various press outlets”- gives these newspapers the power to report in a manner that is less dominated by the logic of the market.

Perhaps the major lesson to be inferred from the deviant case of the *New York Times* is that the newspaper’s greater symbolic and financial resources, and thus its ability to attract and pay a larger science news section than other newspapers, are at least partially responsible for the more sceptical and analytical coverage that appeared in its news pages. Indeed, journalists and commentators writing for the *New York Times* asserted a critical perspective

on both sides of the therapeutic cloning debate more than any other newspaper, albeit still highly limited in terms of the absolute quantity of critical articles. Nevertheless, *New York Times* coverage at times showed clear evidence of the ‘thick’ (Evans 2002b), 4<sup>th</sup> Estate journalism valorised by Milton (1644), Mill (1859), Habermas (1989) and others.

### *Guardian Coverage*

Beyond a broadsheet / quality versus ‘tabloid’ classification, it is more difficult to identify the precise hierarchy within UK print journalism. Nevertheless press scepticism was given some limited space in *The Guardian*, while other elite UK newspapers produced largely undiluted utopian hype. However these sceptical extracts are the exception, even in *The Guardian*:

With the sheep-cloning announcement, we are treated to the familiar mantra - recited every time some grotesque new biotech “advance” is put before the public - that it will lead to cures for cancer, cystic fibrosis, Alzheimer’s, ageing and the rest of humanity’s ills.

These researchers are in the Promise business. When will such cures materialise? (Tyler, *Guardian*, 28 February 1997)

This scepticism towards scientific utopianism continues:

People are concerned about science’s capacity to manufacture “too perfect” hatched humanity. They should be more concerned with science’s proven lack of competence and predictive powers - and, therefore, its capacity for grave errors. (Tyler, *Ibid.*)

Mulkay (1995a: 524) found in the UK embryo research debate that “support for embryo research was based on the implicit assumption that leading scientists and the scientific authorities could know precisely what the future had in store”. This assumption endured into the therapeutic cloning debate, although it was questioned in a *Guardian* commentary by UK sociologist Hilary Rose:

Here we go again. Reading the excited claims for the medical benefits likely to accrue from [Hwang’s] success in growing cloned human pre-embryos, one is entitled to feeling a certain *deja vu*. Heading the list were those old favourites, treatments for Parkinson’s and Alzheimer’s disease. There really needs to be a phrase to describe this researchers’ equivalent of the old charge against doctors of shroud waving.

...The truth is that no one knows if stem cells - the intended end product of therapeutic cloning - will have such curative powers, still less the solution to the spinal injuries Christopher Reeve was hoping for in Friday’s *Guardian*.

...The rush to experiment with human embryos is, to say the least, premature, driven more by the lust for scientific glory than a clear sense of the medical imperatives. (Rose, Commentary, *Guardian*, 16 February 2004)

Finally, on a day when the other elite British newspapers were flush with utopian hype, *The Guardian* coverage was slightly more circumspect in its depiction of the implications of the twin ‘breakthroughs’ by Newcastle researchers Murdoch and Stojkovic and South Korean researcher Hwang:

Advocates of embryonic stem cells believe they will have a big impact on medicine in two ways. Stem cells created from people with genetic diseases will allow scientists to study the biological mechanisms of disease in far more detail than ever before. *More ambitiously*, embryonic stem cells that are genetically matched to patients *might one day* be used to regenerate failing tissues and organs without fear of them being rejected by the body’s immune system. (Emphasis added; Science Correspondent, Sample, ‘Home’, *Guardian*, 20 May 2005)

Above, the benefits for basic science are flagged first, rather than the hopes for imminent cures. Moreover, some caution words (italicised) signal a level of uncertainty about the outcome of cures. Nevertheless, the headline for written for this story by a *Guardian* editor was decidedly sensationalistic: “The cloning revolution: A giant step forward for science, but quest for new medical treatments goes on” (Science Correspondent, Sample, Home news, *Guardian*, 20 May 2005).

#### *Criticising Science: The Case of the Daily Mail*

Tabloids may have come closest in the present sample to fulfilling the journalistic ideal of the 4<sup>th</sup> Estate. Of particular interest is their willingness to challenge and even pillory officials and experts. The following extract from a *Daily Mail* columnist challenges perhaps the most prominent symbol of British technocratic judgment on the ethics of embryo research, Baroness Mary Warnock:

The architect of Britain’s fertility laws, Baroness Warnock...places her faith in government controls to prevent any mad dictator producing a *Brave New World* where human characteristics would be manipulated to exclude undesirable traits...Cloning is utterly inimical to human flourishing. Yet it isn’t surprising that Lady Warnock has warmed to the idea...Thanks to her, we have turned procreation into manufacture with barely a qualm. (Phillips, *Daily Mail*, 5 August 2002)

The following *Daily Mail* extract also assails scientists and their motives:

This [danger] is greeted by the scientists involved with serene indifference. Their experiments, they tell us, might bring children to the childless; and they might lead to a cure for the diseases of old age, such as Alzheimer’s. The idea there is something inherently wrong in what they are doing is inexpressible in any vocabulary that they recognise. [To scientists], embryos are merely spare parts, to be used as they please. (Scruton, Commentary, *Daily Mail*, 14 July 2001)

This kind of (relative) irreverence towards science and societal elites seems to be a defining feature of tabloid coverage, which can be seen for example in the ironic use of the Progress frame below:

But the man charged with pushing back the frontiers of medical know-how struggled to cope with even the most basic new technology as he faced the world's press. While an international team of journalists waited with pens poised he seemed to have trouble finding the "on" key for his laptop computer. Even his high-powered team of researchers couldn't help him locate the right button. Finally the embarrassed expert - from Edinburgh's Roslin Institute - admitted he was stumped. He sighed: "Unfortunately this sort of technology is much more difficult". (Mackay, *Daily Mirror*, 9 February 2005)

While the characteristic irreverent and sensational coverage of UK tabloids has been much maligned, in this case it places them closer to the journalistic ideal of the 4<sup>th</sup> Estate than their counterparts in the elite press.

#### *Retrospective Introspection Post-Hwang Scandal*

After the Hwang scandal broke, there was some introspective angst expressed by a few of the journalists that had been taken in by Hwang's claims. This was a fleeting and contingent development, so just one illustrative example is offered below in detail. The following extract first summons the utopianism underlying therapeutic cloning with a newfound circumspection:

The disgrace of Professor Hwang Woo-suk...extends far beyond Korea. Professor Hwang's [therapeutic cloning] specialty is currently lionised as one of the most promising fields of medical research, if not the most promising of all. It draws...billions of dollars in funding; and *it is sustained by a lavish investment of popular hope. If wishful thinking alone were the driving force of medical science, stem cells would...be curing all manner of dread conditions already.* (Emphasis added; Dejevsky, Comment, *Independent*, 29 December 2005)

The economic underpinnings of the pro-research hype are even identified:

Cut-throat competition for funding encourages research departments to advertise their prospects more optimistically. Investors, not unreasonably, want the promise of high returns...The hype needs to be banished from stem-cell research. (Dejevsky, *Ibid.*)

A fundamental reassessment of the field is then suggested:

It is high time that a long second look was taken at this whole area of science. Researchers have talked up the potential benefits of stem cells to the point where swaths of lay opinion now regard them as a panacea...And how can we not? When relatives and friends are afflicted with conditions that could, we are told, be cured so simply in future, what qualifications do we non-scientists have for doubt? (Dejevsky, *Ibid.*)

Yet even this commentator cannot help but cede some ground to utopianism:

Stem-cell research has been...all about curing diseases that are at present incurable...Who would begrudge treatment to children with defective immune systems...or to those with diseases such as multiple sclerosis or Parkinson's? There need be no real debate here. (Dejevsky, *Ibid.*)

Thus, this extract evinces a slide back towards the themes identified in the main sections of this chapter. Overall however, the 'deviant cases' analysed above show the heterogeneity of press content (cf. Adorno 1991). Despite the consistent patterns outlined in this chapter, there is variation within the sample, and it is important to acknowledge articles that would be excluded as mere 'outliers' by a quantitative data analysis based upon inferential statistics.

### Chapter Discussion

Champagne (2005: 51) notes that "competition, urgency, sales considerations, and political constraints always weigh on the production and diffusion of news". As part of his market-based model of news production, McManus (1994) identifies the rules governing the field of news production.

1. Seek images over ideas...2. Seek emotion over analysis...Corollary A: Avoid complexity...Corollary B: Dramatize where possible...3. Exaggerate, if needed, to add appeal...4. Avoid extensive news gathering. (McManus 1994: 162-163)

These rules are clearly in evidence in the present sample, with dualistic hype, emotion and exaggeration comprising the defining features of Anglo-American press reporting on therapeutic cloning. The patterns of hype identified in this chapter echo some of Mulkay's (1995a; 1995b; 1996; 1997) findings regarding the UK embryo research debate. At the same time, there is clear differentiation in the quality and quantity of utopian / dystopian hype across the present sample according to the variables of nation and press genre.

### Summary of Findings

The elite UK press sample is defined above all by support for the grand narrative of scientific progress (Lyotard 1984). Dystopian imagery was rare in this press genre. This is consistent with Gutteling et al.'s (2002: 111) study of elite UK newspaper<sup>57</sup> coverage of biotechnology from 1973-1996, which found that 51% of their sample employed the frame 'progress/utility'<sup>58</sup>, while only 2% used the 'doom scenario'<sup>59</sup> frame. When science fiction

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<sup>57</sup> Their UK sample was limited to *The Times* and *The Independent*. However, the study also examined coverage in other European nations.

<sup>58</sup> Gutteling et al. (2002: 101) defined this frame as "the belief that biotechnology will have positive benefits".

<sup>59</sup> 'Doom scenario' was defined as a "pessimistic world-view in which biotechnology is conceived in terms of runaway technology or likened to Pandora's box" (Gutteling et al. 2002: 101)

did appear, it was used either as an opportunity to debunk perceived misconceptions about therapeutic cloning or to construct opponents as irrational and ill-informed (Burchell 2007; Kitzinger and Williams 2005; Mulkay 1995a). Beyond the fabrication of this progress/anti-progress dichotomy though, the elite UK press joined with Government officials, scientists, biotechnology industry representatives and patient advocacy groups to construct a utopian vision of therapeutic cloning using the personal narratives of suffering patients clinging desperately to hope for a miraculous cure (also see Chapter 5). The use of these patient narratives followed the rules identified by McManus (1994: 162-163), “seek emotion over analysis” and “dramatize where possible”. Indeed this pattern may be part of a larger trend towards ‘soft news’ media templates such as the ‘human interest’ story in medical and science news (Henderson and Kitzinger 1999). Bourdieu (1998a) summarises the situation: “Pushed by competition for marketshare,...[there is] greater and greater recourse to the tried and true formulas of tabloid journalism, with emphasis...devoted to human interest stories”.

Meanwhile the British tabloids haphazardly grasped for hype-based stories to interest their imagined readers, regardless of the story’s pro- or anti-cloning valence. Not afraid to “exaggerate...to add appeal” (McManus 1994: 162), tabloid newspapers employed the most outlandish, irreverent and interest-grabbing frames for their stories. This unchecked sensationalism included the heavy use of pro-cloning human interest stories, as well as anti-cloning allusions to dystopian science fiction. The American press evinced a similar mix of pro- and anti-cloning framing in its coverage, with concentrations of stories coalescing around dystopian and utopian frames. However, based upon the interview results, it seems that this blend of ‘pros’ and ‘cons’ was more intentionally designed for journalistic ‘balance’ in the US sample, achieving what I have defined as ‘balanced hype’. Such framing reduced the complexity of the therapeutic cloning to a simple utopian/dystopian dualism, with minimal issue analysis from the journalist (McManus 1994: 162).

**Table 5: Summary of Thematic Content by Press Sample**

	<b>Elite UK Press</b>	<b>UK Tabloid Press</b>	<b>American Press</b>
<b>Utopianism</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>Dystopianism</b>	Oppositional Use <sup>60</sup>	<b>X</b>	<b>X</b>

### **The Dialectic of Hope and Fear**

Modern medicine has held forth the promise of cures for many devastating diseases, offering hope to millions of people afflicted by Parkinson’s disease, cancer, spinal cord injuries, and infertility. Meanwhile, high consequence dangers inherent in such scientific development have engendered deep societal concerns. Discourses of risk and uncertainty increasingly define these late modern times, according to Beck (1992) and Giddens (1990; 1991). Thus risk society is shaped by increasing public fears over the intrinsic uncertainties inherent in techno-scientific development. The confluence and dynamic tensions between such fear- and at the same time such hope- is the subject of the present chapter.

Utopianism has defined scientific development at least since the Enlightenment. From nuclear power to cold fusion to recombinant DNA, these “extravagant claims” (Nelkin 1990: 41) and “layers of dazzling promises” inevitably foundered over time (Toumey 1996: 97). Utopian hype in the present sample was centred upon the hopes of patients and their friends and families. The influence of grassroots patient movements in the mediated public sphere was fuelled by this rhetoric of hope, which was taken up by proponents of therapeutic cloning in the arenas of government, science and industry as well. In the UK embryo research debate of the 1980s, there is historical precedent for the kind of utopianism displayed in this sample. Then as now, “scientists’ claims about the future outcomes of embryo research...went well beyond the established facts [to create]...the vision of a future in which research on human embryos would generate an endless supply of therapeutic benefits” (Mulkay 1995a: 523). Likewise, the elite UK press in particular ensured that “a message of hope was regularly conveyed and reinforced by means of highly personal narratives” (Mulkay 1997: 70; also see

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<sup>60</sup> When it was employed in the elite UK press, dystopianism was used to construct a straw man opponent, as argued by Kitzinger and Williams (2005) and Haran et al. (2007).

Chapter 5). Moreover promises of cures became reified in the broadsheet press's construction of the debate, making "the future accomplishments of embryo research become strangely tangible" (Mulkay 1997: 71).

At the same time dystopia is also a highly visible feature of the present sample, as well as modern thinking more generally. Susan Sontag (1991) uses the concept of 'future-mindedness' to refer to the dystopianism which pervades the consciousness of modern society. Like Beck (1992; 1999), she argues that the world is faced with permanently looming 'high consequence risks,' capable of apocalyptic destruction but unlikely to occur. "Apocalypse is now a long-running serial: not 'Apocalypse Now' but 'Apocalypse From Now On.' Apocalypse has become an event that is happening and not happening...Or simply because this is a catastrophe in slow motion" (Sontag 1991: 173). Giddens (1991) and others have argued that this apocalyptic modernity yields uncertainty and 'unspecific anxiety,' which undermines trust in the future. This negative state of uncertain apocalyptic possibilities and certain unspecific anxieties militates against hopeful utopian thinking with a forcefulness corresponding to the magnitude of increasingly dystopian potentialities. As Beck (2000b: 214) argues, "The more threatening the shadows that fall on the present day from a terrible future looming in the distance, the more compelling the shock that can be provoked by dramatizing risk today". Thus, visions of impending doom make just as much of a claim on the future as utopianism (e.g. Ewald 1987), such that dystopian scenarios "that do *not* exist (yet) strongly influence our present affairs and actions. So risks are a kind of virtual, yet real, reality" (Beck 1998b: 11).

### **Mediating Scientific Dystopianism and the Public**

"Widely disseminated images and narratives have real effects, regardless of their relationship to the technical details of the scientific work. They shape the way people think about new technologies, assess their impacts, and develop ways to control them" (Nelkin and Lindee 2001: 91). Thus, the impact of science fiction-inspired dystopianism in the human cloning debate should not be underestimated. The Wellcome Trust (1998) commissioned focus group research to gather public perspectives on cloning and found that respondents frequently referenced science fiction films and books, which have been heavily cited in the press. These science fiction products were used both as the explicit basis of their views and as a means of communicating their concerns about cloning to others. Merely mentioning such works of science fiction sufficed to immediately communicate an entire narrative about human cloning (Wellcome 1998). In other words, "popular culture motifs filled in the gaps in

meaning” (Gerlach and Hamilton 2005: 90; Peterson, Anderson and Allan 2005). Indeed Holliman (2004: 126) concluded that in the Dolly story, “consistent references to science fiction...were a feature of the [press] template, resulting in a blurring of what had actually been announced with the perceived future prospects for cloning experiments”.

Mulkay (1996) identified the use of science fiction allusions in the UK embryo research debate, arguing that research opponents were disadvantaged by their association with such narratives. For example, he shows that pro-research MPs framed science fiction fantasies such as *Frankenstein* as the irrational basis of opponents’ views (Mulkay 1996). In a similar vein, Haran et al.’s (2007: 156-157) audience research found that members of the public were loath to attribute their own views to such science fiction fantasies, even while expressing concern that the ‘general public’ was receiving its scientific information from precisely this questionable source. In the parlance of empirical media theory, this finding could be viewed as a ‘third-person effect’. This concept refers to the pattern of individuals judging media content (e.g. television violence or pornography) to be more influential in moulding the thoughts of the ‘general public’ than it is on them or people they know<sup>61</sup> (e.g. Price, Huang and Tewksbury 1997).

The third-person effect has been well established by media researchers (Davison 1983; Price, Huang and Tewksbury 1997). However the Wellcome Trust (1998) audience research and other studies (e.g. Holliman 2004; Steinke 2005) strongly suggest that science fiction imagery strikes a chord with the lay publics, even if they are sometimes loathe to admit it (Haran 2007). Science fiction narratives give concrete form to deep misgivings about human cloning, that may be difficult to articulate without reference to the shared cultural genealogy of science fiction films and literature (Nerlich, Clarke and Dingwall 1999; Nerlich, Clarke and Dingwall 2000; Nerlich, Clarke and Dingwall 2001; Weasel and Jensen 2005). Mulkay (1996) contends that such fiction is an inevitable feature of debates over scientific issues:

When speculating about the development of new, science-based technologies, participants cannot rely entirely on what they take to be the established facts. While they think and argue about the shape of things to come, they have no alternative but to create some kind of story that goes beyond these facts...In the course of public appraisal of science and technology, the conventional boundary between fact and fiction...become blurred. (Mulkay 1996: 158)

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<sup>61</sup> This influence is believed to radiate outward from the individual with increasing potency. That is, the effect is believed to be stronger the further from the individual the ‘third person’ is. This phenomenon is no doubt related to other well-established social psychological patterns such as the fundamental attribution error.

Tudor (1989b: 589) argues that cultural texts such as dystopian science fiction channel the “changing popular images of what is threatening about science and scientists” (also see Gerbner 1973). While the mythical and unrealistic nature of such cultural texts severely limits their utility within substantive public debate, they can be used to communicate a more generalised sense of uncertainty or apprehension about the entire project of techno-scientific development.

Stories of mad scientists...constitute an extremely effective antirationalist critique of science...under the premise that scientists are dangerous. Untrue, perhaps; preposterous, perhaps; low-brow, perhaps. But nevertheless effective. (Toumey 1992: 434)

Likewise, Bloomfield and Vurdubakis (2003: 1) contend that “figures of occidental folklore such as *Frankenstein...or Brave New World...*[are] a convenient shorthand for articulating unease with the direction and pace of technological development, or even voicing loss of confidence in the modernist technological project of instrumental control” (also see Jensen *in press-b*). Such critical messages are difficult to communicate in a world dominated by elite media institutions (Herman and Chomsky 1988), suggesting that scientific dystopianism should not be prematurely dismissed as ‘mere hyperbole’ (see Haran 2007; Peterson, Anderson and Allan 2005).

Barthes (1973) identifies the importance of myths deriving from fictional media and social convention in constructing seemingly natural and unpolitical conceptualisations of concepts such as ‘science’ in such a way that they support the interests of the dominant class. Lule (2002) identifies the integral position of such myths within news content. Marshall McLuhan (1960: 295, 298) argued that “we can regard all media as myths and as the prolific source of many subordinate myths”, citing the newspaper as the modern “Babel of myths”. Indeed both utopian and dystopian framing devices identified in the present sample could be understood as ‘myth’, in line with Fiske’s explication of the dominant myth and counter-myth of science in Western culture:

The dominant myth of science presents it as humankind’s ability to adapt nature to our needs, to improve...our standard of living, to celebrate our achievement. Science is seen as objective, true, and good. But the counter-myth is also very strong. This sees science as evil...[and] scientists [as] selfish and short-sighted, in pursuit of our own material ends...In popular culture both myths are represented. The factual side of television, news, current affairs,...tends to show more of the dominant than the counter-myth; fictional television and cinema, on the other hand, reverse the proportions. (Fiske 1990: 90-91)

Ultimately then, the stock characters from science fiction, dualistic utopian/dystopian frames and underlying mythologies interwoven in the Anglo-American press coverage make deeply ambivalent contributions towards, and deductions from, the ideal of a critical (Adorno 1991), reasoned (Beck 1998b: 29; Habermas 1989: 129; Habermas 1996; Toumey 1996) and “thick” (Evans 2002b) public debate on this topic. In the elite UK press especially, myths promoting excessive optimism and hype about the imminence and scope of cloning therapies were so prevalent and unqualified that disappointment and failure were the inevitable outcomes. Meanwhile, popular films and science fiction literature were routinely used as rhetorical devices to symbolise the risks of human cloning and conjure dystopias that were often misleading and far removed from any scientifically plausible scenario. Yet, as in the UK embryo research debate, science fiction served two masters in the present sample. “Within the context of anti-research discourse”, it “reminded recipients forcefully of the dangers of scientific development” (Mulkey 1996: 169). In this vein, journalists’ use of “literary devices and techniques, including the employment of evocative stereotypes, symbols, terminology or metaphors...[can] connect readers with complex matters, assisting them to understand the unfamiliar and to imagine the possibilities that lay ahead” (Peterson, Anderson and Allan 2005: 343). On the other hand, “within the context of pro-research discourse, [science fiction] was made to speak, not of the dangers of science, but of the credulity, ignorance, and dogmatism of those who were unwilling to endorse the advance of scientific knowledge” (Mulkey 1996: 169).

In part because of this fundamental ambivalence, the hyped and confusing media messages identified in this chapter may be viewed as degrading the potential for open dialogue and debate within a common public realm (Habermas 1989). The excessive deference to science in the elite UK press excludes alternative voices from the debate (see Haran 2007: 161). Moreover the pervasive use of ‘human interest’ framing to construct a utopian vision of therapeutic cloning may “depoliticize and reduce what goes on in the world to the level of anecdote” (Bourdieu 1998a: 51). At the same time, ‘discursive overbidding’ in terms of promises of cures (see Hargreaves and Ferguson 2000) and the muddled quality of therapeutic cloning discourse in the US and UK tabloid press may undercut the possibility of different segments of society (e.g. religious, scientific, and patient advocacy groups) finding

common ground for constructive dialogue on this and other issues (Weasel and Jensen 2005)<sup>62</sup>.

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<sup>62</sup> Compare with the arguments of proponents of a pluralistic public sphere such as Nancy Fraser, Seyla Benhabib and Zygmunt Bauman, who argue that a cacophony of voices is always desirable from a democratic and emancipatory perspective, even if such debate is unpleasant to behold.

## CHAPTER 4: SCIENTIFIC NATIONALISM

### **Extract 1)**

*Britain became the first Western nation to embrace the cloning age yesterday, by awarding scientists the right to clone human embryos for medical research. The groundbreaking decision to allow a team at the University of Newcastle upon Tyne to experiment with human cloning places Britain in the vanguard of a technology with the potential to cure conditions such as Parkinson's, diabetes and paralysis. (Emphasis added; Science Correspondent, Henderson, Times, 12 August 2004)*

### **Extract 2)**

News that a South Korean researcher faked results in cloning experiments...*has given California scientists new hope that they might take the lead. 'It was a terrible thing to happen, but it still means someone needs to figure it out, and it could be us, which would be great for California.'* (Emphasis added; Lin, *LA Times*, 3 January 2006)

Nationalism emerged as a salient aspect of therapeutic cloning coverage across the entire sample frame. Metaphors of competition, or a 'race to the cure', have been seen in the framing of previous scientific developments, most notably the human genome project (e.g. Nerlich, Dingwall and Clarke 2002). However, the present data evince a systematic pattern of nationalism extending well beyond the standard journalistic frames of 'competition' and 'conflict' (although these are important epiphenomena within this theme). Rather, there is revealed in the present data an ubiquitous, banal nationalism (Billig 1995), infusing both the backstage news judgments of journalists and editors (e.g. Fishman 1980), and front stage press content. In this chapter I briefly identify the key therapeutic cloning news events around which nationalist discourses clustered in the present data. Across these news events, different permutations of scientific nationalism emerged, including the construction of Anglo-American competitive nationalism, the conceptual metaphor of the nation-as-landlord and the frame of 'global risk' that privileged the 'Western Alliance' of established nations over Southeast Asian techno-science.

### **A Brief History of Scientific Nationalism and Therapeutic Cloning**

This chapter explores the routine flagging of American and British nationalism. The press coverage constructs the concept of the 'nation' along the mythological lines described by Barthes (1973). The nation then becomes a frame through which developments in therapeutic cloning techno-science are filtered. At the same time, key events in the therapeutic cloning timeline elicited heightened levels of scientific nationalism: The

announcement of Dolly's birth in Scotland prompted pro-cloning nationalism in the UK press samples, whereas the US-based therapeutic cloning breakthrough by Advanced Cell Technology in 2000 engendered unusually favourable coverage in the American press. Moreover the Hwang publications in *Science* provoked salient episodes of scientific nationalism, especially in the UK press where Hwang's ascendance was viewed as a threat to Britain's national scientific dominance in the field of therapeutic cloning.

### **Dolly: The British Breakthrough**

Nationalism was evident in the British press from the day Dolly's birth was announced. In contrast to the almost unanimous consternation greeting Dolly's unveiling in other nations' news media around the globe, the first cloned adult mammal was framed with a substantial degree of national pride in UK broadsheets (Einsiedel et al. 2002).

Research that led to the cloning of a lamb was yesterday hailed by MPs as an astonishing achievement that unfortunately had been overshadowed by the uproar over its potential application to humans. (Science Editor, Radford, *Guardian*, 21 March 1997)<sup>63</sup>

The following extract appeared under the headline, 'Baaad baaan':

The public reaction in Dolly's homeland has been more muted than elsewhere in Europe, let alone in North America. Few UK politicians have spoken out on the issue, and yesterday the Commons Science Committee started an admirably low-key inquiry into cloning. The MPs made no inflammatory comments about the dangers of human clones. (*Financial Times*, 6 March 1997)

Compared to splitting the atom and other monumental scientific accomplishments, Dolly's birth was said to represent a return to worldwide prominence for British science.

#### **Extract 1)**

Dolly the lamb is 'the most important development in United Kingdom science since the splitting of the atom'. (Science Editor, Radford, *Guardian*, 21 March 1997)

#### **Extract 2)**

British scientists will be the first in the world...to develop the technology. (Political Correspondent, Kirby, *News of the World*, 21 May 2000).

Once again Great Britain was viewed as 'number one' in a high-profile field of science, after many years of American dominance in science and technology.

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<sup>63</sup> A disproportionate number of extracts in this chapter come from *The Guardian*. This selection bias was instituted deliberately following Michael Billig's (1995) point that *The Guardian* is the newspaper of left-wing academics in the UK, and therefore perceived as the least likely to engage in nationalist discourse. It is therefore important to show that nationalism is so pervasive that it is not limited to tabloid or American or right-wing news publications; it is a regular feature of left-leaning news publications as well.

‘The realisation is sinking in that the US- unaccustomed to being number two in anything of consequence- seems to have yielded primacy to the UK in a key area of cutting-edge science’. (Klotzko, Comment & Analysis, *Guardian*, 20 August 2001)

### **An American Success, and the British Riposte**

This glorification of British dominance in this field turned temporarily into lamentations over the success of other nations, starting later in 2001 when the American biotechnology company Advanced Cell Technology (ACT) announced the first successful therapeutic cloning experiments<sup>64</sup>. Following this watershed event, the elite British press intermittently bemoaned the UK’s foundering status in the field of therapeutic cloning (see Radford 2006)<sup>65</sup>, while at the same time hyping and over-selling the achievements of ‘home’ researchers whenever possible.

Subsequent to ACT’s early success in therapeutic cloning, the UK’s political and economic commitment to developing the technology was heightened, while possible legal barriers were summarily dismantled through an extension of the Human Fertilisation and Embryology Act (see Chapter 1). Thus, for a period from 2002 to 2003 the British press was again flush with national pride and optimism over UK dominance of the field of therapeutic cloning research:

#### **Extract 1)**

...at least four universities gear up to consolidate Britain’s reputation as the world capital of stem cell and cloning research. (Meek, *Guardian*, 28 February 2002)

#### **Extract 2)**

This promises to be the century of biology, with Britain at the leading edge...Britain is poised to lead the world in the medically transforming field of stem cell research. The decades-old brain drain shows signs of reversing and, in Prime Minister Tony Blair, this country has a passionate advocate for science. (Freelance Science Writer, Klotzko, *Guardian*, 27 May 2002)

### **The Ascendance of Asian Competitor Nations**

Running alongside these events in the UK, reports of breakthroughs in Southeast Asia began to appear sporadically. Chinese embryo research drew particular attention within the increasingly concerned British press:

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<sup>64</sup> That is, ACT scientists created an early (6-cell) embryo with genetic material from a donor using somatic cell nuclear transfer.

<sup>65</sup> Seeing their nation upstaged by the US, then by China and South Korea, the elite British press’s close identification with UK-based therapeutic cloning scientists (Radford 2006) seems to have fueled their tendency to employ competitive, nationalist framing.

**Extract 1)**

Scientists have inserted a boy's DNA into rabbit eggs and grown hybrid embryos. The research is under way by a team of the Sun Yat-Sen University of Medical Sciences in Guangzhou, China, to overcome a practical limitation facing scientists who want to make transplant tissues by therapeutic cloning. (Science Editor, Highfield, *Daily Telegraph*, 28 September 2001)

**Extract 2)**

Researchers in China claimed yesterday that they have cloned dozens of human embryos...The Chinese research is far more advanced than Western scientists had suspected...Professor Lu Guangxiu, of Changsa, central China, said scientists have been producing clones for two years. "We're not far behind any more," she added. (Lines, *Daily Mirror*, 7 March 2002)

Other Southeast Asian nations such as Singapore were also highlighted as nascent threats to British dominance over the field of therapeutic cloning:

In a setback to hopes of Britain becoming a world hub for stem cell medical research, one of the scientists most closely associated with attempts to commercialise the technology is leaving Britain for Singapore. Alan Colman, one of the scientists involved in cloning the sheep Dolly in 1996, is to leave...for the Singapore company ES Cell International. (Meek, *Guardian*, 7 March 2002)

Increasingly, reported therapeutic cloning 'breakthroughs' in Southeast Asia began to eclipse Anglo-American research within the global scientific and media fields. In 2004, South Korean scientist Hwang's research results appeared in the high-prestige US-based journal *Science*: His team claimed to have derived usable stem cells through therapeutic cloning. This was followed by a similar Hwang publication in May 2005. These developments were immediately framed in terms of their national implications for the US and Britain. In the American press extract below, the reporting on Hwang soon shifts to the concern that the US is being left behind:

The South Koreans have done it again. Last year Seoul National University's Woo Suk Hwang announced that his team had derived stem-cell lines from cloned human embryos for the first time. Last week Hwang made another announcement: the scientists had now created 'patient-specific' embryonic-stem-cell lines, and they'd done it far more efficiently than a year ago—a giant leap forward in the controversial science. '*The Korean study underlines the urgency for us to get moving if we're going to be part of the game,*' says Zach Hall. (Emphasis added; Kalb, *Newsweek*, 30 May 2005)

The consternation about losing ground to competitor nations was heightened in the US, where President Bush had limited federal funding for embryonic stem cell research. The first extract below comes from a *USA Today* editorial advocating the removal of barriers to therapeutic cloning research in the wake of the reported Hwang breakthrough of 20 May 2005:

**Extract 1)**

The breakthrough was a reminder of the research's potential to regenerate damaged organs and treat diseases such as Alzheimer's and Parkinson's- *and of how the United States is falling behind the rest of the world* because of restrictions President Bush imposed in August 2001. (Emphasis added; Editorial, *USA Today*, 24 May 2005)

**Extract 2)**

Now the brilliant scientific breakthrough in South Korea is further ripening the debate... Will the United States be part of the most exciting medical research of our time? *With global competitors poised to eat our lunch*, a few private and state-funded efforts won't be enough. (Emphasis added; Political Editor, Alter, Commentary, *Newsweek*, 6 June 2005)

In particular, 2004 and 2005 found the Anglo-American press expressing increasingly frantic concerns about Western science falling behind the South Koreans. However the elite British press continued to hype the success of UK-based researchers, while giving ample attention to reports of ethical lapses in the South Korean research group<sup>66</sup>. For example, on 20 May 2005 when Hwang's second *Science* article was released, every UK broadsheet subordinated this story to an unpublished report of a similar, though much less significant, UK-based breakthrough<sup>67</sup>. This blatant display of nationalistic news judgment may have also been related to the fact that the Hwang articles were published in flagship American journal *Science* rather than the venerable British flagship journal *Nature*.

This 20 May 2005 coverage comprised one of the starkest examples of consistently nationalistic news judgement in the present sample, reflecting the tendency to downplay the significance of Asian scientific developments in the British press. *The Sun* extract below places the British breakthrough first in the story<sup>68</sup>, thus signalling to the reader that the British success is more important than the Korean one:

A human embryo has been cloned for the first time in Britain, scientists said last night. The stem cell research was carried out at Newcastle University.

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<sup>66</sup> Despite ample coverage of potential South Korean and Chinese ethical lapses, I found but one news article in the *New York Times* (out of the entire US and UK samples) that discussed the potential ethical issues in Western researchers' approach to therapeutic cloning research. And, after the Hwang scandal broke, there was minimal outrage directed towards the severe lapses in professional ethics committed by Hwang's opportunistic American collaborator Professor Schatten, who appears to have suffered no long-term professional damage for his transgressions. For example, he is still director of a research centre at the University of Pittsburgh: <http://www.pdc.magee.edu/faculty/schatten.html>

<sup>67</sup> Alison Murdoch and Stojkovic were claiming they had cloned an embryo and developed it to the 8-cell stage, a fact that had been achieved previously by Advanced Cell Technology in 2001. Hwang's publication in *Science*, on the other hand, reported developing cloned embryos from potential patients *and* deriving usable stem cells from the 100-cell blastocysts they created. These reported experiments far outpaced all other research in this field.

<sup>68</sup> The pattern revealed in the UK press on 20 May 2005 was not in evidence in the American press. The US newspapers chose to lead with the South Korean breakthrough (which was published in the American scientific journal *Science*), and to largely ignore the less significant and unpublished findings of the Newcastle researchers.

Experts hope the breakthrough will lead to treatments for diseases such as Parkinson's and Alzheimer's or for spinal injuries. It comes as South Korean researchers reveal they have created the first customised embryonic stem cells. (Morton, *Sun*, 20 May 2005)

The same pattern can also be seen in *The Daily Mirror*:

A human embryo has been successfully cloned for the first time in Britain, it was revealed by scientists yesterday. Experts created three clones, one of which survived in a laboratory for five days...

Scientists hope the work will lead to successful treatments for diseases such as Parkinson's and Alzheimer's and for paralysed victims of spinal injuries...

The Newcastle University team's breakthrough came as South Korean researchers announced they had created the first "customised" embryonic stem cells, genetically tailored to match patients. (Allen, *Daily Mirror*, 20 May 2005)

The following extract offers another example of nationalistic ordering of the respective British and Korean cloning announcements:

Scientists in Newcastle have successfully cloned a human embryo, a breakthrough that places Britain at the forefront of the cutting edge...field of embryonic stem cell technology. The clone was created as part of the Newcastle group's research into new treatments for diabetes. The team, led by Miodrag Stojkovic at Newcastle University and Alison Murdoch at the Newcastle NHS Fertility Centre, was the first in Europe to be given the go-ahead to clone embryos for research last year.

Only one other group in the world, led by scientists in South Korea, has perfected the technique to clone human embryos. That team, led by Woo Suk Hwang at Seoul University, today announced going one step further than the Newcastle researchers by creating stem cells tailored to patients with specific medical conditions. (Science Correspondent, Sample, Front page news, *Guardian*, 20 May 2005)

Although all of the UK press accounts- both tabloid and elite- placed the British science at the top of the article, there were small variations in the level of credit granted to the South Koreans' work. In the following story from *The Daily Telegraph*, the superiority of the South Koreans' reported breakthrough is emphasised:

The first cloned human embryos to be created in Britain - and the first to be grown in the West - were unveiled by scientists yesterday. The news that a team at the Centre for Life, in Newcastle upon Tyne, had created three human clones, the most advanced being a female five-day-old embryo the size of the full stop at the end of this sentence, was announced as *a South Korean team disclosed a much more significant milestone*.

To the dismay of opponents of such research, the Koreans have succeeded in the efficient creation of more than 30 cloned human embryos - regardless of the age, sex and infirmity of the person being cloned. They then dismantled the embryos to grow the first lines of patient-specific embryonic cells...

*The advance, announced in the journal Science today, puts the Koreans about two years ahead of Prof Alison Murdoch, Dr Miodrag Stojkovic and Dr Majlinda Lako in Newcastle. It underlines the urgency of efforts by the biotech entrepreneur Sir Chris Evans to set up a British foundation to raise hundreds of millions of pounds for research. (Emphasis added; Science Editor, Highfield, Daily Telegraph, 20 May 2005)*

While the above extract acknowledges the superiority of the South Koreans' breakthrough claim, this information is used to support the notion of an international competition, suggesting that more money is needed so the UK can defeat South Korea in this field of scientific research. Thus the pattern of scientific nationalism is maintained even in this instance.

### **The Backstage of the Newcastle/South Korea Story**

In the published front region of the UK press, the events reported on 20 May 2005 were framed as a straightforward victory for British science. However, a very different scene was illuminated through backstage journalistic discourse. UK interview participants deliberately manipulated the story to appeal to the perceived nationalist appetite of their audience<sup>69</sup>. In the following extract the news writing process underlying the Newcastle/South Korea therapeutic cloning story is explained:

On this story, it was fairly obvious quite early in the day that this was the best story of the day. The question for us was how to write it and which element of it to put on top. (Science Correspondent, elite UK newspaper, 'Richard' 2005)

'Richard' then lays out his audience-based justification for the decision to lead with the Newcastle story:

We all thought obviously that the Korean work was actually more important. However, for a UK general reader who probably didn't have a background in this- didn't actually really have a deep understanding of what's involved in therapeutic cloning- the fact that a UK team had achieved it was the angle that was most likely to be picked up and read by a general UK audience. It also offered a nice way to ensure that the story got onto the front page, which it might possibly not have done had it purely been about the Korean research. (Science Correspondent, 'Richard', *Ibid.*)

Thus, the underlying market-based motivation in scientific nationalism was to appeal to the newspaper's imagined audience.

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<sup>69</sup> The Hwang story underwent major developments while the present study was in progress, affording some unique and unrepeatably opportunities for data collection. Serendipitously, the journalist interviews for this study were conducted after Hwang's second *Science* publication (and thus at the peak of his apparent success, and *before* there was any significant suspicion of scientific fraud). Hwang's scientific symbolic capital and media meta-capital were at their zenith at this time, and I questioned each journalist participant who had written about Hwang regarding their uncritical acceptance of the hype surrounding his and others research. This timing offered access to journalists' accounts unbiased by post-scandal adjustments for face-saving and social desirability which inevitably accompany retrospective accounts.

A similar description of the decision to emphasise the Newcastle over the Hwang story was offered by ‘Danny’:

The way those two stories were managed- and this goes for the other newspapers and *Newsnight* as well interestingly- was that they all went with [the Newcastle story]. It seemed like the argument was ‘we’re British media; we will go with the British story on top’. (Science Correspondent, ‘Danny’, elite UK newspaper, 2005)

Like Richard, Danny recognised that the Newcastle report was “undoubtedly worse work than the South Koreans”, yet this autonomous journalistic judgement was subordinated to the heteronomous principle (also see Bourdieu 1998a; cf. Schudson 2005) and scientific nationalism:

The *British* news story- and we’re a British newspaper- was that these [Newcastle] scientists had claimed to the first cloned human embryo [in the UK] and that somehow trumped the South Korean work which was...far more important...I have to say on the [science] desk we were of the sense to have run with the South Korean work on the front page. But being a British newspaper, the bigger British story was the results through the Newcastle work. But it was pretty lame compared to the South Korean stuff.

...The fact that [the Newcastle researchers] are British then just managed to trump the actual scientific advance the South Koreans had done...Of course that [nationalist] judgement is going on for every story that gets in the paper...All those factors have to be weighed up for every story that goes into the paper and they’re always weighted up by the news desk. (Science Correspondent, ‘Danny’, *Ibid.*)

The judgment described above represents a “policy of demagogic simplification” (Bourdieu 1998a: 3), reinforcing the imagined supremacy of ‘their’ nation by promoting the homeland’s success. Both journalists and politicians routinely employ this populist tactic wherein “the mirror of narcissus [i]s held up to the evoked national audience...‘The British people are a great people’, [Blair] declared” (Billig 1995: 105). In the present sample, journalists assured their readers that Britain was the ‘greatest scientific nation’, and simply massaged the scientific developments into front stage press content reflecting this narcissism.

Some UK science journalists faced backstage derision at the interpersonal level from colleagues for the decision to lead with the Newcastle story. ‘Richard’ continues:

Funny enough, I had an argument the other night with a Reuters [wire service] correspondent about this who was very critical of the UK press for all leading on the Newcastle research rather than the Koreans’. (Science Correspondent, ‘Richard’, *Ibid.*)

UK science correspondents defended themselves from such criticism using a variety of rationalisations, including the argument that they were simply giving the public what it wanted:

The whole way that I tried to write that story, was obviously make it clear, you know, Britain at the top, but we all knew that what the UK team did was very insignificant compared to what the Koreans had announced that same day. So it was a lead in, a hook to get people reading a story that they might not otherwise have read. (Science Correspondent, 'Richard', *Ibid.*)

Indeed a medical correspondent for a UK news periodical indicated that her organisation privileged American therapeutic cloning research because their many American readers were presumed to prefer 'home' science or medical news.

[We] overwhelmingly [cover] American [science]. We are very much influenced by the science from the United States. The [participant's periodical] has half its readers in America and we tend to look at the United States. (Medical Correspondent, 'Zeynep', elite UK news periodical, 2005)

The second justification for nationalist framing was that it helped the cause of science overall by getting the story onto the front page with the nationalist framing:

If it had just been the Korean thing, sure the Korean stuff would have been on the top of the story, but it wouldn't have been as highly placed in newspapers, on news bulletins, and so on. And sometimes placement is just as important to what's actually written for a story's impact. (Science Correspondent, 'Richard', *Ibid.*)

Reflecting his different geographical location, one of the few American journalists who had even heard of the Newcastle 'breakthrough' expressed a very different evaluation of its newsworthiness:

I actually knew about [the Newcastle story] when I was doing the South Korean story [on 20 May 2005] and [the Newcastle story] was totally baseless [laughs]. I mean, it shouldn't have even been reported by anyone. I mean...[the Newcastle researchers] hadn't done anything!...They hadn't done anything that would merit a news story and it was nothing comparable to what the South Koreans had done. And even if the South Korean news hadn't been happening that day, I would not have reported what they'd done in the UK because it was not a substantial step forward. (Science Reporter, 'Nick', major US newspaper, 2005)

Hwang's therapeutic cloning research would later prove to have been a complete fraud from start to finish. In Goffman's (1963) terms, Hwang was merely 'discreditable' before December 2005, and was thus able to project a normal, unblemished image to others. However in December 2005, facing overwhelming evidence of his deceit, Hwang finally acknowledged that he had behaved 'unethically' and apologised to the nation of South Korea. Before this time however, Hwang's claims appeared highly credible due to their publication in the top American journal *Science*.

## Scientific Nationalism

These [therapeutic cloning] stories are going to get covered because, for good or ill- I am not arguing the merits- but these stories have become major national and international stories. (Science Writer, 'Jim', US science news periodical, 2005)

Benedict Anderson (1991) theorises that nations and nationalism arose out of the emergence of a popular press aimed at ordinary citizens in the late 15<sup>th</sup> and 16<sup>th</sup> centuries. Through the shared and concurrent experience of print capitalism, he contends that the reading public gradually formed a virtual community, eventually becoming a 'nation'<sup>70</sup>. Thus Anderson defines the nation as "an imagined political community":

"It is *imagined* because the members of even the smallest nation will never know most of their fellow-members..., yet in the minds of each lives the image of their communion...It is...a *community*, because...the nation is always conceived as a deep, horizontal comradeship". (Anderson 1991: 6-7)

Hence in Anderson's theory the press gave birth to the imagined community of the nation.

The mediation of nationalism is addressed further by Billig (1995: 6), who unveils the subtle, quotidian flagging of nationalism "endemic" to life in 'established nations' such as the US and Britain. 'Banal nationalism' is defined as the "ideological habits" contributing to the prosaic, taken-for-granted nature of nationalism in daily experience (Billig 1995: 6). In particular, Billig (1995: 94) describes the routine flaggings of nationalism by the news media, which "daily bring the flags home to the citizenry".

According to Billig (1995: 8), nationalism is reproduced through "continual 'flagging', or reminding, of nationhood". This constitutes a "continual background" reminding citizens of their national status in a manner "so familiar, so continual, that it is not consciously registered as reminding". One of the key mechanisms for this continual reminding is called 'deixis'. Deixis refers to a "form of rhetorical pointing" that uses "little words" such as "'I', 'you', 'we', 'here', 'now'" to orient the reader, listener, speaker or writer of a text within a larger universe (Billig 1995: 106). As Billig (1995: 175) states, "the newspaper addresses 'us', its readers, as if 'we' are all nationals of the same state: it tells 'us' of 'home' news". It is such seemingly mundane elements of journalistic discourse which are so important (1995: 93) "because of, not despite, their rhetorical dullness". Deictic

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<sup>70</sup> Anderson no doubt exaggerates newspapers' role in the original formation of modern nation-states. Indeed, Thompson (1995: 62) highlights the temporal disjuncture between "the emergence of a plurality of reading publics in sixteenth century Europe, on the one hand, and the emergence of various forms of national identity and nationalism in the nineteenth and twentieth centuries, on the other...If the early reading public was the embryo of the nationally imagined community, why did it take nearly three centuries for this embryo to mature?". However, it is clear that the press and other mass media have played a vital role in constructing, maintaining and directing extant national identity (e.g. Billig 1995).

communication can subtly locate the ‘in’ group and ‘out’ group within a larger body of people. Through the use of deictic devices like ‘here’ and ‘we’, the press frame “the national homeland as the home of the readers” (Billig 1995: 11). Moreover, by suggesting who is a part of ‘our’ country, deictic language defines the boundaries of the nation in an exclusionary, yet largely unnoticed, manner. Such rhetorical flagging helps to foster what Billig (1995: 4) describes as an “aura of nationhood”, which makes the nation seem magical or transcendent, while simultaneously constituting a natural and unremarkable aspect of the social world (also see Barthes 1973).

The following extract exemplifies banal nationalism within the present sample, implying as it does that one should only care about an issue if it impinges on one’s home country (Billig 1995):

Why does this matter to *us*? Aren’t these American concerns for American scientists? “*We* must care,” says Robert Winston, professor of fertility studies at Hammersmith hospital in London. “The US is one of the leading technological societies, with the most advanced science base. It’s influential. *Their* science informs *our* science”. (Emphasis added; Science Correspondent, Sample, ‘Science pages’, *Guardian*, 11 November 2004)

Deictic language infuses the above extract with banal nationalism. ‘Us’, ‘we’, ‘their’ and ‘our’ are emphasised above as examples of this subtle, but powerful form of nationalism. Such framing hails or ‘interpellates’ its readers, “recruiting” them as “always-already” national subjects (Althusser 1971: 163-164).

### **Anglo-American Nationalist Competition**

If you could put a Union Jack on [the science story], it has a slightly better chance of getting in. If it is...British science it has got a slightly better chance. I try not to play that card, but...yes,...a British study has a slightly better chance. (Health Editor, ‘Charles’, elite UK newspaper, 2005)

One of the primary ways in which the US and Britain were imagined and interpellated in the present data, was as rivals in an international competition. The prize of therapeutic cloning cures and concomitant bonanzas of symbolic and economic capital was framed as ‘winner-takes-all’, and Britain had staked the first claim:

#### *Dolly the sheep led the way*

The incredible technology set to help humans is similar to that used to create...Dolly the Sheep...The team was led by Professor Ian Wilmut. He said: “*We* were the people who had the lucky breakthrough. It would be a great shame if we miss the opportunity to go on to develop new therapies”. There will also be a massive profit from any cloning project. Analysts estimate that the first company to produce cloned human tissue will establish a market

which will be worth Pounds 3.8 billion within a decade. (Emphasis added; *News of the World*, 21 May 2000)

The deictic ‘we’ in the above extract is noted with italics, while the extract below exhibits similarly nationalistic framing emanating from the US press. Advanced Cell Technology’s scientists are placed in a race against other nations’ scientists, with ACT facing the spectre of future regulation by its own nation’s elected representatives:

By rushing into print preliminary experiments in creating early-stage embryos through cloning, *the scientists at Advanced Cell can get bragging rights in the world of science -- and, possibly, a leg up* in the effort to turn the technology into a viable business. [Co-author] Anne Keissling...said Dr. West and Dr. Cibelli deemed publication of the experiment a matter of urgency *because of competition from other groups* -- including one in Israel. (Emphasis added; Regalado, McGinley & Carroll, Front page news, *Wall Street Journal*, 26 November 2001)

Not only does the above extract conjure the notion of a worldwide scientific race, but it takes for granted that cures and fortune lie at the end of this race. This reinforces the sense of inevitability discussed in Chapter 3. Competitive framing in Anglo-American press coverage was explained by American science journalist ‘Carl’ (2005), who acknowledged that “We [US science journalists] are *way* under-covering what’s going on in the UK; everybody is in the US”. American science writer ‘Jim’ acknowledged a similar point when asked if there was a tendency to privilege US scientific developments. In the following extract he recalls a study he might have covered had it occurred closer to ‘home’:

Yeah I would say there is...I mean there was this paper from the University of Sheffield...and I’m sure the UK papers gave it more attention than the US did. I mean I knew about it [participant trails off]. I like to think that I would make the same journalistic judgment no matter what but I think there is a tendency to be a little jingoistic, yeah. (Science Writer, ‘Jim’, US science news periodical, 2005)

Carl mentioned one instance of backstage Anglo-American journalistic nationalism in which he tried to pitch a story about a meeting between Wilmut and Hwang (pre-scandal), but found his editors decidedly unreceptive to the idea:

My editors were like, ‘What do we care what some guy over in oldy Englandy is doing?! You know, they don’t buy a lot of [our newspaper] in London’. (Science Reporter, US newspaper, ‘Carl’ 2005)

This extract is indicative of the economic, or ‘heteronomous’ (Bourdieu 2005; Champagne 2005) dimension of press nationalism. The news business is based upon “exploiting and pandering” to the existing “tastes of the general public” (Bourdieu 1998: 48), including presumed nationalist sentiments and xenophobia, in order to maximise sales. Moreover Carl

went on to suggest that the only time foreign science stories get substantial coverage is when they are simply too sensational to ignore:

Every once in a while my editors will get alarmed because Reuters [news wire service] will botch a story coming out of the UK. You know, [they will publish an outlandish story such as] ‘the Brits have cloned a human baby seven stories tall!’ ...But that’s the only attention we ever pay to the UK. You know, until the Brits clone a baby, they don’t exist. We pay more attention to South Korea than England. (*Ibid.*)

Before mid-2002, the US and UK were framed as the *primary* competitors for glory and profit in this scientific field. Although there were other perceived challenger nations, the British press framed the US as the primary comparison target until the end of Phase 1 of the debate. This putative competition was used to legitimate liberal laws and generous scientific funding for British bioscience:

**Extract 1)**

Is the United States about to fall behind Britain in a crucial area of medical research? It’s certainly possible. Research on human embryonic stem cells is legal in the UK...They are also allowed to do therapeutic cloning...Across the Atlantic, even research using stem cells derived from surplus embryos faces a rather uncertain future. (Science Writer, Klotzko, Comment & Analysis, *Guardian*, 20 April 2001)

**Extract 2)**

Researchers say that Britain’s liberal rules on human embryo stem cell research are starting to create a ‘reverse brain drain effect’ which is attracting scientists from the US, where the anti-abortion lobby, especially the Catholic Church, exerts a powerful influence. (Black, *Guardian*, 20 November 2003)

Later in the debate, the US press registered its concern about the US losing its top status in the biological sciences. This concern was framed in nationalistic and envious terms:

“Bravo for the British,” said Robert Lanza, vice president for medical and scientific development at Advanced Cell Technology, a company based in Worcester, Mass, that pursues stem cell therapies. “It’s nice to know some countries are keeping religion and science separate”. (Science Reporter, Weiss, *Washington Post*, 9 February 2005)

Concern about the loss of American dominance in the field of human embryo research was also expressed within the context of the 2004 US Presidential election:

The issue of stem-cell research offers Kerry the chance to project himself as the candidate of the future- the one who will...restore America’s medical leadership in the world. (Political Editor, Alter, *Newsweek*, 21 June 2004)

A similar sentiment was expressed in the UK press on behalf of its nation:

**Extract 1)**

He urged the government to...*turn British scientists into world leaders in the field.* (Emphasis added; Kirby, *News of the World*, 21 May 2000)

**Extract 2)**

Britain's scientific establishment...is determined to lead the world with the technology. (Medical Correspondent, Rogers, *Sunday Times*, 13 October 2002)

The UK's attempt to seize the number one position on cloning technology takes place within the broader context of competition between British and American science, in which the UK typically comes in second place. For example, the official website of the UK government Office of Science and Technology features the following comparative statement:

The UK is second only to the United States in terms of the volume and influence of scientific publications and the number of major international science prizes won.<sup>71</sup>

Now that Britain could change this assessment in a high profile field of science, the opportunity to highlight British scientific supremacy combined with the intrinsically interesting 'cure' aspect of therapeutic cloning research, made this a tantalising story with a high perceived news value (Radford 2006).

*Framing Enlightened British Regulation*

A key framing device in the elite British press was to construct an undesirable foil to contrast with enlightened British legislation and regulation. The following extract- published one week after Dolly was revealed, offers an early example of the construction of an 'us' (i.e., enlightened Britons) and a vast 'them' (i.e., non-British barbarians at that gate) for this issue:

No amount of guarding the gates can keep their secret within Britain, or prevent unscrupulous scientists in unregulated countries from trying to clone a human being. (Boseley & Vulliamy, Features, *Guardian*, 1 March 1997)

According to Bauman (2000), a necessary element in the construction of the "patriotic/nationalist creed" is a "desperate attempt to set 'us' apart from 'them'". It was in this vein that an undesirable image of the US was constructed in the UK broadsheets to contrast with the British approach, which was portrayed as reasoned, moral and economically savvy.

Richard Gardner, chairman of the Royal Society working group on stem cell research, said: "There is now the very real prospect that the UK can become a world leader in stem cell research. Unlike the United States, the UK has proper regulation of research on embryonic stem cells in both the public and private sectors". (Health Editor, Hawkes, *Times*, 28 February 2002)

Such nationalistic framing helped to legitimate the technocratic, pre-fabricated consent of the British Parliament and its liberal regulations, reinforcing the moral position of the UK as a

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<sup>71</sup> <http://www.ost.gov.uk> – Last accessed 8 June 2004

“sanctioning power” and “norm-giving entity” (Habermas 1987: 38) with regard to other nations. For example, the following extract constructs the American approach to therapeutic cloning as analogous to religious persecution:

There was never much chance of [therapeutic cloning researcher] Roger Pedersen being burned at the stake...But the fact is that, almost four centuries after the pilgrim fathers fled from England to the then American colonies in search of the freedom to worship as they chose, Pedersen's journey in the opposite direction, from California to Cambridge, has been triggered by religion. It is the struggle of religious belief against a particular line of medical research that has driven the 56-year-old biologist to up sticks and rebuild his laboratory in England. Pedersen is coming to...work on human embryonic stem cells...which scientists hope can be used to culture spare parts for the sick. (Meek, *Guardian*, 14 August 2001)

In addition, the British press framed the US approach as muddled and unclear. This undesirable state of affairs is set in opposition to the clear-headed governance of the technology through the technocratic institutions of modern Britain. The following example further sharpens the US-UK distinction by drawing upon the stereotype of Americans as litigious:

As the US sinks further into the morass of scientific and legal uncertainty, the UK can only benefit...The regulations are clear; the environment is predictable. Scientists don't have to stop off at their lawyer's office on the way to the lab. (Science Writer, Klotzko, Comment & Analysis, *Guardian*, 20 August 2001)

Beyond competitive framing, opponent construction in the UK press served to venerate the hallowed British legal and parliamentary institutions as national traditions worthy of public deference and nationalistic support (cf. Giddens 1994). The following extract from just after the news of Dolly broke in the press describes the negative situation outside of Britain's borders:

However, controls in other countries, are more lax. In America there are no laws regulating embryo research, which is controlled by local hospital ethics committees. (Laurance & Hornsby, 'Home', *Times*, 24 February 1997)

In the elite UK press the frustrated efforts of the American Congress and US regulatory system were framed as failing in proportion to their dissimilarity from the equivalent British institutions. The extract below came under the headline, 'Americans are looking to Britain to get them out of Bush's stem cell morass':

Since George Bush announced his decision..., many Americans have been starting their day with...a news story about a previously unknown and arcane subject: how the British regulate their embryo research...The realisation is sinking in that the US - unaccustomed to being number two in anything of consequence - seems to have yielded primacy to the UK in a key area of

cutting-edge science...So American scientists and, increasingly, the American public are looking to Britain for science unconstrained by political compromises that masquerade as moral pronouncements. (Science Writer, Klotzko, Comment & Analysis, *Guardian*, 20 August 2001)

This pattern of British nationalism raises the question of “whether, in these supposedly post-imperial times, it is possible for Britain to accept the world as a sufficiently benign place for its weakness not to be catastrophic” (Robins 1999: 16), even on issues as peripheral to national power as therapeutic cloning. Indeed the present sample suggests that the UK press is set on framing Britain as a dominant scientific nation. The *coup de grace* on this topic was the sympathetic narrative of former Superman actor Christopher Reeve. Reeve offered the elite UK press a narrative of an American seeking to benefit from the enlightened policies of the UK:

In the meantime, Reeve’s best hope lies in Britain, which has passed legislation allowing therapeutic cloning and allocated some pounds 40m of public money to research. ‘Most scientists believe the UK is poised to take the lead, as it did with in vitro fertilisation’. (Bedell, *Observer*, 9 February 2003)

Thus, while the choice of opponent varied from month to month and year to year, both the US and UK engaged in continuous competitive framing throughout the sample period.

### **The Global Cloning Risk**

As argued above, the US was singled out as the primary opponent in the scientific sub-field of therapeutic cloning by the UK press (and vice versa) during Phase 1 of the coverage (see Chapter 1). However, the spectre of unregulated human embryo cloning was at the same time being portrayed in the elite UK press as a classically *global* risk as well. The notion of ‘globalised risk’ I am drawing on here is a constructivist and media-centric derivation of the concept developed by Beck (1992). Beck argues that modernity has moved from a stage he calls ‘industrial society’ to one of ‘risk society’. According to Beck, risk society is defined by the increasing ubiquity of globalised risks such as pollution, nuclear disaster, genetic engineering, and- this study would suggest- unregulated embryo cloning<sup>72</sup>. These risks are *globalising* because they cannot be controlled at the level of the individual nation-state and because their consequences spread without regard for national borders. In risk society, techno-scientific threats- such as the perceived dangers associated with cloning human embryos without British-style governance- are frequently seen to “possess an inherent

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<sup>72</sup> If one focuses upon the elements of Beck’s theory which rely upon a constructivist epistemology, a connection between the framing of risk society and John Thompson’s (1995) concept of ‘mediated visibility’ becomes evident. A constructivist understanding of scientific risk dilates upon issues of perception and increased awareness, which have been facilitated by the rise of global electronic media.

tendency towards globalization” (Beck 1992: 36). The risk of unregulated human cloning is viewed as inherently global due in large part to the globalising structure of modern science and scientific knowledge. Below are two examples from the elite British press:

**Extract 1)**

Scientific knowledge is no longer contained within a university or a country. Within hours of it being published it is on the Internet, and available worldwide. That makes any amount of guidelines and restrictions in Britain utterly irrelevant. (Boseley & Vulliamy, *Guardian*, 1 March 1997)

**Extract 2)**

Richard Nicholson, editor of the *Bulletin of Medical Ethics*, said... ‘Cloning humans might not be a risk in this country but if the details of the scientific research are published they could be picked up and used elsewhere’.  
(Laurance & Hornsby, *Times*, 24 February 1997)

This structural globalisation of techno-scientific development is referenced explicitly in the following extract:

As has been graphically illustrated by the instant global reaction to the possibility of human cloning, *the issues raised by modern science know no national or political boundaries*. (Emphasis added; Editorial, *Nature*, 23 October 1997)

The primary concern expressed in the elite British press regarding this facet of globalisation was that unethical scientific developments in human cloning taking place in nations such as China, South Korea, and Singapore would quickly diffuse and pollute the global research environment, despite regulatory safeguards in Western Europe.

‘It’s like nuclear proliferation - how can you control it?’ said Van Blerkom. ‘Everybody says they will abide by it. Then India, Pakistan, Israel, Brazil, Chile, Cuba, Oman and United Arab Emirates refuse to sign. You can try boycotting countries that don’t play ball, but if China, say, decides to permit cloning is anyone seriously going to stop trading with such an enormous economic power?’ (Boseley & Vulliamy, *Guardian*, 1 March 1997).

Indeed the press coverage routinely mentioned the lack of adequate regulation in major developing nations. The civilised Anglo-American legal system was then used to construct technologically-oriented developing nations as benefiting from ethically primitive research practices.

China has been investing heavily in biotechnology for years and has a number of other stem cell research labs. There are no laws controlling research on embryos as there are in the UK and the US. The...ease of access to scientific publications on the internet, together with the growing number of skilled biomedical graduates and lack of regulation outside traditional scientific countries, make it entirely likely that future stem cell and cloning breakthroughs will be made in countries such as China, India and Brazil. (Science Correspondent, Meek, *Guardian*, 7 March 2002)

The above extract foreshadows a pattern in the data wherein the Western civilised nations controlling embryo research, are set against the Other of the globalised threat of unregulated science in the developing world. This promotion of Anglo-American regulatory structures is part of the construction of a ‘Western Alliance’, which seeks to “spread ‘ourselves’ – ‘our’ message, ‘our’ way of politics – across the globe” (Billig 1995: 171).

**Extract 1)**

There is a general consensus throughout the *developed* world that cloning is unethical. (Emphasis added; Boseley & Vulliamy, *Guardian*, 1 March 1997)

**Extract 2)**

Outlawing unsavory practices, like eugenics, in the United States or Europe won’t help much if biotechnology is being practiced elsewhere without ethical constraints. (Guterl, *Newsweek*, 16 September 2002)

This process of ‘Othering’ non-Western nations became incorporated in the Anglo-American biogovernmental approach to the issue of therapeutic cloning, helping to justify limited regulatory restrictions and increased research funding.

### **The Nation-State as Landlord in a Renter’s Market**

The coverage of the perceived globalised risk of human cloning research included recurring concerns over the possible negative consequences for Western nations unfairly disadvantaged by their civilised cloning regulations. Thus, globalisation leaves individual nation-states feeling hamstrung and unable to contain global risks (also see Bauman 2000). Attempts to draw regulatory ‘red lines’ are met by concerns that potentially profitable research will simply go elsewhere.

He finds it frustrating that the cells he extracts for infertility experiments can’t be used to develop tissues for transplant. Smith worries that the current limits on government-funded embryo research in Britain and the US push the research into the American private sector, which is not governed by regulations. (Science Writer, Coghlan, *New Scientist*, 19 August 2000)

Furthermore, individual nations are hesitant to take bold action because of the pragmatic concern that such action would be futile in the face of a global technology market. This global market allows scientists dissatisfied, for example, with American scientific regulations to easily move their work to Britain or some other less restrictive nation. Often this concern will be adduced to argue that the inexorable onward march of technology is inevitable, and that resistance to it is futile.

It is next to impossible to slow down or control some areas of science in one country when the world is so interconnected. (Anonymous, Commentary, *Economist*, 1 January 2005)

In the first of the UK press extracts below, an American stem cell scientist recently arrived in Cambridge is quoted framing the liberal British regulations as the catalyst for a ‘reverse brain drain’:

**Extract 1)**

‘If this opportunity continues to be squandered in the US, I think there are other people such as myself who would see the balance of opportunity shifting towards the UK,’ he says. ‘Academics are pretty fluid in their ability to move around these days, and if the UK provides the opportunity it could benefit quite substantially. (Meek, Feature, *Guardian*, 14 August 2001)

**Extract 2)**

If the bill passes..., expect the stem cell brain drain to the UK to become a flood. (Science Writer, Klotzko, Leader Pages, *Guardian*, 7 August 2001)

UK politicians sought to entice researchers by limiting restrictions on techno-scientific development:

Tony Blair has already pledged to make Britain the ‘best place in the world’ for research on stem cells. ‘I want to make the UK the best place in the world for this research, so in time our scientists, together with those we are attracting from overseas, can develop new therapies’. (Brown & Johnston, Front page news, *Times*, 28 August 2002)

However, especially in the UK press it is implied that the Western scientific establishment takes at least some pride in the civilised national identity demonstrated through minimum scientific regulations. The following extract appeared under the headline ‘Dr. Frankenstein’:

Dr Reid vowed that the cloned baby would not be born in Britain. He said: “It is illegal to clone a child in the UK. We are one of the few countries who have passed legislation to ban this possibility”. (Thurlbeck, *News of the World*, 18 January 2004)

A rare exception to this emphasis on Western moral superiority comes in an article by sociologist Hilary Rose decrying the technocratic governance of therapeutic cloning in the UK. In fact, Rose groups Britain with the ethically ‘soft’ Asian nations normally contrasted with the West by Anglo-American journalists:

The problem of medical tourism...is trivial compared with the need to control the search by biomedical researchers for *countries with soft standards - whether Britain or Korea*. (Emphasis added; Rose, Comment & Analysis, *Guardian*, 16 February 2004)

This placement of Britons and Koreans in the same negative category was unique in the UK coverage.

Faced with globalised competition and pressure from their techno-scientific industries, nation-states are in some respects reduced to the role of the landlord trying to find and keep good, paying tenants. They feel they cannot erect too high a regulatory wall for fear

of being made irrelevant, and this kind of discourse is reinforced by press accounts employing the frame of an ‘international competition’.

Professor Austin Smith, who runs the MRC’s Institute of Stem Cell Research in Edinburgh, points out ‘We have lost five years’, he said. ‘We have a new system for licensing research which some admire, but others in America see as a typically British cock-up in that we have surrounded it with a huge bureaucracy’. (Leake & Ungood-Thomas, *Sunday Times*, 17 October 2004)

However, nations operating according to this landlord metaphor find themselves facing a moving target in which no country’s laws could be liberal enough to procure economic security within the global market of scientific labour. The UK’s legal framework and funding, for example, was said to be luring scientists from the US and elsewhere:

*World’s best minds lured by liberal law*

Dr Stojkovic...became frustrated with [Germany]’s harsh laws on cloning and embryo research...Encouraged by the more permissive regulations introduced in Britain in 2001, Dr Stojkovic moved...to Newcastle University.

Among other experts in the field who have moved to Britain since the new laws came into force is Roger Pedersen, an American stem cell researcher who left...for Cambridge University when the Bush Administration banned the use of federal funds for such work. (Science Correspondent, Henderson, *Times*, 12 August 2004)

This pattern of scientific migration was identified as newsworthy by Anglo-American science journalists:

Particularly [on] the piece about the Newcastle team, I thought it was important to address why Miodrag Stojkovic was here in the first place. And that’s clearly because he can do work here that he wouldn’t be allowed to do in Germany where he was before. (Science Correspondent, ‘Richard’, elite UK newspaper, 2005)

The following extract was published one week after Dolly was introduced to the world media:

Even if laws are eventually enacted to ban human cloning research in the US, the work can always move elsewhere. (Editorial, *New Scientist*, 1 March 1997)

This landlord metaphor took hold early in the UK debate and soon became prevalent in the press discourse about UK national regulation of therapeutic cloning.

Britain may be the winner if the US goes ahead with a ban on cloning. Top American researchers might move across the Atlantic if proposed US legislation banning the creation of cloned human embryos becomes law...‘Science is global, and there are good labs everywhere,’ says David Greenwood, senior vice-president of stem cell company Geron of California. He would not say directly whether Geron is considering moving. ‘All I can say is that we already have a presence in the UK, and the UK politically is

increasingly receptive to this type of research. (Cohen & Ainsworth, *New Scientist*, 30 June 2001)

Similar evocations of the landlord metaphor also appeared in the American press:

Without more federal money, stem-cell scientists worry further that they'll lose some of the brightest young minds to less controversial fields of research- and that their most accomplished colleagues will follow others overseas. (Kalb, Rosenberg, & Ulick, *Newsweek*, 25 October 2004)

Even as the British science press noted the 'brain gain' from the US, the UK was seen to suffer the same kind of losses as other nation-landlords offered scientists a more alluring rental contract. Taken to a global level, this kind of brain drain was seen as a concerning feature of globalised science:

*Permissive regulations in a few regions of the world are dictating where human embryonic stem (hES) cell research is taking place...The regulation of hES cell research poses particularly difficult questions for legislators around the world...these responses will play an important role in determining where pioneering work will take place and where, consequently, investment in that research will flow.* (Emphasis added; Knowles, *Nature*, February 2004)

The hyped success of the Newcastle researchers in 2005 was also used to validate the liberal regulations of the British nation-landlord:

The Newcastle clone is the biggest success so far for the Government's liberal approach. Parliament voted in 2001 to allow therapeutic cloning...The embryo was created by a team led by Professor Alison Murdoch and Miodrag Stojkovic, a Serb-born scientist who moved to Britain to take advantage of the law. (Science Correspondent, Henderson, *Times*, 20 May 2005)

Within the British press, setbacks for British science were used as evidence of the need to promote a UK research climate of generous funding and limited legal restrictions.

The following example appeared under the headline, '1<sup>st</sup> clone scientist quits UK':

A professor who helped create Britain's first cloned human embryo is leaving for a better-paid job in Spain. Professor Miodrag Stojkovic is the top stem-cell scientist in the UK. Shocked colleagues at Newcastle University said his decision was a 'great loss' - and they warned other scientists [would] go abroad because of pressure on funding. Serbian-born Prof Stojkovic will become deputy director of regenerative medicine at the £274 million Prince Felipe Research Centre in Valencia. (*Sun*, 16 September 2005)

This kind of international migration did not escape the notice of the US press. The following *Newsweek* extract comes from a profile of Singapore, which notes their effective strategy for attracting biotechnology researchers. This suggests that nation-landlords must provide both a hospitable regulatory environment and ample funding in order to win the global auction for top biological scientists:

Alan Colman, the Brit who cloned Dolly the sheep back in 1996, is now in Singapore, doing stem-cell research on diabetes. He arrived in 2002, just one of the big-name stars and corporations this tiny city-state has recruited in its effort to create a biotech industry from scratch... Many Asian nations have tried the field-of-dreams approach, but only Singapore has made real progress.

Singapore has...lavish[ed] \$2 billion on research alone since 2000. Scientists are released from teaching and fund-raising duties, and told 'not to worry about the money,' says another recent recruit. (Seno, *Newsweek*, 18 October 2004)

The following examples from the UK press each emphasise the futility of undertaking strict regulation of therapeutic cloning within a different national context (viz., the UK, US, and France respectively), thus discursively legitimating the minimisation of regulation as the pragmatic last resort of otherwise upstanding Western nations:

**Extract 1)**

Mrs. Ruth Deech, who chairs the [Human Fertilisation and Embryology] authority...warned that people could circumvent UK law by going abroad. 'We effectively are at the mercy of lower standards abroad'. (Science Editor, Cookson, *Financial Times*, 6 March 1997)

**Extract 2)**

Even if laws are eventually enacted to ban human cloning research in the US, the work can always move elsewhere. (Editorial, *New Scientist*, 1 March 1997)

**Extract 3)**

[French President Jacques Chirac] said: 'Nothing will be resolved by banning certain practices in one country if scientists and doctors can simply work on them elsewhere'. (Science Editor, Highfield, *Daily Telegraph*, 13 January 1998)

The US press highlighted similar conclusions about the helplessness of nation-state landlords trying to impose effective restrictions on scientific progress:

Even if the U.S. bans cloning, the technology is likely to move ahead overseas, a potential blow to the American biotech industry. 'It points out the futility of a legislative approach,' says Sean Tipton, a spokesman for the American Society for Reproductive Medicine. 'We would be better served putting our energies toward channeling [the technology] in a positive direction.' (McGinley & Regalado, *Wall Street Journal*, 10 April 2002)

Further to the perceived futility of restricting technological advance, nation-states offer government support (or minimised impediment) in exchange for the economic and symbolic capital that accrues from supporting groundbreaking scientific research within their borders. In the US press extract below, billions of dollars in cash are framed as an investment in attracting scientists and capital to California:

California...would fund \$3 billion worth of stem-cell research, *creating a haven for science and a 21st-century gold rush* for biologists and biotech

companies. (Emphasis added; Kalb, Rosenberg, & Ulick, *Newsweek*, 25 October 2004)

Combined with a willingness to lower regulatory ‘barriers’ to attract researchers, this ‘landlord’-based scientific economy can be viewed as precipitating a downward spiral as each country tries to attract researchers by offering the friendliest regulatory, political and economic environment.

Mr. Blair gave warning that research work would be lost to Britain and Europe and go elsewhere in the world if animal welfare activists and other protesters were allowed to get away with stopping projects...He called for an end to the air of suspicion and mistrust that sometimes surrounded the work of scientists and the misplaced fears and ignorance it often generated. Mr. Blair said there were huge opportunities in science, for medical progress. (Science Correspondent, Webster & Henderson, *Times*, 20 May 2002)

The above extract has Blair suggesting that any ill-advised attempts to hinder the march of scientific progress in the UK would simply benefit non-European competitor nations. This suggestion was further developed with the implication that India was one such competitor prepared to capitalise on the West’s ‘anti-science’ tendencies:

[Blair] said: ‘I was struck in India by the very close links between enterprise and science and the fact that the Indians were openly saying that they felt that some of the anti-science attitudes in the developed economy were giving them real opportunities they were determined to exploit’. (Science Correspondent, Webster & Henderson, *Ibid.*)

In this extract, supporting scientific development is implicitly legitimated under the rubric of maintaining an advantage for the ‘Western Alliance’ over Asian competitor nations. This outlook was reflected in Anglo-American press reports on ‘breakthroughs’ hailing from nations such as South Korea and China. The implied solution in these passages was to limit regulations to allow ‘home’ scientists to operate unfettered by ‘red tape’:

Red tape could tie up the Prime Minister’s vision of making Britain the world leader in embryonic stem cell research, says one of the most eminent scientists in the field. Sir Martin Evans...expressed his fears that ‘over-zealous’ bureaucracy would make the UK lag behind countries such as China and South Korea. (Science Editor, Highfield, *Daily Telegraph*, 11 March 2005)

A similar concern about other nations ‘winning’ the competition for achieving therapeutic cloning-based cures is expressed by a US industry scientist in the following extract from a story about Hwang’s second *Science* article:

Robert Lanza of Advanced Cell Technology...[said] ‘Unfortunately, *you’re going to see more and more stem cell breakthroughs like this occurring overseas,*’ he adds. (Emphasis added; Science Correspondent, Vergano, Front page news, *USA Today*, 20 May 2005)

The 2004 American Presidential campaign occasioned a heightening of therapeutic cloning rhetoric with opposition candidate Senator John Kerry seeking to position himself as being on the side of Progress and American scientific dominance. In the following extract he argues against limits on therapeutic cloning research on the basis of an international competition, with moral and economic consequences:

It is wrong to tell scientists that they can't cross the frontiers of new knowledge. It is wrong morally and it is wrong economically, and when I am president, we will change this policy and we will lead the world in stem cell research. (Science Reporter, major US newspaper, *USA Today*, 27 October 2004)

The notion of a scientific competition is also promoted below by a political commentator during the election campaign:

The issue of stem-cell research offers Kerry the chance to project himself as the candidate of the future—the one who will take a tough and controversial position if it has the chance to improve the quality of life for millions *and restore America's medical leadership in the world*. (Emphasis added; Political Editor, Alter, *Newsweek*, 21 June 2004)

This putative competition was also explicated backstage:

Here [in the US], there is a long running strain of thought that is fear of foreigners catching up with us. So that was something that was pointed out in the story. (Science Reporter, major US newspaper, 'Carl' 2005)

Indeed, framing the news around artificial competitions is a mainstay of Anglo-American journalism. However, it is important to recognise that such news values and all of the small examples of implicit, banal, and overt nationalist discourse explicated above ensure that American and British identities are “renewed continually” within the Anglo-American press coverage of therapeutic cloning (Billig 1995: 127).

### **Chapter Discussion**

Group identification has defined human existence from the beginning. However the specific phenomenon of “nationalism, far from being an age-old ‘primordial’ condition, has been produced by the age of the modern nation-state” (Billig 1995: 9). Mass media have been implicated in the construction, diffusion and maintenance of this modern phenomenon (e.g. Anderson 1991; Billig 1995). Indeed, mediated nationalism plays a major role in the quotidian process through which “national identities...are formed and transformed within and in relation to *representation*” (Hall 1992: 292).

Press discourse “constructs the nation as a natural and homogenous unity, and reinforces a hegemonic perception of national identity” (Gökalp 2006: 3). The centrality and

pre-eminence of the nation is both taken-for-granted as a natural and timeless social fact and continuously reinforced in Anglo-American press coverage of therapeutic cloning. Nationalism's role in the therapeutic cloning debate commenced in 1997 with the British press proudly trumpeting the UK's return to scientific dominance. However, the situation shifted with ACT's published 'breakthrough' in 2001 and the ascendance of Asian competitor nations towards the end of Phase 1 of the contemporary human cloning debate (see Chapter 1). Starting in late 2002 and carrying on until the Hwang scandal's denouement in December 2005, the Anglo-American press identified the potential spread of human cloning without the protection of Western regulatory structures as a 'global risk'. Finally, with Hwang's fall the Anglo-American press eagerly identified the silver lining for their respective nations; their nation's scientists might yet be the first to achieve a therapeutic cloning cure, along with the concomitant windfall in economic and symbolic capital.

### **Scientific Nationalism and the Myth of the Nation**

The scientific nationalism uncovered in this chapter exhibits a mythological quality (Barthes 1973; Barthes 1977). That is, the 'nation' is constituted as a natural, unpolitical entity through its "quantitative abundance" in Anglo-American press coverage of therapeutic cloning (Barthes 1973: 120). Moreover the nation is given the "self-evident appearance of eternity", while simultaneously comprising a "peremptory because" to legitimate Anglo-American science policy and governance (Barthes 1973: 154-155).

There is no direct, existential relationship between therapeutic cloning developments within the scientific field and their (re)construction within the Anglo-American press. Rather, larger sociological factors impinge on the news production process at various levels. Most importantly, commercial news organisations always operate within an economic context (Bourdieu 2005; Bourdieu 1998a; Champagne 2005; McManus 1994; McManus 1995), which pushes journalists towards the 'common sense' of the nation as a central organising frame for developments in the world. As Billig (1995: 49) argues, "Nationalism...is ingrained into the very rhetoric of common sense". Challenging the common sense of nationhood is simply not an option for the individual science journalist given the economic *telos* of the news organisation, except in the most exceptional circumstances (Bourdieu 1998a: 69).

The myth of the nation is also a salient feature of government science policy discourse. For example, competitive nationalism is clearly visible in the White Paper outlining the UK Government's view of 21<sup>st</sup> century techno-scientific development:

We are in a global competition...In some areas we risk falling behind the very best; we need to ensure we stay among the front runners.<sup>73</sup>

According to Gellner (1983), the state's interests are served by nationalistic discourse. In the extract above, the Government sought policy legitimation by evoking the image of a worldwide competition, just as in the press coverage of therapeutic cloning. This construction of national 'Others' allows government deference to the interests of global science and industry to be framed as an enlightened defence against the onslaught of unethical competitors. By conjuring the threat that lucrative scientific development could easily flow to less scrupulous nation-landlords if British regulations become too strict, the UK is able to scale back restrictions while escaping accountability for ethical shortcuts and potential scientific hazards.

### **Previous Research Findings**

There were some direct precedents for the finding of utopian/dystopian hype in Anglo-American press coverage of therapeutic cloning (e.g. Kitzinger and Williams 2005; Mulkay 1997). However, this chapter's results were a much greater surprise. No previous studies of news coverage of human cloning or embryo research have addressed the role of nationalism in detail. Nevertheless, there are some relevant findings in the literature. For example, Wilkins and Patterson (1987: 82) identified nationalist framing in media coverage of the Chernobyl disaster. Most notably however, Einsiedel et al.'s (2002) quantitative analysis of the first eleven days of elite British press coverage of Dolly found,

“National pride is clearly evident in British coverage, with frequent emphasis on Dolly being a British scientific accomplishment. The usefulness of the cloning procedure was also frequently highlighted in the UK, as were the economic benefits”. (Einsiedel et al. 2002: 338-339)

The much broader data set for the present study supports this finding of 'national pride', showing that it was not limited to coverage of Dolly.

After 'national pride', the closest pattern to nationalism identified in the literature surrounds what Singer and Edreny (1993: 68) refer to as the 'local factor' in news production. Within the UK press, Holliman (2004: 118) found this factor reflected in divergent framing of the same Dolly story in the English and Scottish editions of *The Sun*, “with the English/Welsh edition emphasizing concerns” and the Scottish edition “prais[ing] the Scottish scientists' achievements”. Based on a quantitative study of Anglo-American press coverage of Dolly, Marks et al. (2007: 196) also identify “local framing” of the Dolly story:

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<sup>73</sup> Page 8: *Excellence and opportunity: A science and innovation policy for the 21<sup>st</sup> century* (2000). Available at <http://www.ost.gov.uk/enterprise/dtiwhite/index.html> - Last accessed 9 June 2004.

“Reporters in the UK (the country that developed the technology) took a more positive stance on Dolly”, while “Dolly clearly sparked a more contentious debate in the United States”. More broadly, Ramsey (1994: 80) “linked [coverage of] local organizations significantly with lengthier articles [and] more prominent folio placement” within American newspaper coverage of science. These findings support Kitzinger’s (1999: 63) conclusion that “journalists’ judgements about the perceived relevance of a crisis will be influenced by the degree of cultural, political or geographical proximity of the threat to themselves and their perceived audiences (Adams, 1986; Litchenberg & MacLean, 1991; Kitzinger, 1998)”.

### **Nationalism Today**

The course of the 20<sup>th</sup> century was defined by nationalism and the ascendance of the nation-state as the dominant power container on the world stage. Giddens (1990) and Beck<sup>74</sup> (1992; 1994) argue that the modern resurgence of nationalism is actually a response to globalisation and concomitant individualisation. They argue that individuals are retreating to the relative safety of national and local identities in the face of the discontinuities and pervasive uncertainties of globalisation and risk society. Giddens in particular contends that the stretching of time and space which defines globalisation has left individuals feeling disconnected from society and from other individuals. Thus, nationalism is seen to offer a safe harbour to escape from the unfriendly seas of a globalised world. Billig (1995: 95) points to the inherently “popular, if not formally democratic aspect of nationalism”, which is exercised through “habits of discourse, enabling ‘the people’ to identify themselves, and thereby reproduce themselves, as ‘the people’”. The news media constitute the primary means through which this daily process of interpellation is enacted. Anderson’s (1991) understanding of the nation as an ‘imagined community’ connects with Billig’s (1995) theory, with both theorists proposing a highly discursive understanding of the emergence and persistence of nationalism in the modern world. It is this discursive nationalism that is evident in the present sample.

This study shows that even scientific controversies such as therapeutic cloning are filtered through the nationalist media lens. That is, nationalism is so ubiquitous as to pervade coverage of even a scientific issue such as therapeutic cloning. Billig (1995) reveals the concept of the ‘nation’ to be a powerful vehicle for exclusionary rhetoric designed to cleave

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<sup>74</sup> Beck (2006) has developed a rather different conception in his recent theory of cosmopolitanism, in which he argues that the nation is a ‘zombie category’ in sociology that does not capture the inherently global nature of modern existence. This connects to Beck’s critique of ‘methodological nationalism’, or the inappropriate use of the nation as the unit of analysis.

'us' from 'them' and establish the legitimacy of particular national policies. The banal nationalism of daily news reinforces the tendency to expend one's personal attention and humanitarian concern on the local and national only, ignoring one's status as a global citizen (Beck 2006). "The nation's anesthetic flood of nonstop media encourages us to sense that we're somehow above or beyond the human fray: Some lives, including ours of course, matter a great deal; others, while perhaps touching, are decidedly secondary" (Solomon 2004: 53). Robins (1999: 16) insists that for Britain the consequences of proliferating nationalism could include "the threat of a retreat into cultural autism". Indeed nationalistic news framing *per se* can be viewed as pathological insofar as it thins public debate, reinforces global technocracy, suppresses pluralism, and implicitly ratifies irrational fears concerning the ascendance of Asian techno-science (e.g. Beck 2006; e.g. Said 1978). While some forms of national imagining and myth are manifestly benign, excessive nationalism- however deeply buried within the deictic minutiae of daily news- must be recognised as deleterious to the construction of a pluralistic public sphere.

## **CHAPTER 5:**

### **EXTENDING THE CIRCUIT OF MASS COMMUNICATION: THE ROLE OF NEWS SOURCES**

Press coverage of therapeutic cloning is indelibly marked by the processes of its production within commercial media organisations<sup>75</sup>. Kitzinger (1999: 64) points out that “source activity, and the relationship between journalists and their sources are central to the media production process”. Indeed, sources are the “fundamental fact” of journalism, according to Fishman (1980: 36). Source selection is shaped by the provision of institutionally-sponsored information subsidies (Gandy 1982) and other factors that propel the inherent technocratic bias this study identifies in much of the news coverage of therapeutic cloning. The reliance on expert sources based in powerful institutions helps “fix the parameters of discourse and interpretation, and the definition of what is newsworthy” (Herman and Chomsky 1988: 2). Furthermore, Priest (2001a: 100) argues that “The interaction of journalists and their sources creates a particular frame or definition that quickly becomes the lens through which any given story is inevitably filtered”.

This source filtering process is explored in this chapter with reference to the specialist news economy of science journalism. In keeping with previous research (e.g. Conrad 1999), scientists were found to comprise the most important and extensively cited category of sources in the present sample. Emergent research questions related to scientist sources include: On what basis are scientists selected as sources of information, analysis and expert commentary? What forms of scientific expertise are employed by the selected sources? What discourses are promoted by scientist sources?

Also significant were the agents of life politics and activist NGOs, which were aligned on both sides of this issue as semi-routine journalistic sources. Emergent research questions relevant to these subpolitical sources include: Which activists are given the greatest voice in the coverage? How do patient groups utilise narratives of suffering to garner media meta-capital? How are opposition viewpoints presented or excluded from the coverage, and on what basis?

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<sup>75</sup> This chapter examines front and backstage dimensions of this production process. In addition to self-report data from journalists and editors, I contend that it is possible to draw valid inferences about backstage news production through front stage features of press content such as source selection.

## **The Anglo-American Field of News Production**

This chapter draws on Bourdieu's field theory (1993; 1992) to elucidate Anglo-American news production, including journalists' selection of sources for information, analysis and commentary. Amongst the spectrum of potential journalistic sources, there is an uneven distribution of a specialised form of symbolic capital, which Patrick Champagne (1990: 237, 243) has labelled 'media capital' [*capital médiatique*]. Sources in the scientific and other fields accumulate media capital according to variables such as the source's field-specific cultural and symbolic capital, and journalistic concerns such as a source's charisma, responsiveness and availability on short notice. Couldry (2003) extends Bourdieu's theory, using Champagne's concept of media capital to examine the relations between media power and other fields of power in society. Couldry combines Bourdieu's theory of state power with field theory to create a better model for understanding the complexity and influence of the media. Specifically, Couldry (2003) draws upon Bourdieu's concept of 'meta-capital', which refers to the capacity of certain forms of capital to operate across multiple fields. He notes that media are inherently heteronomous, potentially influencing whatever field of practice finds itself within the media spotlight. Thus media power is a form of meta-capital that transcends its specific field of production and routinely promotes heteronomy in other fields of social life, for example through the process of source selection.

### **The Heteronomous Principle within Journalistic Source Selection**

Herman and Chomsky (1988) point out that the press bias favouring large government and corporate bureaucracies is rooted in the quotidian exigencies of journalistic practice.

Government and business-news promoters go to great pains to make things easy for news organizations. They provide...facilities[,]...advance copies of speeches and forthcoming reports; they schedule press conferences at hours well-gearred to news deadlines; they write press releases in usable [journalistic] language. (Herman and Chomsky 1988: 21-22)

Aimed at maximising the efficiency of daily news production, media organisations frequently divide their reporting into 'beats'<sup>76</sup>, which Fishman (1980: 29) defines as coherent domains of activity with "stable locations, stable actors [or 'sources'], and stable actions". Upon entering their beat, reporters soon become members of its "network of social relations" (Fishman 1980: 30). The reporter "makes friends..., passes gossip and shares secrets, conducts business, and goofs off", effectively becoming an "insider" (Fishman 1980: 30). The relationship between journalist and source is characterised by mutual dependency.

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<sup>76</sup> In this study the most salient beats are 'science', 'health' and 'politics'.

However, within this “symbiotic relationship”, it is “the sources [who] do the leading” according to Gans (1979: 116).

The mass media are drawn into a symbiotic relationship with powerful sources of information by economic necessity and reciprocity of interest. The media need a steady, reliable flow of the raw material of news. They have daily news demands and imperative news schedules that they must meet. (Herman and Chomsky 1988: 18)

According to Fishman (1980: 33), journalists “strategically and systematically expose themselves to only a few sources of information within their beat territories”. This pattern is further elaborated in the following extract:

As you get to know a [scientific] field [i.e. beat] and understand its geography, you soon figure out who the important players are and who knows what’s going on. (Science Editor, major US newspaper, 'Hank' 2005)

Journalists discriminate amongst the wide range of possible sources for a given story based upon criteria such as perceived credibility. Indeed credibility and familiarity were identified as important criteria in the following participant response to a question about source selection:

On a controversy story, it will depend a little bit on who [the political source] is. And whether you think their concerns are genuine or not. Obviously that comes from a delicate process of judging credibility, and how well you know somebody- how well you know where they are coming from. (Science Editor, elite UK newspaper, 'Richard' 2005)

Journalists’ source preferences and judgments about credibility and accessibility are highly influenced by economic factors, yielding systemic biases in favour of large-scale institutions. As Fishman (1980: 51) notes, “the world is bureaucratically organized for journalists”, with the source material for news provided by officials and authorities in “a structural position to know” about “particular happenings” in society. Indeed, Miller and Williams (1998: 146) found that “official sources have considerable advantages in their capacity and resources to influence media accounts”. Effectively, “large bureaucracies of the powerful subsidize the mass media, and gain special access by their contribution” (Herman and Chomsky 1988: 22). Fishman (1980: 85) found that reporters treated bureaucratic accounts as “factual, requiring no further investigation or substantiation”. Such “bureaucratic ‘facts’ are the hard data of newswork. Conversely, nonbureaucratic accounts are soft data, unconfirmed reports, or speculation” (Fishman 1980: 85). Hence, large-scale institutions, or “bureaucratic self-reporting apparatus[es]” (Fishman 1980: 52), provide the “‘routine’ news sources and have privileged access to the gates. Non-routine sources must struggle for access, and may be ignored by the arbitrary decisions of the gatekeepers” (Herman and Chomsky

1988: 22). The ‘gatekeepers’ identified in the present study are journalists and editors, whose socialisation into particular national news cultures lead to the patterned censorship of certain nonbureaucratic sources in parts of the present sample. Moreover, scientists were treated to much of the privilege and ‘special access’ Fishman and others identified with official bureaucratic sources.

### **Scientists as Sources**

Scientists were the most frequently accessed source of expertise in both American and British press coverage of therapeutic cloning (also see Kitzinger and Williams 2005; Nisbet, Brossard and Kroepsch 2003). This was readily acknowledged backstage:

In most cases, the scientists are the people quoted. They know more about the subject than other people... Yeah, I certainly tend to quote scientists more than anybody else. Because I’m a science writer, so they’re my natural source. (Health Editor, elite UK newspaper, 'Charles' 2005)

Reese identifies an elective affinity between journalistic and scientific epistemologies and worldviews, which may incline science journalists to feel positively disposed towards scientist sources:

Both scientists and journalists are presumed to be dispassionate observers of the world... Both science and journalism are guided by a positive faith in empiricism, the belief that the outside world can be successfully perceived and understood. (Reese 1990: 392-393)

In addition to shared epistemic values, science journalists display a fundamental deference to science and scientists:

I think [science] is wonderful, so they’ve got my vote... I guess that informs the kinds of stories I do because my main interest and enthusiasm is science. I mean I’m tainted by having been a scientist. I tend to think that they do interesting things and do them for the right reasons. (Science Writer, US science advocacy periodical, 'Jim' 2005)

### **Taxonomies of Scientific Expertise**

Officially sanctioned, institutionally legitimated scientists were the primary sources of expertise in this debate. However, two major sub-categories emerged within this source category which I label ‘public’ and ‘industry’ scientists. ‘Public scientists’ are university or non-profit affiliated who are not specialists in the therapeutic cloning subfield. ‘Industry scientists’ are located within purely ‘for profit’ biotechnology corporations. In selecting from these two groups, a clear bifurcation emerged between the US and British samples. Many British journalists preferred public scientists as sources, while industry scientists were more frequently cited by American journalists. Both categories of sources served as journalists’

“gurus” (‘Becky’ 2005), providing expert analysis and commentary on new research developments.

‘Gurus’ [are] people who know about the science, but are not directly involved in the debate... They usually are people that you know from other stories that you have done. (Science Writer, US news periodical, ‘Becky’ 2005)

Indeed ‘Hank’ identified the first step in producing a science news story:

Try and figure out who the relevant experts might be and get their views. These scientists give the reader some feel for what’s going on with the science, like [embryonic] stem cells. (Science Editor, major US newspaper, ‘Hank’ 2005)

Thus journalists develop a limited range of expert sources on whom they routinely call.

Data from the press sample demonstrates that these expert sources were not selected primarily based upon scientific credentials. Rather, journalists exercised heteronomous influence on the scientific field by selecting and promoting certain scientists on the basis of entry criteria internal to the *journalistic* field such as ‘willingness to comment’ and ‘accessibility on short notice’. The following extract describes the inevitable compromise of source quality necessitated by the market-driven constraints of daily news production:

I was just trying to get a hold of Ian Wilmut that day and tried all day and didn’t get hold of him. So you end up trying say five or six [sources], and getting two and using those. But you go with the people who have the track records, the people who have established themselves [as good sources]. (Science Correspondent, elite UK newspaper, ‘Danny’ 2005)

Within this context, it is useful to consider the taxonomy of expertise and experience developed by Collins and Evans (2002), as part of a putative ‘third wave’ in science and technology studies (cf. Jasanoff 2003; Wynne 2003). They draw a fundamental distinction between ‘contributory’ and ‘interactional’ expertise within the context of ‘technical decision-making’, which is defined as applying to issues such as therapeutic cloning “where science and technology intersect with the political domain” (Collins and Evans 2002: 236). Contributory expertise refers to the level of expertise required to participate directly in the production of scientific or technical knowledge in a given field. Within the context of the present study, this form of expertise is seen in news reports that quote therapeutic cloning scientists commenting directly upon their own work, or the work of others conducting such research. ‘Interactional expertise’, on the other hand, is the level of expertise needed to “interact interestingly” within a particular field of science (Collins and Evans 2002: 254). In the present sample, this interactional form of expertise was employed by third party, ‘objective’ scientific analysts, commentators or ‘gurus’.

Those scientific commentators providing interactional expertise in the news media typically employed ‘referred expertise’; that is, they applied their contributory expertise from one specific scientific domain to other scientific sub-fields. Collins and Evans (2002: 257) identify this application of “expertise ‘at one remove’” as fraught with danger for public discussions of techno-scientific development. This is because “scientists’ supposed referred expertise about fields of science distant from their own is nearly always based on mythologies about science, rather than on science itself” (Collins and Evans 2002: 260). Yet it is precisely this kind of referred expertise that journalists seek out for its versatility and utility within the harried context of news production. Using referred expertise, a single expert source can speak to a wide range of issues, thus limiting the breadth and depth of different sources that a journalist must develop in order to access good, usable quotes on short deadlines.

### **Public Scientists as Sources**

While most non-industry or ‘public’ scientist sources in the present data were exercising interactional or referred expertise. Amongst the ranks of such generalist scientific experts, BBC popular science presenter Lord Robert Winston was the most frequently cited and prominently positioned within the UK sample (both broadsheet and tabloid). As such he offers an illustrative case study in the selection and front stage presentation of public scientist-guru’s perspectives.

#### *Celebrity Scientist Robert Winston: A British Case Study*

A veteran IVF doctor turned senior hospital administrator and politician, Winston is one of the most frequently cited ‘all-purpose’ experts in the British news (both print and television) on any topic related to embryos or reproductive medicine. Characteristically for scientists-‘gurus’, Winston’s expertise was sought out for commentary on a wide range of issues, despite only being able to marshal interactional expertise in most of these areas (Collins and Evans 2002). Amongst expert sources in the present sample Winston appeared to wield the greatest stockpile of media meta-capital, which he used to promote the utopianism identified in Chapter 3 (Extract 1), along with his idiosyncratic scientific opinions (Extract 2):

#### **Extract 1)**

Lord Winston, the Labour peer and fertility expert, ...warned peers: “There’s no doubt that on your vote depends whether some people in the near future get a treatment which might save them from distress, or, even worse, death”.  
(Political Correspondent, Hall, *Guardian*, 23 January 2001)

**Extract 2)**

Critics, including fertility pioneer Lord Winston, have claimed the [embryo] thawing process could lead to genetic damage. (Symons & Biggs, *Sun*, 23 June 2005)

Winston was featured in the following extract from a ‘Question and Answer’ informational segment, answering for an imagined community of like-minded “experts” in the early stages of the cloning controversy:

Q: What do the experts think?

A: “I think you are always going to run the risk of having ageing DNA”, says Professor Lord Robert Winston, an IVF pioneer. “I would hate to think of a child of mine being cloned because I think it would be very likely he would have an accelerated ageing process”. (Arthur & Laurance, *Independent*, 11 January 1998)

In the above extracts, Winston is utilising referred expertise from his experience in the field of in vitro fertilisation in order to comment on embryonic stem cell therapies. Collins and Evans (2002: 260) identify such referred expertise as a dangerous source of expert advice or commentary because it often relies upon “self-appointed scientific spokespersons”; such “generalists” frequently express a worldview “accompanied with the thrill of zealotry, or...‘scientific fundamentalism’”. Such zealotry can be seen in the following extract. Stretching his referred expertise well beyond the strictly scientific dimensions of therapeutic cloning, Winston indicated impatience and ‘distress’ at the substantive ethical dimension of the therapeutic cloning debate:

Lord Winston is frustrated that the debate about ‘therapeutic cloning’ has focused on the need to conduct work on such embryos...since such research is already allowed up to a 14-day limit...“I find it very distressing that we should be going backwards”, he said. “To be hysterical about the use of embryos for tissue engineering does not make any sense if you are likely to be able to save life”. (Science Editor, Highfield, *Daily Telegraph*, 27 January 2000)

However, journalists’ need for expert authority to frame stories is served by having a relatively indiscriminate notion of expertise, which selects established media personalities over high performing researchers with contributory expertise in the topic under discussion.

These [scientific] ‘authorities’ spare journalists the trouble of looking for people who really have something to say, in most cases younger, still-unknown people who are involved in their research and not much for talking to the media. These are the people who should be sought out. But the [scientific] media mavens are always right on hand, set to churn out a paper or give an interview. And, of course, they are the special kind of thinkers who can ‘think’ in these [harried] conditions where no one can do so. (Bourdieu 1998a: 30)

Therefore they find such ‘generalists’ to be useful, and indeed, both tabloid and elite UK journalists readily accepted Winston as a fully legitimate expert contributor to the debate over therapeutic cloning. No journalists in the present sample expressed any qualms about the referred nature of Winston’s expertise, or any other ‘generalist’ scientific experts.

For example, in the debate preceding the British Parliament’s deliberations on the issue of therapeutic cloning, Winston was cited as the archetypal embodiment of the entire category of ‘scientists’:

*Scientists are outraged* by the government’s procrastination [regarding approval for therapeutic cloning research]. *Lord Winston*, of the Royal Postgraduate Medical School in London, has said: “If you could use tissue from human embryos to save hundreds of lives, there must be a moral imperative to do it”. (Emphasis added; Leake & Dobson, *Sunday Times*, 12 March 2000)

In the following extract, he plays the role of public scientist and general medical expert, making hyped pronouncements about the certainty and imminence of cures from therapeutic cloning<sup>77</sup>:

Labour’s Lord Winston, the fertility professor who chairs the Lords’ science and technology committee, told a packed Upper House: ‘There is no doubt that on your vote, my Lords, depends whether some people in the near future get the treatment which might save them from disease or, even worse, death’. (Chapman & Deans, Front page news, *Daily Mail*, 23 January 2001)

Winston was also cited as an authority on the importance of research developments in the later coverage of therapeutic cloning:

The fertility expert Lord Winston said the announcement by the Sheffield team “in reality is pretty trivial”...Lord Winston said: “Whilst I am certainly not against stem cell technology,...We need to be cautious about how to explain this to the public”. (Science Editor, Highfield, Commentary, *Daily Telegraph*, 29 June 2005)

In the extract above, Winston seems to take on the mantle of spokesperson with his statement that “we” (public scientists) need to be cautious in relating this technology to the public. He continues below with a technical explanation for his recommendation of caution:

“The idea of growing someone’s own stem cells in the laboratory for their own treatment is probably impractical. And if you try to force their growth, you may force anomalies which might be genetic or chromosomal. That should be a concern”. “There are a lot of reasons to be very cautious about putting these cells back into people”, said Lord Winston. “If you decide that you need to treat a heart infarct with 10 million cells, how are you going to

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<sup>77</sup> It is worth noting that after the Hwang scandal, Winston shifted his optimistic position towards a much more sceptical perspective, arguing that the potential of therapeutic cloning was being hyped.

guarantee that your population is absolutely pure and stable? You only need a few rogue cells to initiate a problem.” (Science Editor, Highfield, *Ibid.*)

The above use of scientific jargon corresponds with Winston’s preferred self-presentation as above all a scientist<sup>78</sup> and an expert on whatever topic he is commenting on. This presentation suggests that despite the benefits of media meta-capital, expert sources may be reticent to fully acknowledge their status as media personnel, lest they suffer a decline in prestige within the scientific field for brazenly embracing the heteronomous principle (Bourdieu 1996). Alternatively, this impression management tactic may be part of the branding of celebrity scientists as all-around technical experts and ‘leading minds’ within the scientific field as a whole.

### *Public Scientists in the British Political Field*

In this context, it is noteworthy that journalists did not just use scientist sources for technical commentaries on scientific developments close to their core areas of expertise (Collins and Evans 2002). Rather public scientists (like Robert Winston above) were frequently treated as general experts on science-related issues writ large. The present data show certain scientist sources entering the political field via the journalistic field. For example, the following extract has a “medical geneticist” quoted on the preferred Parliamentary voting procedure:

“It’s right to say that a moral issue of this sort is put to a free vote”, says Martin Bobrow, a medical geneticist at the University of Cambridge. (Science Writers, Coghlan & Boyce, *New Scientist*, 19 August 2000)

The following extract further illustrates the use of famous scientists as generalist experts on scientific controversies in the UK press. These scientist sources are being consulted for their view on the *morality* of reproductive cloning, a topic outside of their contributory expertise:

James Watson, the Nobel prize-winning biologist, ...argued that there was nothing inherently wrong with cloning: “I’m in favour of anything that will improve the quality of an individual family’s way of life” ...The scientists agreed that cloning should be used only to assist in the reproductive process, rather than replacing it, and that copying a person would be wrong. (Science Correspondent, Jha, *Guardian*, 20 May 2005)

In fact, Watson offers a case example of a scientist who initially earned substantial symbolic capital through his success in a particular field of scientific practice (viz. elucidating the structure of DNA), which also yield media meta-capital. Once his celebrity status was secured from the media coverage of this success and his subsequent efforts at science

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<sup>78</sup> Notwithstanding the ambivalence of his self-presentation in the media, Winston was fully immersed in the media field, including entertainment, opinion and journalistic venues.

popularisation (e.g. Watson and Berry 2003), the maintenance of his scientific credentials became largely irrelevant to the continuation of his media meta-capital. Moreover the range of topics on which journalists would accept his referred expertise increased in direct proportion to his fame (i.e. fame equals high media meta-capital).

### *Public Scientists and Symbolic Capital in the American Press*

In the US sample, there was a paucity of celebrity scientists<sup>79</sup>, and certainly no equivalent to Winston or Watson on this topic. However a *relatively* high-profile group of Nobel Prize-winning scientists made regular appearances in the political domain. The following extract appeared in August 2001 when Bush was deliberating over whether to allow federal funding for embryonic stem cell research.

Eighty Nobel laureates...sent a letter urging federal funding for research that could produce “novel therapies for a range of serious and currently intractable issues”. (Keen, *USA Today*, 10 August 2001)

Scientists launched a similar effort to exercise political influence in 2002.

The battle over a government ban on human cloning...is intensifying. Forty Nobel Prize-winning scientists...declare today that cloning research is essential, and that a ban on the cloning of human embryos would “impede progress against some of the most debilitating diseases known to man,” according to a statement...released by the American Society for Cell Biology. (McGinley & Regalado, *Wall Street Journal*, 10 April 2002)

However, these forays into media politics yielded minimal success and only a short window of press coverage for these scientists. After all, the Nobel Prize is awarded for criteria largely internal to the scientific field, thus conferring a form of symbolic capital not directly recognised by journalists. Yet there does seem to be some fungability between the symbolic capital accrued through winning scientific prizes and recognition on the one hand, and the press attention which comprises media meta-capital on the other. The combined weight of autonomously derived scientific symbolic capital wielded by these Nobel Prize winners was enough to attract some media meta-capital, but both they and their message lacked the news value that would grant them a sustained role in the mediated public debate. This could be contrasted with public scientists such as Lord Robert Winston and James Watson, who are celebrities in their own right. In the press, autonomously derived symbolic capital seems not to be a necessary condition for the regeneration of a celebrity scientist's

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<sup>79</sup> Obviously, there are celebrity scientists in the US. However, the most famous in the US media have been physicists (e.g. Einstein; Stephen Hawking) and astronomers (e.g. Carl Sagan), as well as British evolutionary biologist Richard Dawkins. Watson is an American, but he was primarily utilised as a source within the UK sample. Moreover, in the contemporary Anglo-American media landscape, Winston is unique in his high level of free-standing media meta-capital (i.e. fame) and continuous role in television.

supply of media meta-capital (given, for example, that Winston has not been a practicing bench scientist for many years). In any case, the imperfect relationship between autonomously derived scientific symbolic capital and the distribution of media meta-capital can lead to heteronomous ‘media scientists’ gaining undue recognition and prestige in the scientific, political and publishing fields.

If the fields of science, politics, or literature are threatened by the power of the media, it’s because of the presence within them of ‘heteronomous’ individuals, people from the outside who have little authority from the viewpoint of the values specific to the field. (Bourdieu 1998: 62)

The key is that the journalistic field selects scientists for promotion based upon non-scientific criteria such as charisma, attractiveness, likeability and ease of access. Such heteronomous selections from within the scientific field constitute interference in its free and autonomous functioning. Bourdieu points out that there are:

All kinds of examples of media intrusion- or, rather the intrusion of economic pressures as relayed by the media- even in the ‘purest’ science. This is why the question of deciding whether or not to appear on television is absolutely central, and why I’d like the scientific community to think about it carefully. (Bourdieu 1998a: 60)

Further discussion of the potential problems surrounding such interference in ‘core’ scientific deliberations can be found in the ‘3<sup>rd</sup> Wave’ thesis developed by Collins and Evans (2002; cf. Jasanoff 2003; Rip 2003; Wynne 2003).

### **(Not) Publicising the Core-Set: UK-based Therapeutic Cloning Scientists as Sources**

Collins and Evans (2002: 242) define the ‘core-set’ as “those scientists deeply involved in experimentation or theorization which is directly relevant to a scientific controversy or debate”. Surprisingly, ‘core-set’ therapeutic cloning researchers in the UK were rarely sought out for their contributory expertise on scientific developments in their field. When they were cited by journalists, it was typically regarding their own work.

Prof Alison Murdoch and Dr Miodrag Stojkovic, based at the Centre for Life, believe that the cloned embryos [they created], and the cells derived from them, will provide important new insight into diabetes and help test new drugs. (Science Editor, Highfield, *Daily Telegraph*, 20 April 2005)

Thus therapeutic cloning scientists quoted on their own research participated in the construction of therapeutic cloning hype (see Chapter 3). The following extract appeared under the headline ‘Brits grow human tissue from embryos’:

Dr. Stephen Minger, of King’s College Hospital, South London, produced three stem cell populations from 58 embryos...He said: “We are very excited

about this development...This means the possible therapeutic uses are almost endless". (Hughes, *Mirror*, 13 August 2003)

Given the potential spoils of government and private industry funding, it was in the interest of these therapeutic cloning scientists to promote their research through the press (Nelkin 1990).

The optimistic framing is evident in the following extract:

Team member Professor Alison Murdoch said: 'The potential this research offers is immensely exciting and we are keen to take the work we've done to the next level...we are trying to cure people'.

...Stem cell scientists hailed the decision by the HFEA [to approve a licence to conduct therapeutic cloning research]. Dr. Stephen Minger, lecturer in biomedical sciences at King's College, London, said: 'This is a huge advance for British science'. (Utton, *Daily Mail*, 12 August 2004)

Certainly this finding further supports the Chapter 3 results showing hype and a consistent lack of front stage skepticism regarding scientists' claims. Kelves and Hood (1992: 327) argue, "reporters often take as firm conclusions what scientists announce as tentative conclusions, yet scientists are complicitous in the process when they hold press conferences to proclaim attention-getting results,...however fragile [the results] may be". This was precisely the pattern in press coverage of scientists with contributory expertise in therapeutic cloning. This finding directly contradicted Collins and Evans' (2002: 257) claim that the core-set of specialist scientists will engage in discourse free from the limitations of 'referred expertise'. Nevertheless, source commentary from such scientists as Murdoch and Minger occupied a surprisingly insignificant position within the UK sample, while the US press focused primarily upon industry scientists.

### **American Industry Scientists as Sources**

Industry scientists predominated amongst the range of expert sources in American press coverage of therapeutic cloning. The 2001 Presidential embargo on US government funding of human embryo research nudged therapeutic cloning scientists towards the private sector and away from university laboratories<sup>80</sup>, thus contributing to the prevalence of 'industry scientists' in US press coverage<sup>81</sup>. The biotechnology company Advanced Cell Technology (ACT) was the most prominent site for therapeutic cloning research in the United States since just before their first highly publicised breakthrough in 2001. In the following extract, CEO Dr. Michael West provides a report on the company's prospects:

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<sup>80</sup> Indeed, when individual states started funding therapeutic cloning research towards the end of the sampling frame for the present study, there was a noticeable increase in the number of scientist sources based at universities, rather than companies.

<sup>81</sup> Likewise UK government funding no doubt decreased the ranks of industry-based scientists relative to university-affiliated therapeutic cloning researchers.

In [ACT's] laboratories..., a scientist is preparing to...produce the world's first-ever cloned human embryo, a microscopic, 100-cell version of an already living person. The scientist, Michael West, is chief executive of Advanced Cell Technology...Dr. West says the company now has eggs in hand and will soon use a technique similar to that which produced Dolly...to create tiny human embryos. (Regalado, *Wall Street Journal*, 13 July 2001)

West's dual role as scientist and business executive was no doubt a factor in his proclivity for partisan rhetoric favouring pro-cloning policies against opponents such as President Bush:

**Extract 1)**

[Opposition to therapeutic cloning] "is rooted in fear and ignorance," said Dr. Michael West...It's absolutely certain that the vast majority of people in the United States, if they understood the broad applications in medicine," would support cloning for research. (Staff Reporter, Milligan, *Front page news, Boston Globe*, 1 August 2001)

**Extract 2)**

[President Bush] said [therapeutic cloning's] benefits are "highly speculative". Supporters of therapeutic cloning disputed...the comments. Michael West...said the promise of the technique was far greater than Bush acknowledged. "This technology is only a few years old, and it has already been demonstrated that you can make neurons, blood-forming cells and others" through cloning, said West, whose company was mentioned in Bush's speech...for its claim to have produced the first cloned human embryo. "There is a very strong scientific case here. To say that this is purely hypothetical is a gross misrepresentation of the facts". (Science Reporter, Zitner, *LA Times*, 11 April 2002)

ACT mustered multiple high-profile scientists who proved attractive to American journalists in need of expert sources. For example, ACT's 'medical director' Dr. Lanza also served a dual function as scientist and businessman. Overall both Lanza and West were quoted making more public and hyperbolic statements than would be expected based on Collins and Evans' (2002: 242) valorisation of the scientific 'core-set':

**Extract 1)**

In Massachusetts, Robert Lanza, medical director of Advanced Cell Technology, said the [\$3 billion California funding] measure will "*usher in a new era*" of medical breakthroughs that will benefit not only Californians "*but all Americans*". (Emphasis added; Health Policy Reporter, Connolly, *Washington Post*, 14 November 2004)

**Extract 2)**

The achievement, says Dr. Robert Lanza..."*could help spur a medical revolution as important as antibiotics and vaccines*". (Emphasis added; Kalb, *Newsweek*, 23 February 2004)

Despite ACT's scientists apparently wielding contributory expertise in the scientific sub-field of therapeutic cloning, their rhetoric was much closer to what would be expected from generalist scientists drawing upon referred expertise. This pattern is most likely a

function of the unavoidable positioning of industry scientists directly within the economic field, which impels a promotional orientation towards their scientific research<sup>82</sup>. This promotional orientation contradicts the normal rules and illusions of the scientific field, such as the consecration ritual known as peer review (e.g. Rowland 1999).

Lanza and West respectively offer highly optimistic assessments of ACT's progress, promising a breakthrough that is still today yet to materialise. The first extract appeared under the headline, 'Live forever':

**Extract 1)**

*Pioneering work could mean end of illness for old*

The astonishing cloning breakthrough announced yesterday could lead to the elimination of illnesses which afflict the elderly, pioneering scientists claimed...Mr Lanza said: "These are exciting preliminary results. This work sets the stage for human therapeutic cloning as a potentially limitless source of immune-compatible cells for tissue engineering and transplantation medicine". (Hartley, *Sun*, 26 November 2001)

**Extract 2)**

Michael West, ACT's president, said *the experiments are continuing and getting continually better results*. He declined to disclose details, saying they would be published soon. He said he hoped that *within a few months the company would be able to harvest stem cells from its cloned embryos*. (Emphasis added; Staff Reporter, Dembner, Front page news, *Boston Globe*, 27 November 2001)

In the following extract one of ACT's scientists is quoted providing a promotional report on the company's research.

"Our work is looking very promising", says Jose Cibelli of Advanced Cell Technology (ACT), a biotechnology firm in Worcester, Massachusetts... "If something stops this work, it won't be technical problems, it will be legal or ethical issues", says Cibelli. (Cohen, *New Scientist*, 11 July 1998)

These data certainly support Nelkin's (1990: 45) contention that with the "involvement of more and more scientists in research close to commercial interests", "profits are at stake. The press becomes a means of promotion, a way for scientists to sell their expertise and accomplishments".

Such scientific hype from 'industry scientist' sources was not limited to Advanced Cell Technology. The following extract cites the new president of the Geron Corporation<sup>83</sup>:

Dr. Thomas Okarma, president of the Geron Corporation, calls regenerative medicine a "new therapeutic paradigm" which will lead to patients' returning from the hospital with new tissues and organs, just as a car returns from the

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<sup>82</sup> University researchers are usually somewhat partitioned within the scientific field.

<sup>83</sup> It is perhaps worth noting that the Geron Corporation was founded by current ACT CEO Michael West. He left Geron to found ACT.

auto shop with new parts in place of the defective ones. (Science Correspondent, Wade, *New York Times*, 7 November 2000)

Such hyped predictions of imminent success were treated with credulity by Anglo-American journalists (as discussed in Chapter 3), who made little effort to assess their accuracy or warn the reader about the profit and prestige motives of the source. Below, Lanza's retrospective account of ACT's erstwhile progress was reported with a similar lack of scepticism in order to emphasise the damage done by Hwang's fraud:

Two years ago, scientists at Advanced Cell Technology, a biotech company in Worcester, Mass., were within months of getting stem cells from a cloned embryo, according to medical director Robert Lanza. When Hwang published his article, funding dried up and "we went into a financial nose dive," he says. Now, Lanza is preparing to pick up where he left off. (Fields, *U.S. News & World Report*, 23 January 2006)

Lanza's name came up in a follow-up e-mail exchange with one of the US science journalist participants. 'Carl' (2006) confided that "Bob Lanza" was a "great source" partly because he was "quick to return calls. That matters when you only have a day to churn out a story". This quote highlights the practical component of source selection alluded to earlier in this chapter. The crush of mass information flows and the pressure of daily deadlines drive journalists into the arms of sources that make themselves available at short notice and institutions that are 'media-friendly'. ACT's skill at generating media meta-capital is discussed in the following press extract:

Advanced Cell...[is] media savvy. It assured itself a splash with its human cloning experiment by simultaneously publishing an account in *Scientific American* and granting an exclusive to *U.S. News and World Report*. To be sure no one missed the significance, West and his co-authors on the *Scientific American* piece called their own work "the dawn of a new age in medicine" that showed "therapeutic cloning is within reach". (Gellene & Mehren, *Business, LA Times*, 29 November 2001)

Indeed, the above extract suggests hyped and self-serving overstatements are a "savvy" means of deriving media meta-capital. Public-sector therapeutic cloning scientists (of which there were few in the US sample) may have reason to reign in their level of political engagement and rhetoric, for example, to avoid opprobrium within the scientific field. Industry scientists face no such constraints. Because they directly benefit from media publicity, industry scientists are willing to accommodate their rhetoric and availability to the needs of journalistic practice.

## **Backstage: Scientists as Sources**

In the process of selecting a potential science story to write, Anglo-American science journalists typically take their cue from the major scientific journals.

### **Extract 1)**

The main way we get our information for stories for the week is to go through the embargoed news [i.e. press releases from journals]...The news agenda [is] normally set by journals. That's the genesis, the inspiration for the stories. We get the researcher's name from the journal because [the embargoed articles] come out the preceding week, generally. We read through [the journal article], call the scientist, sit down and have a chat basically. (Medical Correspondent, elite UK news periodical, 'Zeynep' 2005)

### **Extract 2)**

We find [stories] through the main journals that we watch. Most of them have now become sophisticated in preparing what they call 'tip sheets,' or weekly lists of their most newsworthy articles...Tip sheets are useful but insidious because it is easy to rely on them too much. (New York Times Science Editor Nicolas Wade, quoted in Gitschier 2005: 278)

Whether guided by journal tip sheets or simply the article's listed author, the journal system directed science journalists towards using scientists as sources. In addition, as indicated previously, science journalists typically use an additional 'guru' scientist source to establish the scientific credibility and significance of a particular study. In both instances, practical concerns are paramount in the distribution of media meta-capital and the selection of expert sources:

You want someone who is broadly familiar with the particular field. You also find that there are some scientists that are much happier than others to speak to the media. And particularly to be prepared to say things...You'll find that some are perfectly prepared to use their general expertise to comment. Others hide behind the fact that it's not precisely their field and won't comment on the issue. You rapidly learn who will play ball and who won't- who will talk without using jargon, and in ways that a lay reader...will understand...

So one of the reasons one tends to see similar names in the paper...commenting on science stories is that these are the people we [science journalists] know we can go to, and who we can trust to provide us with usable copy. As a result, they also tend to be the people who answer their phone, who get back to us within a deadline of sometimes an hour or less. You can see the sort of things that are involved. Some people are simply better at it than others. (Science Correspondent, elite UK newspaper, 'Richard' 2005)

Institutional and market-based pressures lead journalists to repeatedly draw upon the same individuals and forms of expertise.

We all of us had our own favourite experts...The reason they are our favourite expert is because they will answer the phone and answer the question. It should be no surprise that you come up with same 20 or 30 names each time when you are looking at science reporting. It is in fact 30 or 40 generous

people who are prepared to...stick their necks out and incur the odium of their colleagues in the process; only to be dismissed as 'media tarts'. (Guardian Science Editor, Radford 2006)

Moreover, temporal and financial pressures drive journalists into the welcoming arms of organisations willing to offer pre-fabricated framing and expertise in exchange for media meta-capital. For example, organisations such as the Science Media Centre, EurekAlert and Progress provide information subsidies to journalists, spoon-feeding them a pro-science perspective on current events. By utilising these subsidies uncritically, journalists gave these organisations both agenda-setting (McCombs and Shaw 1972) and framing power (e.g. Price, Tewksbury and Powers 1997) in the news production process. One key source for Anglo-American science journalists seeking story ideas was EurekAlert:

The single biggest source for deciding what to cover is something called EurekAlert. It is an electronic service that was set up by the AAAS [American Association for the Advancement of Science] in the States and it catalogues all kinds of forthcoming scientific articles...That's one of the main sources of possible science stories. (Science Editor, elite UK newspaper, 'Owen' 2005)

Owen also explicitly referenced the UK-based Science Media Centre's service of providing pre-packaged science news for journalists:

One of the main ways I get my sources is first of all the Science Media Centre. They will actually collect quotes- different experts' perspectives on a particular issue- and post them online for journalists to pull from. So these quotes are just sitting there ready to go. (Science Editor, elite UK newspaper, 'Owen' 2005)

These pre-packaged news materials can be irresistible for harried journalists facing daily deadlines and severe economic and temporal restrictions.

Such information subsidies are but one part of the system of news production encouraging dependency on source material from individuals connected to powerful institutions and corporations. In a speech given at an academic conference in Cambridge, recently retired *Guardian* Science Editor Tim Radford candidly described the collaborative relationship between science journalists and scientist sources in the coverage of therapeutic cloning:

We- by 'we' I mean [Science Editor] Steve Conner on *The Independent*, [Science Editor] Roger Highfield on the *Telegraph*, [Science Correspondent] Mark Henderson on *The Times*- we were all willing co-conspirators...we staged what I now see as the great embryo stem cell technology conjuring trick. We helped a very small group of scientists launch a debate on a completely arcane and seemingly implausible technology and then push it through a series of forums that ended with a final vote in two houses of Parliament...

Why did we do this?...One answer is that the scientists encouraged us to see their point of view. And quite frankly...this was flattery. And flattery is a very powerful weapon. (Radford 2006)

Even in front stage press content, it is clear that scientist sources used “flattery” to pursue media meta-capital. In the following extract, Robert Winston is used as a flattering reflexive lens pointed back at the *Daily Telegraph*'s coverage by its science editor Roger Highfield:

Lord Winston is troubled by the superficial public debate [in the media] about [science-related] issues, notably use of early human embryos in research. He believes [the mediated public debate] has to be deeper and wider to maximise benefits and minimise risks. *The serious media, such as The Daily Telegraph, perform an important job and do it reasonably well, he said.* However, too much news comes out without careful analysis and discussion. (Emphasis added; Science Editor, Highfield, *Daily Telegraph*, 27 January 2000)

The demure acceptance and transmission of Winston's flattery of Highfield's reporting shows an extraordinary deficit of cynical scepticism for a seasoned journalist<sup>84</sup>. Indeed it is easy to see how a cosy and mutually dependent relationship develops within and amongst journalists, expert sources and government officials, which can lull journalists into a complacent state in which they risk becoming little more than passive stenographers. The following point applies equally to expert sources and technocratic officials.

A newsworker will recognize an official's claim...not merely as a claim, but as a credible, competent piece of knowledge. This amounts to a...division of labor: officials have and give the facts; reporters merely get them. (Fishman 1980: 145)

The profit motive still gives precedence to sensationalism in high profile scientific scandals and controversies, at least in the US press and UK tabloids. However, pro-science ideology underwrites the limited of skepticism or critical capacity<sup>85</sup> visible amongst science journalists in the present sample. This argument mirrors Mulkey's (1995a: 524) findings regarding the 1980s embryo research debate: “Support for embryo research was based...on a trusting acceptance of scientists' authoritative pronouncements and on faith in the ultimate benevolence of science”. This same ‘trusting acceptance’ is identified in the following interview extract:

I think science journalism could always be criticised for being too accepting [of scientists' claims]. I think political journalists...you know when a politician says to them, ‘this is great’; their first reaction is ‘does he really mean this? Is he telling us the whole story?’ ‘Is he lying?’ essentially. And I think where science journalists have a flaw is that [a scientist] could say something to them [and] our first reaction isn't ‘did you just make that up?’

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<sup>84</sup> A journalist must work for several years before becoming an ‘editor’.

<sup>85</sup> That is, the lack of journalistic skepticism would be viewed as deficient from the view of a 4th Estate or ‘watchdog’ ideal of the press's role in politics and society.

We tend to think of things as being what [scientists] say they are...It's an issue for all of science because peer review isn't designed to detect fraud or misconduct...I think science journalists are a little bit in the same boat. I mean we don't look at the raw data. We simply say 'okay'. And a lot of times, if we had looked at the raw data we wouldn't have known what it meant. So in that sense we may be forced to be a little more accepting. (Science Writer, US science advocacy periodical, 'Jim' 2005)

'Becky' (2005) revealed that even her "language and metaphors shift...to the point of view of the [source] I'm expressing". Nelkin (1990: 45) identified this uncritical adoption of scientists' perspectives as part of science journalists' excessive deference to scientific experts.

Many science writers regard scientists with wonder and awe. As one journalist told me, "When I work on a story I get to sit at the feet of the most luminous minds in the US." Expecting scientists to be a neutral, disinterested source of information, they tend to be uncritical of the material packaged by scientific institutions, especially when it is presented in manageable and efficient form. Thus, reporting on science tends to be positive- even promotional. (Nelkin 1990: 45)

Beyond journalists' failure to critically assess scientists' claims, Couldry (2003) points to the concern that they are interfering in the autonomous operation of other fields such as science. By selecting favourite sources based on the requirements of the field of news production, journalists introduce media meta-capital into the scientific field. Such selections are sometimes only weakly correlated with a potential source's status based on scientific symbolic capital. Thus, through journalistic source selection 'media-friendly' scientists may receive undue influence within the scientific field<sup>86</sup>. For Bourdieu (1998a), this would undoubtedly constitute an unacceptable form of heteronomous influence<sup>87</sup> (cf. Schudson 2005).

The 'media-friendly' scientist-gurus discussed above represent the most routine source category for science journalists covering therapeutic cloning. Indeed most science stories are completely monopolised by scientist sources (Ryan 1979). However the coverage of therapeutic cloning included a number of non-routine sources as well. In particular, the

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<sup>86</sup> Further complicating this picture is the fact that some public scientists such as James Watson (DNA) or Robert Edwards (IVF) have become famous in the first instance by virtue of their success in the scientific field, only to have their celebrity status take on a life of its own once their high media meta-capital was firmly established.

<sup>87</sup> This potential problem of journalistic promotion of particular media-friendly scientists is tied to the heteronomous influence of the state as well. That is, famous scientists rich in media capital are more likely to attract government sponsorship and concomitant flows of economic capital, which they can in turn exchange for a higher degree of symbolic capital within science by engaging in a wider range of high value and high cost scientific research.

press content showed a significant concentration of journalistic sources amongst agents of subpolitics with a personal stake in the outcome of the debate.

### **Subpolitical Activists as Sources**

“*Subpolitics* is distinguished from politics in that (a) agents *outside* the political or corporatist systems are also allowed to appear on the stage of social design...[including] citizens’ initiatives...and (b) not only social and collective agents, but *individuals* as well compete with the latter and each other for the emerging power to shape politics” (Beck 1997: 103).

As seen in previous chapters, source selection and appropriation in the present sample has promoted utopianism/dystopianism (see Chapter 3) and nationalism (see Chapter 4). More generally, UK tabloid and American journalists gravitated towards evocative and extreme commentators, while the entire sample utilised personal narratives for their immediacy and emotional impact- also known as ‘human interest’ (Hughes 1981). Patient groups were quoted in support of scientific utopianism across the entire sample, providing touching human interest stories of medical suffering and science-based hope. Meanwhile a grisly discourse describing the destruction of early human embryos interacted with the cultural genealogy of human cloning to construct scientific dystopianism in the British tabloids and American press. The resulting ‘patient cures versus abortion opposition’ permutation of balanced hype in the US sample (see Chapter 3) is instantiated in the following extract:

Controversy over human embryonic stem cells had reached fever pitch, with *scientists advocating for federal funding because of the potential to cure disease and anti-abortion groups opposing it* because the research involves destroying human embryos. (Emphasis added; Anand & Regalado, *Wall Street Journal*, 10 April 2002).

As representatives of specific citizen initiatives, subpolitical NGOs took on an important role in the media debate over therapeutic cloning. They often bypassed the processes of traditional media politics by engaging directly within the mediated public sphere. The following extract further highlights patient and pro-life lobbies as the two primary genres of citizen groups in the therapeutic cloning debate:

*Pro-life opponents* quickly marshalled their usual arguments and many politicians would have capitulated on the spot. But this particular battle had equally impassioned opponents. Appearing on the scene were the *patients’ lobbies representing all manner of chronic conditions - from diabetes to Parkinson’s to cancer*. They wanted to be cured. And they knew that in order fully to explore the promise of stem cell research, both federal funding and embryonic stem cells were required. (Emphasis added; Klotzko, Comment & Analysis, *Guardian*, 20 April 2001)

On the ‘pro-cloning’ side, patient groups were cast in solidarity with the scientific community, forming a mutually reinforcing and legitimating front within press discourse. Scientists exercised their authority as the pre-eminent arbiters of Truth in contemporary society, declaring the certainty- or at the very least the strong potential- for cures through therapeutic cloning. Patients groups drew upon this promissory science, connecting it to sympathetic patient narratives and helping to legitimate embryo research in the press. On the anti-cloning side, pro-life NGOs were assigned the most prominent role in the mediated debate, operating in concert primarily with Catholics in the UK and Christian evangelicals in the US.

Subpolitical groups were constructed in the press on the basis of their capability to bend the form and content of traditional politics to their will (see Beck 1992). Patient advocacy and anti-abortion groups are part of global movements. For example, they featured in coverage of deliberations at the UN and the European Parliament:

The European parliament yesterday voted to allow EU money to be spent on controversial stem cell research *in the face of bitter condemnation from some campaign groups*. The move puts pressure on member governments to [fund]... embryo [research] to find treatments for conditions such as Parkinson’s disease and Alzheimer’s. MEPs yesterday voted...to support new...standards for “the manipulation of tissues and cells” *after intense lobbying by patients’ groups and medical researchers*. (Emphasis added; Black, *Guardian*, 20 November 2003)

Subpolitical groups were sought out for their comment on political and scientific developments at certain points in the therapeutic cloning timeline. This role as a (semi-)routine source for journalists is a significant development for agents of subpolitics. Such elevated levels of media meta-capital legitimate the NGO (and their cause) as a credible participant in public debate to a degree that might not have been expected even 20 years ago. In the past, the commentary role would have been fulfilled by government officials, experts and religious leaders to the near-exclusion or at least marginalisation of other ‘non-routine’ sources (Herman and Chomsky 1988: 22). However the present study suggests subpolitics is transforming this press landscape at least as much as the political landscape (cf. Beck 1992).

### **Patient Groups and Therapeutic Cloning Advocacy**

One of the most significant findings in this study is the high degree to which patient groups were given a dominant role on the ‘pro-’ side of the issue of therapeutic cloning in the Anglo-American press. This was true across the entire sample. The overall bias in favour of therapeutic cloning may be a function of the telling of ‘sad stories’ about those afflicted by

diseases that therapeutic cloning promised to cure. Organised around utopian hype about cures, initiative groups formed by patients and their advocates were favoured in news coverage of therapeutic cloning, for their authentic narratives of suffering (also see Brown and Michael 2002). These narratives draw upon longstanding, successful journalistic devices—most notably the human interest story (Hughes 1981). As one elite UK journalist put it,

People are very interested in not dying. In fact they are very interested in not suffering. And since most of us are going to suffer, and all of us are going to die, [therapeutic cloning] strikes a warm human chord. (Science editor, elite UK newspaper, 'Aaron' 2005)

This understanding of reader interest in therapeutic cloning is reflected in the widespread use of sympathetic stories of patient's suffering to frame the issue in the press. The following extract centres on the suffering of a “pretty, dark-haired young woman in a wheelchair”, appearing under the headline, ‘Could the cure for all diseases be banned?’:

“A ban would...have been a disaster for anyone with a child suffering from diabetes or who has a parent with Alzheimer's. This research has the greatest hope of providing treatments and cures, of being able to repair damaged organs. How can we allow it not to advance? All I want is for people like Sabrina to be able to walk again.” I turn around -he is pointing over my shoulder towards a pretty, dark-haired young woman in a wheelchair, who is chatting animatedly to a television reporter.

A car accident 14 years ago left 26-year-old Sabrina Cohen a quadriplegic; she now works as public relations director for the Genetics Policy Institute. She is proud of living alone but needs round-the-clock assistance. “The thing that keeps me going is the hope that I'll be able to get out of this wheelchair one day,” Cohen says,...“A ban on therapeutic cloning would be catastrophic. Now is the time for people to wake up and start fighting, not just for those suffering now but for people who, like me, will become the next statistic”. (Ahuja, *Times*, 17 June 2004)

The story of Cohen above exemplifies life politics (Giddens 1991) as it was routinely manifested in the present sample: An individual is struck down by a terrible disease or infirmity, and reacts to this personal trauma with subpolitical activism aimed at achieving a cure for her or his condition. Nik Brown and Mike Michael (2002: 261) point out that such a “performance of authentic pain” and “suffering is the ‘ultimate’ (in this present cultural context) marker of reality and truth”. Indeed, this ‘life politics’ news frame was highly successful at marshalling media meta-capital, as evidenced by its pervasiveness across all of the press samples.

Drawing on the life politics frame, patient groups both literally and symbolically represented citizens personally invested in the hope of cures for individuals afflicted with Parkinson's, Alzheimer's and many other debilitating diseases and genetic disorders. The

‘rhetoric of hope’ promoted by these groups helped to construct ‘cures’ as a central organising journalistic frame for this story:

Let’s face it. [As a journalist], if you’d never heard of a stem cell before..., what are you going to focus on? You are going to focus on...diseases, cancer; those are for journalists the gold standard of the story. ‘New cure’, or ‘hope for new cure’ I guess. (Science Writer, ‘Jim’, US science news periodical)

In part the rhetorical power of the patient narrative can be explained by the metaphorical meaning that suffering and illness hold in Anglo-American society.

### *Illness as Metaphor and Patient Narratives*

“Illness is the night-side of life, a more onerous citizenship. Everyone who is born holds dual citizenship, in the kingdom of the well and in the kingdom of the sick”. (Sontag 1991: 3)

Some citizens of the ‘kingdom of the sick’ come to apply the metaphor of military struggle to their illness (Sontag 1991). For patients with the range of genetic and degenerative diseases targeted for cure by therapeutic cloning, aggressive political advocacy for embryo research can be viewed as a natural extension of a highly individualised military conflict against their affliction. Journalists draw upon such deeply personal narratives for their efficacy as human interest stories (Hughes 1981), but also implicitly for the news value of the ‘conflict’ frame that is an equally favoured device amongst news producers (Shoemaker and Reese 1996: 111).

For patients, a diagnosis of Parkinson’s, Huntington’s, Alzheimer’s and cystic fibrosis can create a ‘spoiled identity’ (Goffman 1963). Initially, non-disclosing patients are *discreditable* (they can be revealed as ‘diseased’, but their symptoms are not immediately visible). Such patients will become increasingly *discredited* as disease symptoms progress. Terminal patients are thus beset with a new, stigmatised identity for the rest of their lives, often continuing to define them as ‘diseased’ people or ‘victims’ even after death. Within this context of an ultimately hopeless individual battle and a self-identity under threat, it is not surprising that individuals would enthusiastically engage in mediated life politics for personal vindication and for the hope of ultimate victory over the disease, even if it is too late to save themselves.

A plea in support of the change [to make therapeutic cloning legal] was made by Anne Begg, Labour MP for Aberdeen South, who is confined to a wheelchair by a rare degenerative disease. She said: “*Almost everyone who suffers from a degenerative disease is desperate for this research to go ahead, including many for whom the results will come too late*”. (Emphasis added; Political Editor, Jones, *Daily Telegraph*, 20 December 2000)

This narrative of the personal becoming political fulfilled the ‘human interest’ criterion for newsworthiness (e.g. Luhmann 2000). Hence, life politics was a highly attractive frame for journalists seeking to make the scientific controversy interesting and broadly intelligible as to attract the largest possible readership for their story.

In the present context, narratives of patient suffering yielded legitimacy and rhetorical leverage for ‘pro’ therapeutic cloning forces. The following extract connects one patient’s plight to pending legislation in the US:

For many patients, embryonic stem cell research remains the only hope for recovery. Candace Coffee, 26, who has a rare and fatal condition called Devic’s disease, urged politicians to act now to take down barriers to research. Coffee...described the sudden onset of her disease: temporary paralysis and blindness in one eye...with severe pain. As she spoke of her problems, the 10 pills a day she must take and the scarcity of treatment, some at the news conference cried. “This legislation is about me. Please don’t limit scientific freedom,” Coffee said, her voice cracking with emotion. “Don’t take away my hope.” (Garvey, *LA Times*, 24 August 2005)

Such personal narratives granted these patient NGOs both media meta-capital and legitimacy based upon ‘experience-based expertise’ (Collins and Evans 2002).

Patient groups marshalled media meta-capital using the life politics narratives in high profile campaigns supporting therapeutic cloning. Acting in concert with the medical-scientific establishment, these patient groups lobbied the British and American governments directly for therapeutic cloning research funding, simultaneously taking their case into the public sphere through direct appeals to the media.

About 90 patient groups that wanted embryonic stem cell research to go forward joined last spring to create CURE -- the Coalition for Urgent Research, which enlisted scientists and high-profile patients like Christopher Reeve and Parkinson’s sufferer Michael J. Fox to argue their case. (Allen, *Washington Post*, 15 October 2000)

The following extract shows the breadth of the ‘life politics’ frame, as it was applied to politicians, patients and celebrities. Throughout, there is a complete interweaving of personal narratives of suffering with political positioning:

At the invitation of Connie Mack, a former Republican senator who represents the biotech association, about 100 people packed into a meeting room...Mack detailed the science, politics and ethics surrounding nuclear transplantation. Mack [is] a cancer survivor who led the effort to double the budget of the National Institutes of Health...Perry said...the session ensured “there will be a strong patient/scientist coalition”.

...Pro-research activists have capitalized on two assets: “the credibility of science and the power of the patient”, said Kevin Wilson, director of public policy at the American Society for Cell Biology. Big-name stars such as Christopher Reeve, Muhammad Ali and Michael J. Fox have helped open

doors and draw television cameras to Capitol Hill. A statement by 40 Nobel laureates and an enthusiastic report by the National Academy of Sciences lent intellectual heft. (Health Policy Reporter, Connolly, *Washington Post*, 9 June 2002)

Although the second paragraph of the above extract implies parity between the roles of scientists and patients in the political debate, it is clear as the article continues that the patient narrative is preferred over the technical details as a journalistic frame for the news story. Below, the article shifts into unadulterated *pathos* wherein readers are encouraged to sympathise with patients' suffering:

In unvarnished language, children with juvenile diabetes such as Tessa Wick and Katie Zucker have challenged policymakers... Wick, 11, cannot understand how [therapeutic cloning opponents] can choose "a bunch of cells" over her. "It's so scary to me that this guy I don't even know could do that," she said. "It's like he's killing me".

When Bush [delivered] a lengthy anti-cloning speech,... for families like the Zuckers and Wicks, it was devastating. As Bush spoke of "science fiction" and the prospect of making a human life a "commodity," Lucy Fisher cried into the telephone; Janet Zucker, Katie's mother, cried on the other end. (Health Policy Reporter, Connolly, *Ibid.*)

Drawing on such narratives, UK-based patient groups scientists and the biotechnology industry gained the support of the New Labour government for therapeutic cloning research, as well as many key allies in Parliament, and a large number of legislators in the US Congress. In addition to some participation in direct lobbying, patient groups acted as an instrument of legitimation for previously extant political supporters of therapeutic cloning. Pro-research politicians, for example, routinely justified their positions on the altruistic basis of patient well-being, as opposed to only making their case based on naked economic self-interest. As one of the primary spokespersons for the UK government's favourable stance towards therapeutic cloning, then Undersecretary of State at the Department of Health Yvette Cooper is quoted offering a compelling example of this phenomenon of patient-based legitimation:

I have not the least compunction about voting for the use of stem cells. *How could I look members of our local Parkinson's Disease Society and other such organisations for disabled people in the eye, if I didn't do just that?* (Emphasis added; Dalyell, *New Scientist*, 11 November 2000)

In Chapter 3, it was shown that patient-based legitimation was made more generalisable through the construction of a utopian rhetoric of hope, accessing longstanding notions of scientific and medical progress. In addition, I contend that this utopian discourse gives supporters of therapeutic cloning a unifying narrative and that is attractive to journalists writing 'human interest' stories or leads. To be sure, utopianism was an important discursive

foundation for patient activists' role as sources. *De facto* ownership over the life politics frame gives patient groups legitimating power and a high level of moral authority in the debate.

### **Individualisation and Life Political Advocacy**

Life politics concerns political issues which flow from processes of self-actualisation in post-traditional contexts, where globalising influences intrude deeply into the reflexive project of the self, and conversely where processes of self-realisation influence global strategies. (Giddens 1991: 214)

In addition to group level political engagement drawing on patient narratives, subpolitical advocacy can also be identified at the level of the individual. As increasingly individualised persons construct their biographies, they begin to notice the impact of global forces upon their personal lives and the free exercise of their future (Beck and Beck-Gernsheim 2002). Seeking to re-establish autonomy and control over their self-identities in the face of seemingly out-of-control systems within risk society, citizens take individual action or join in solidarity with other like-minded citizens to form initiative groups and protest movements to recapture the power of self-determination over their own biographies (Beck 1992; Giddens 1991). Giddens defines this phenomenon as 'life politics', emphasising its emergence in response to the intrusion of the state or globalising forces "into the reflexive project of the self, and conversely where processes of self-realisation influence global strategies" (Giddens 1991: 214). Activist patients then can be seen drawing upon a sense of personal grievance and suffering, which interfaces with journalists' desire for human interest stories (Hughes 1981). Indeed the life politics frame accesses a broadly sympathetic concern, that of human suffering. Such appeals were said to have had a powerful impact on the highly mediated domains of Parliament and Congress.

For those who didn't understand the technical stuff, or care about the role of Parliament, she showed a keen understanding of what makes the lesser forms of MPs tick by deploying the weapon of shameless sentimentality. What about the boy paralyzed in a rugby accident? The grandmother with Parkinson's now unable to sing nursery rhymes to her grandchildren? Eyes watered, sickbags fluttered. (Brogan, *Daily Telegraph*, 20 December 2000)

The politics of therapeutic cloning were unavoidably personal for many agents within the mediated debate. This debate intertwined the personal and the political both in terms of the technology's implications and the moral calculus involved in evaluating the bioethical issues involved. The 'pro' side in the debate was particularly well-supported by individual agents of life politics, including celebrities such as film stars Michael J. Fox and Christopher Reeve. By staging such activists in prominent positions in the public discourse, the press

constructed for them a large role in the debate over therapeutic cloning. The narratives of celebrity patients played a particularly important role in the construction of ‘life politics’ as a news frame in the Anglo-American press:

We must make it clear that if you believe in this, you need to stand up for it. You must make your voice heard because you may lose the opportunity of using this potentially life-saving therapy”. People’s voices are beginning to be heard. Hollywood has made stem-cell research its cause celebre, with Christopher Reeve and Michael J. Fox, who suffers from Parkinson’s disease, its figureheads. Only weeks before her husband’s death from Alzheimer’s disease, Nancy Reagan used one such glittering occasion to berate George W. Bush for his conservative approach to stem-cell research. (Ahuja, *Times*, 17 June 2004)

### *Celebrity Life Politics*

Based upon their high levels of intrinsic media meta-capital (i.e. fame), celebrity activists received an outsized degree of media attention in the present sample.

Research advocates harnessed the power of celebrities- including actors Christopher Reeve who is paralyzed by a spinal cord injury, and Michael J. Fox, who has Parkinson’s- as well as lobbying by ordinary patients hoping for cures to bring attention to the issue. (Zitner & Chen, *Front page news, LA Times*, 10 August 2001)

The views of celebrity patients were presented as encapsulating the general perspective of the larger community of ‘patients’:

Michael J Fox, the Hollywood actor who has Parkinson’s disease, insists...it is the suffering- “patients and families of patients”- who support stem cell research.

The comedian Mary Tyler Moore, who nearly lost her foot to diabetes, has joined the cause. So has Christopher Reeve, the paralysed star of Superman, who believes stem cells represent the best hope of getting his inert body to work. Nancy Reagan has told the Bush White House that while it is too late to cure her husband of Alzheimer’s she would like others to be offered that chance. (Baxter, *Sunday Times*, 22 July 2001)

The following extract indicates the involvement of celebrity patients in the mediated debate over therapeutic cloning.

Working with patients around the country, therapeutic cloning advocates placed more than 30 opinion pieces in newspapers. And celebrities such as Muhammad Ali and actors Michael J. Fox and Christopher Reeve testified against a total cloning ban. Forty Nobel Prize-winning scientists signed a letter in support of the research, and former President Ford wrote his own letter.

...Democratic challenger Sen. John F. Kerry backs the aggressive pursuit of stem cell research, and Thursday received the endorsement of the widow of “Superman” actor Christopher Reeve, who said the research could lead to a cure for the spinal cord damage he suffered. The research has also received high-profile support from actor Michael J. Fox, who has Parkinson’s

disease, and former First Lady Nancy Reagan, who made her support public after President Reagan died of Alzheimer's disease. (Farley, *LA Times*, 23 October 2004)

Three high-profile patients are profiled below to illustrate this media phenomenon of celebrity life politics, including Christopher Reeve and Michael Fox, as well as Jimmy Johnstone.

Research advocates harnessed the power of celebrities-- including *actors Christopher Reeve who is paralyzed by a spinal cord injury, and Michael J. Fox, who has Parkinson's*--as well as lobbying by ordinary patients hoping for cures to bring attention to the issue. Their appeals helped persuade a large number of abortion opponents in Congress to support the research. (Emphasis added; Zitner & Chen, *Front page news, LA Times*, 10 August 2001)

Each sample had its favourite celebrity patient activist. Christopher Reeve was widely covered in the elite UK press. Footballer Jimmy Johnstone captured the attention of the British tabloids. Michael J. Fox moved to centre stage at several points during the 2004 Presidential election and the 2006 Congressional elections as a key figure in the US press. Therapeutic cloning was a high-profile issue in a number of campaigns during these election cycles, and Fox came to embody the 'pro' perspective alongside other high-profile proponents of the technology such as Ron Reagan, Nancy Reagan [the former US President's son and widow respectively) and Christopher Reeve. These data show the journalistic source selection bias favouring celebrities is applicable to the coverage of scientific issues as well as entertainment and politics.

#### *Christopher Reeve: Superman Embodies Life Politics in the Elite UK Press*

Christopher Reeve embodied life political concerns in this debate and captured the attention of the elite British press more than any other activist<sup>88</sup>. He exemplified the intertwining of personal and political which defines the 'life politics' frame:

In 1995, after the accident which left him paralysed, Christopher Reeve said he wanted to be on his feet by his 50th birthday. That's next week, and although he has made amazing progress, he won't be standing - and for that, he says, George Bush must share the blame. (Burkeman, *Guardian*, 17 September 2002)

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<sup>88</sup> The sustained focus on Reeve exceeded the relative volume of coverage in even the American press. This is one of many examples of the selective importation of the American debate over therapeutic cloning into the British press coverage. Even though he is American, Reeve's narrative appealed more to *British* journalists, evidencing the different biases and interests of the British and American press corps.

Like many life political activists, Reeve did not seek out his prominent position on this issue in the first instance. Rather, Reeve's activism was in a sense thrust upon him by his injury and the perceived threat of intrusion by state regulations and politics into his personal life.

Many whose lives have been touched by disease are strong supporters [of therapeutic cloning]. *Actor Christopher Reeves, paralysed when thrown from his horse, is an outspoken proponent.* (Emphasis added; Griffith, *The Americas, Financial Times*, 13 November 2002)

In the quest for self-actualisation within a culture of individualisation, people such as Reeve may come to care deeply about issues of global import such as therapeutic cloning, which are seen to relate directly to the present and future quality of their lives (Beck 1992; Giddens 1991). These individualised responses to the perceived excesses of systems of political control are at the same time personal and political. Other than the abortion issue, it is difficult to envision an instance of life politics in which agents are more personally invested in repulsing the unwanted colonisation of the lifeworld by political subsystems (Habermas 1987) than the quest for a cure embodied in Reeve's struggle. The headline for the following extract was 'Reeve: Lift study ban on clones':

Christopher Reeve appealed yesterday for more research into a cloning process which may help paralysed people. The Superman star, hurt in a 1995 horse-riding fall, was speaking before a spinal injuries conference in Sydney. (*Daily Mirror*, 25 January 2003)

Reeve's narrative exemplifies the life politics frame: His hope for personal transcendence over his affliction is contingent upon both the machinations of political systems (see Extract 1 below), and the progress of globalised biomedical science (see Extract 2 below).

**Extract 1) The Interpenetration of Personal and Political**

"I'm disappointed. *When I was first injured, I thought hope would be a product of adequate funding, and bringing enough scientific expertise to the problem... What I did not expect was that hope would be influenced by politics*".

*Now [Reeve's anger] is sharply focused on America's politicians and religious leaders, and the way they have, in his view, impeded research in therapeutic cloning and stem cells - research that might otherwise, by now, have led to human trials of drugs designed to regrow the nervous systems of people like Reeve.*

*"If we'd had full government support, full government funding for aggressive research using embryonic stem cells from the moment they were first isolated... - I don't think it unreasonable to speculate that we might be in human trials by now"*.

Reeve's public persona is well established by now: he is the man who played Superman and then became Superman, a living demonstration of the benefits of hope and positivity in the face of a catastrophe that might have destroyed him mentally - and so there is something startling about the intensity of his rage". (Emphasis added; Burkeman, *Guardian*, 17 September 2002)

### **Extract 2) Celebrity Life Politics Shapes Global Science**

“If Christopher Reeve had been daunted by the pessimism pervading spinal injury research in the US, much of the progress now being made might never have come about. *By raising millions he has transformed the whole field and drawn in new, young research scientists. Research grants are given only to those focusing on outcomes and - often to the dismay of scientists - sufferers from the condition have a vital say in who is supported.* Research here should follow a similar path. It is high time that hope triumphed over resignation”. (Emphasis added; Guiton, *Guardian*, 13 February 2004)

The overlapping nature of the political and journalistic fields made it difficult at times to separate press framing from social reality. That is, sources such as Reeve and Fox (discussed below), who were valorised by the news media, were also given actual (newsworthy) roles within the political realm. Reeve, for example, was even called upon to address the UN:

Earlier this month the top researchers and clinicians in the world -Ian Wilmut, the man who cloned the first mammal (Dolly), and Shin Yong Moon and Woo Suk Hwang, the Korean duo who first cloned a human embryo -and patient groups flew to the United Nations headquarters...in a last-ditch attempt to head off such a ban. The former Superman actor Christopher Reeve, paralysed in a horseriding accident, also sent a televised address to...“the collective moral voice of the world”, saying that “not to encourage the ethical pursuit of (embryonic stem-cell) research may result in needless human suffering”. (Ahuja, *Times*, 17 June 2004)

Similarly, a year later Reeve’s widow and Michael J. Fox were invited to testify before Congress. The following extract further exemplifies the extensive degree of heteronomy characterizing the relationship between the political and media fields.

The issue [of embryonic stem cell research and therapeutic cloning] will get its first formal airings at a Senate subcommittee hearing Tuesday and at a Hill media event on Wednesday at which pro-research celebrities Michael J. Fox and Dana Reeve, widow of “Superman” star Christopher Reeve, will call for an immediate loosening of Bush’s policy. (Health Policy & Science Reporter, Connolly & Weiss, *Washington Post*, 9 July 2005)

#### *‘Jinky’ Johnstone: Celebrity Life Politics in the British Tabloids*

In the UK tabloids the most widely covered celebrity life politics was football player Jimmy Johnstone. The following extracts featuring Johnstone evince the ‘rhetoric of hope’ endemic to the life politics frame:

#### **Extract 1)**

##### *Jinky backs bid to cure disease*

The Scots scientist who created Dolly the Sheep was yesterday granted a licence to clone human embryos. Prof Ian Wilmut...aims to find a cure for motor neurone disease by taking stem cells from sufferers...He got instant backing from support groups and Celtic legend Jimmy “Jinky” Johnstone - the

Lisbon Lion stricken by the disease. Johnstone, far right, recently voted Celtic's greatest player, was diagnosed in November 2001. The MND campaigner said from his home in Uddingston, Lanarkshire: "To those opposing this, I say: 'If one of your loved ones had it and you knew that using stem cells could lead to a cure, what would you do?' "This news gives me hope – that's a powerful drug for someone with an incurable disease". (Sheerin & O'Hare, *Sun*, 9 February 2005)

**Extract 2)**

Prof Wilmut plans to clone embryos directly from patients with MND - whose victims include celebrity scientist Stephen Hawking and Celtic football legend Jimmy Johnstone. Johnstone, 60, said: "I'm delighted. To those who oppose this research I would just say, 'If one of your loved ones had it and you knew that using stem cells could find a cure, what would you do?'" The condition, which kills cells controlling the brain and spine, affects about 5,000 people in the UK. Most die within five years of being diagnosed. (Mackay, *Daily Mirror*, 9 February 2005)

**Extract 3)**

Professor Ian Wilmut, of the Roslin Institute in Edinburgh, will clone early stage embryos to study Motor Neurone Disease (MND) in unprecedented detail... Well-known MND sufferers include... football legend Jimmy 'Jinky' Johnstone. Yesterday, the former Celtic star said: 'I am delighted with this news. It will help hundreds of thousands of people worldwide and the people who care for them. 'Now I just hope that they can fasttrack the research because time is the enemy for this illness. To those who oppose this, I would just say this if one of your loved ones had this terrible disease and you knew that using stem cells could lead to a cure, what would you do?' (Culley, *Daily Mail*, 9 February 2005)

These remarkably similar stories on the same topic from the same day show the irresistibility of celebrity life politics for tabloid journalists.

*Celebrity Life Politics in the American Sample: Michael J. Fox*

Fulfilling a similar role as Christopher Reeve in the elite UK newspapers- and Johnstone in the UK tabloids- film and television actor Michael J. Fox was a major figure in American press coverage of therapeutic cloning. The following extract introduces Fox's life politics into the 2004 US Presidential campaign. Fox took up the mantle from Christopher Reeve as the leading agent of celebrity life politics on the issue of therapeutic cloning in the American press:

[During] last week's presidential debate...in the front row, wedged between Teresa Heinz Kerry and Kerry's daughter Vanessa, sat a person who stands for the power of science better than words ever could: Michael J. Fox. Diagnosed with Parkinson's in 1991 and visibly ailing, Fox is a staunch supporter of stem-cell research and has...become [presidential candidate] Sen. John Kerry's ambassador for the cause...

Watching Fox, it was impossible not to think of Christopher Reeve, who died last week at the age of 52. A tireless advocate for stem-cell research—“Superman in a wheelchair,” as one friend called him. Reeve’s death refocused attention on an issue that has mobilized celebrities, activists, scientists, politicians and even regular folks who barely remember their high school biology. (Kalb, Rosenberg & Ulick, *Newsweek*, 25 October 2004)

Fox also emerged as a major participant in the 2004 debate over California Proposition 71. This ballot measure ultimately passed, allocating \$3 billion over 10 years to embryo research (including therapeutic cloning). The following extract identifies the mélange of pro-therapeutic cloning forces implicated in the successful campaign for research funding in California during the 2004 election cycle. Celebrity patients such as Michael J. Fox provided a sympathetic public face and unofficial media spokesperson for the research:

A coalition of Hollywood producers and actors, technology billionaires, scientists, patient advocates and business organizations -- including Michael J. Fox and Bill Gates -- has marshaled emotion, scientific argument and money to underwrite a state ballot proposal that... would authorize the state to issue \$3 billion in bonds to pay for a range of stem cell research. (Broder & Pollack, Front page news, *New York Times*, 20 September 2004)

The following extract presents a similar description of the role of celebrity life politics:

The [therapeutic cloning funding] initiative... was a classic California case of direct democracy..., with a Hollywood twist... Both the late actor Christopher Reeve, who was paralyzed as the result of a spinal cord injury, and actor Michael J. Fox, who is afflicted with Parkinson’s disease, publicly supported it. (Streisand & Boyce, *US News & World Report*, 15 November 2004)

This article then extends the rhetorical power of celebrity backing for therapeutic cloning with an ‘ordinary person’ patient narrative:

*Big goals.* Scientists believe that stem cells may make treatment successful for a wide range of diseases that include cancer, heart disease, diabetes, Alzheimer’s, multiple sclerosis, and spinal cord injuries. More than 128 million Americans suffer from such diseases. “We need this now,” says Beatrice Berkman..., whose son died recently of a blood disorder. (Streisand & Boyce, *Ibid.*)

Despite the prevalence of patient narratives and celebrity viewpoints, the American press reporting on this Proposition was not as one-sided as the elite UK press coverage around Parliamentary deliberations in 2000 and early 2001. The following extract exemplifies the qualitative nature of the more ‘balanced’ content that prevailed in the US press coverage. Initially, the following extract seems to offer a similar depiction of the range of pro-research individuals and organizations involved in promoting the California Proposition:

The creators of Proposition 71 have assembled a powerful cast of advocates -- from Republican Gov. Arnold Schwarzenegger to Nobel Prize winners, from the head of the Bush administration’s stem cell task force to the late actor

Christopher Reeve, who appears in a commercial taped shortly before his death. Other supporters include the California Chamber of Commerce, actor Michael J. Fox, who has Parkinson's, and George P. Shultz, secretary of state under President Ronald Reagan. (Health Policy Reporter, Connolly, Front page news, *Washington Post*, 25 October 2004)

However this article then began to frame the coalition of therapeutic cloning advocates supporting the California research funding initiative in a more cynical and sceptical manner, as can be seen in the extract below. First the optimistic view of mediated subpolitics is presented:

“The fact that this [therapeutic cloning funding initiative] is on the ballot at all is a stunning testimonial to the power of citizen advocacy,” said Mary Woolley, president of the nonpartisan Research America, which promotes public investment in science. (Health Policy Reporter, Connolly, *Ibid.*)

Then the writer flags the gritty, economic reality of politics, along with the danger of hyped promissory science:

Yet what Woolley and proponents hail as democracy in its purest form, others see as an abuse of the electoral process -- a small, well-funded constituency using emotion to sell expensive, unproven science. “This is taking billions of dollars from desperately needed health care to support this science project,” said H. Rex Greene, medical director of the cancer center at Mills-Peninsula Health Services in San Mateo. “If this ever leads to cures, it will be decades away -- if ever”. (Health Policy Reporter, Connolly, *Ibid.*)

Thus some level of journalistic scepticism about the life politics narrative made into front stage press content via the ‘balanced’ framing in the US press.

### *Life Political Actors and Subpolitical Action*

In the above discussion, I have drawn a conceptual distinction between individualised life politics and subpolitical activism, which is based on a degree of solidarity and comradeship. In practice, however, these phenomena are intertwined. For example, both Christopher Reeve and Michael J. Fox established charitable foundations, which in turn exercised some degree of subpolitical activity as patient advocacy groups.

Private groups, meanwhile, have greatly increased their support of stem cell research. The Juvenile Diabetes Research Foundation, the Michael J. Fox Foundation for Parkinson's Research, the Wellcome Trust, the Christopher Reeve Paralysis Foundation and others have given tens of millions of dollars to various laboratories, many in Europe. (Perez-Pena, *New York Times*, 16 March 2003)

Indeed, like the celebrities themselves, their namesake NGOs stood in for the larger patient advocacy movement:

[There is the possibility of] an executive order from the Bush administration, temporarily restricting cloning research. But some Washington commentators said there was still too much opposition from medical interest groups, who point to the potential benefits of therapeutic cloning, for opponents to force legislation through the Senate in the near future. For example the Christopher Reeve Paralysis Foundation pledged fierce resistance to any ban, because the research “has so much promise and reduces the one big problem in using stem cells, the rejection factor”. (Science Editor, Cookson & Griffith, Comment & Analysis, *Financial Times*, 27 November 2001)

The extract below is indicative of the pattern of celebrities acting as highly visible spokespersons, standing in for much broader patient-based subpolitics on the issue of therapeutic cloning.

Patients’ groups and high-profile advocates such as former first lady Nancy Reagan and actor Michael J. Fox say the research could help provide cures for Parkinson’s, diabetes and other diseases. (Stone, *USA Today*, 26 July 2005)

Even beyond the intertwining of the media, politics, and celebrity, science and economics were also implicated in this heteronomous mélange, with for example celebrity patient groups funding embryo research and promoting the results of the study in the media:

The Christopher Reeve Paralysis Foundation, which helped to fund the study with the National Institutes of Health, welcomed the findings. Reeve, the actor paralysed in a horse-riding accident, has told Congress he hoped stem-cell research would cure him. (Science Editor, Hawkes, Overseas news, *Times*, 16 August 2000)

### **Deviant Case Analysis: Re-appropriating the Suffering Patient Narrative**

Seeing the media meta-capital that adhered to patient narratives, pro-life opponents of therapeutic cloning tried to harness patient-based legitimacy in support of their own viewpoint. The following extracts are from a lengthy ‘letters to the editor’ segment in *The Times* under the heading, ‘Should a human embryo be used to save lives?; are you in favour of therapeutic cloning?’:

*I have several severe disabilities and use a wheelchair full time. I run a group called No Less Human for disabled people, their families and carers, all of whom oppose embryonic stem-cell research. Anjana Ahuja said in her article that “People’s voices are beginning to be heard” (“Could the cure for all diseases be banned?”, T2, June 17), and then referred only to Christopher Reeve and Michael J. Fox, who vociferously support embryonic stem-cell research. There was no attempt to hear the voices of disabled people who oppose it. (Emphasis added; Reader, Davis, *Times*, 23 June 2004)*

After pointing to her exclusion from the debate, this reader establishes the *pro-life* basis of her opposition to therapeutic cloning:

*It is a biological fact that each human life begins at fertilisation. Human embryos are simply human beings at an early stage of their development. They*

*are clearly both human and alive*, or their cells would be of no use [to therapeutic cloning scientists]. (Emphasis added; Reader, Davis, *Times*, 23 June 2004)

She then sums up by protesting the ‘celebrity life politics’ flagged above.

Why is no one listening to us? We are disabled people who would not countenance embryonic stem-cell transplants because we recognise the humanity and dignity of every human life, regardless of how small. *We may not be Hollywood stars* but we do know the difference between ethical and unethical research. (Emphasis added; Reader, Davis, *Times*, 23 June 2004)

A similar *anti*-therapeutic cloning patient perspective is flagged in the following US press extract:

Among the patients who wrote in to oppose the [NIH embryo research funding] guidelines was Chris Currie, a 37-year-old diabetic who...could benefit dramatically from stem cell research. But, he said, he would reject any cure or treatment that came from embryos. “I’m the one who has to think, ‘What might this embryo have grown up to be? Would it have been someone who laughed and loved, married and had kids -- all the things I’ve done? . . . How does God see this? What judgment will be laid upon me if I do this?’ You can’t so easily punt on those questions when you’re the one who’s directly benefiting”. (Allen, *Washington Post*, 15 October 2000)

Despite these few examples, however, the ‘I am disabled, but oppose embryo research’ position exemplified in the above extracts never caught on as a significant frame in the press coverage of therapeutic cloning. Anti-therapeutic cloning patients downplayed their own suffering in favour of abstract moral commitments to the hypothetical human embryo, for whom it is difficult to attribute authentic pain and physical suffering. Without the personal narratives of suffering and hope, these individuals did not offer journalists the ‘human interest’ to exchange for media meta-capital. Anti-abortion opposition to therapeutic cloning in general was also limited in its ability to sustain media attention by this lack of human interest narratives.

### **Anti-Abortion Groups Ascend As Embryo Research Opposition**

While favourable therapeutic cloning coverage coalesced around vocal patient groups, pro-life NGOs were cast in the opposition role across the entire sample<sup>89</sup> alongside Christian evangelical organisations in the US press and the Catholic Church in the British tabloids.

This [argument in favour of therapeutic cloning] is not the view taken by the Catholic Church and other ‘pro-life’ groups opposed to human embryo research. John Smeaton, national director of the Society for the Protection of Unborn Children said: “This [legislation supporting therapeutic cloning]

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<sup>89</sup> However anti-abortion groups encountered far less sympathetic treatment than patients within the elite UK press.

appears to be a disturbing and deplorable development". (Science Editor, Conner, *Independent*, 26 November 2001)

As Beck (1997: 101) argues "subpolitics is not open to only one side.

[It]...can always be used by the opposite side or party for the opposite goals". The following extract illustrates the evocative anti-abortion rhetoric preferred in the American press sample.

*The Other Side: Anti-abortion groups criticized Ron Reagan's Tuesday stem-cell speech. Reagan made an impassioned plea to step up embryonic stem-cell research, but in explaining the source of the stem cells he described creating human embryos through cloning...*[conservative Republican] President Reagan surely would have opposed *creating human embryos to harvest their parts,*" declared Douglas Johnson of the *National Right to Life Committee*. (Emphasis added; Murray, *Wall Street Journal*, 29 July 2004)

As can be seen below, such stark rhetoric was presented by religious figures as well as anti-abortion groups in the US press:

**Extract 1)**

Of the more than 50,000 people who responded to NIH's call for comment...more than three-quarters [were] opposed[,] call[ing] the NIH scientists baby killers and Nazi doctors. "The people who want to dissect a human embryo are the same people who want to pull a baby out of the mother's womb feet first and puncture the head and suck the brains out," says Dickey...

Doerflinger, writing on behalf of the bishops conference, asked acidly how it was possible to treat an embryo with respect while killing it, and how could you get informed consent from the people who agreed to have it killed. As for the NIH's end run around [the] Dickey [Amendment], Doerflinger says "it's like saying you won't pay to have someone kill me, but will experiment on my heart right after watching someone else rip it out of my body. Either way I'm dead". (Allen, *Washington Post*, 15 October 2000)

**Extract 2)**

Several religious groups warned of the dangers of cloning. Carl Anderson, chief executive of the Knights of Columbus, called therapeutic cloning "a form of biotech slavery." Richard Land of the Southern Baptist Convention called it "high-tech cannibalism in which we consume our young." (Science Correspondent, Zitner, *LA Times*, 11 April 2002)

Likewise in the British tabloids, pro-life groups served to provide extreme quotes, supporting the production of more sensational stories.

Professor Jack Scarisbrick, national chairman of the [anti-abortion] charity LIFE, said: 'This is manipulation, exploitation and trivialisation of human life of a frightening kind. The real reason for seeking this permission [to conduct therapeutic cloning research] is probably as much about playing God and breaching taboos as curing diseases. The birth of a cloned baby will be next.' Josephine Quintavalle, of the pro-life group Comment On Reproductive

Ethics, said: ‘No matter how you created it, it is a human embryo, and has as much right to life as anybody else’. (Utton, *Daily Mail*, 12 August 2004)

In the wake of the fragmentation of conventional religious authority in the UK (e.g. Mulkey 1997), NGOs were the most salient source of pro-life, anti-cloning ethical commentary available to journalists. Pro-life groups have proliferated in recent decades (e.g. Maxwell 2002), forming a global protest movement that transcends traditional religious constituencies (e.g. the historical Catholic/Protestant divide). The issue of therapeutic cloning functioned to promote anti-abortion activists as science critics in the Anglo-American press:

**Extract 1)**

Is this a battle between science and anti-science? Not entirely. The Royal Society is in favour, as was a [expert] committee put together by Professor Liam Donaldson, the Chief Medical Officer. *The “pro-life” groups are against.* (Emphasis added; Hurst, *Times*, 18 November 2000)

**Extract 2)**

Because of *strong opposition from anti-abortion groups*...[therapeutic cloning] researchers [in the US] have kept a low profile on [their] activities. (Emphasis added; Chase & Regalado, *Wall Street Journal*, 11 December 2002)

In both the US and UK samples, science journalists covering therapeutic cloning used critical commentary from pro-life groups to balance pro-cloning statements from scientists, patients and government officials. The following two-part example first quotes a government official speaking in favour of therapeutic cloning:

“It’s very difficult to think of that collection of cells as an identifiable human being; there is no question of it feeling any pain because the beginnings of the central nervous system don’t occur until 14 days after fertilisation”. This argument was put forward by Yvette Cooper, the junior health minister, in the House of Commons. (Waterhouse & Rogers, *Sunday Times*, 24 December 2000)

Next, the article balances this declaration with opposition commentary by sources representing two major UK anti-abortion organisations (*viz. Life* and the *Linacre Centre*):

Professor Jack Scarisbrick, chairman of *the anti-abortion group Life*, “It’s a momentous step...The implications are mind-blowing and we should not be doing this casually. We are generating human beings with the deliberate intention of killing them and the end can’t justify the means.

Dr Helen Watt, a medical ethicist and research fellow with *the Linacre Centre for Healthcare Ethics*, a *Catholic bioethics centre*, said:

“We...oppose...getting stem cells from embryos because you kill the embryo when extracting the cells. If you produce the embryo just to harvest tissue you are using its life as a stage in producing a pharmaceutical product”. (Emphasis added; Waterhouse & Rogers, *Ibid.*)

Pro-life groups were an easily accessible source of opposition commentary, with dependably strong moral viewpoints sufficient to satisfy the ‘anti’ side of the American press’s balanced hype imperative.

The efficacy of such reified oppositional framing is discussed in the following extract:

About 90 patient groups that wanted embryonic stem cell research to go forward joined last spring to create CURE- the Coalition for Urgent Research, which enlisted scientists and high-profile patients like Christopher Reeve and Parkinson's sufferer Michael J. Fox to argue their case. In response, a smaller collection of clergy and doctors opposed to embryonic stem cell research formed Do No Harm.

The names- CURE vs. Do No Harm- provide a catchy, but caricatured summation of the conflict. It is surely hype to claim that stem cells will bring cures, because no one can, with certainty, predict the outcome of such basic research. And the effort to block stem cell research at times appears to be a straw man for the abortion debate. But the two names do reflect a more basic cultural difference -- between an interventionist, technical approach and an inevitably fatalistic, religious worldview. (Allen, *Washington Post*, 15 October 2000)

While patient groups and anti-abortion NGOs rarely debated directly, they were often *framed* as being engaged in a direct confrontation over the issue of therapeutic cloning:

Patient power is getting a global voice through a new movement to represent people with a range of hereditary diseases...*Its backers also aim to challenge anti-abortion, animal rights and other lobby groups that oppose some forms of biomedical research.* (Emphasis added; Coghlan, *New Scientist*, 24 February 2001)

Ultimately this dualistic representation of patient and anti-abortion groups dovetails with the preferred journalistic framing of conflict, just as was seen in the competitive nationalism identified in Chapter 4. Although the journalistic news value of ‘conflict’ underpinned the coverage of anti-abortion groups in the US and British tabloid samples, other news values (e.g. the criterion of ‘novelty’) curtailed the coverage of anti-abortion perspectives within the elite UK press.

#### *Elite UK Press Marginalisation<sup>90</sup> of Anti-Abortion Activists*

Christopher Reeve and other patients were recognised throughout the present sample as having a unique form of experiential legitimacy supporting their right to speak out on the issue of therapeutic cloning. On the other hand, anti-abortion activist sources were only temporarily accepted as legitimate participants in the debate by elite UK journalists. Despite

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<sup>90</sup> US science advocacy publications such as the news pages within *Science* also matched this pattern of marginalising anti-abortion sources. However, I have not dilated on them because of their relatively small role in the overall mediated public debate, as well as within my interview sample.

their appearances in the early phases of therapeutic cloning coverage (i.e. when UK legislation was under Parliamentary consideration), anti-abortion activists found their attempts to renew their media meta-capital thwarted by increasingly disinterested elite UK science journalists. This disinterest is expressed in the following interview extract:

I don't go out of my way to talk to the same pro-life groups. They'll send me stuff and I will talk to them from time to time, and I know what they think and I will quote them- although their quotes tend to get dropped. They tend to be at the bottom of the story. And when it's cut to fit that space, they're the ones that tend to get dropped. (Health Editor, elite UK newspaper, 'Charles' 2005)

In this vein, the following front stage extract shows the anti-abortion opposition being quickly set aside in order to elaborate on patients “whose lives have been touched by disease”:

“Anti-abortion activists fiercely oppose therapeutic cloning, while many whose lives have been touched by disease are strong supporters. Actor Christopher Reeves, paralysed when thrown from his horse, is an outspoken proponent”. (Griffith, *Financial Times*, 13 November 2002)

Thus pro-life activists were treated as non-routine, second-class sources in the elite UK press. They were in the category of “small fry, newcomers, subversives, pains-in-the-neck who struggle desperately to add some small difference to this enormous, homogeneous mishmash” of elite sources (Bourdieu 1998a: 26).

There was some evidence of an ideological dimension behind this pattern of downgrading anti-abortion and other perceived ‘anti-science’ perspectives within press coverage of therapeutic cloning:

I tend to take the scientific point of view. Probably to a greater extent than some readers would like me to. But I see myself as a kind of rationalist in a fairly irrational world. I'm not there to promote irrational ideas because there are tons of other people doing that job. I cling to science as a piece of driftwood in a wreckage to keep me afloat...But that's just the way I am. I'm not the only journalist writing about the subject, so the other, more value-laden views I hope get expressed by other [journalists]...[But] *I don't go out of my way to talk to...pro-life groups*. (Italics added; Health Editor, elite UK newspaper, 'Charles' 2005)

Science journalists' ideological and epistemological commitments were clearly a factor in source selection. However, the rising disinterest in anti-abortion sources evident amongst elite UK journalists as the story progressed was more consistently tied to the newsworthiness criteria of unexpectedness, unusualness or “surprise” (Luhmann 2000: 28; Park 1999/1940; Shoemaker and Reese 1996: 111).

There's a level at which [journalistic] debate becomes devalued by the predictability of the [source's] response. You will have noticed that you are

not very excited that in Northern Ireland, members of the Democratic Unionist party have condemned Sinn Féin. You'd say 'what else would they do', you know and this is where it's got to already on the embryo stem cell life issue...

I [do] not feel compelled to report what the anti-abortionist group Life says...because it's so predictable. I would cheerfully report, if somebody else said 'and there's another reason [besides the anti-abortion concern], and here is why we shouldn't be doing [therapeutic cloning research]'. I would be interested, especially if I heard something I hadn't [heard before]; something that wasn't a formulaic notion. (Science Editor, elite UK newspaper, 'Aaron' 2005)

Aaron elaborated on the importance of novelty in deciding whether to seek out non-scientist sources:

It's worth quoting a bio-ethicist the first time a question pops up...The [ethical] question was there the first time people [cloned a mammal]. It was still there the second time they did it. But by the time it's been done fifty times it's stopped being an ethical question, unless there is some huge public outcry. And one doesn't see any future public outcry. (Science Editor, elite UK newspaper, 'Aaron' 2005)

'Richard' makes a comparable argument about the rapid decline in the newsworthiness of anti-abortion opposition to therapeutic cloning, after the original controversy died down:

There's a bit of "they would say that wouldn't they?" in some cases. In [cases] like that, it's not a story. Saying "Pro-life activists object to latest abortion figures" is not a story. However, if it's David Steel, who framed the abortion law, then it is. (Science Editor, elite UK newspaper, 'Richard' 2005)

Writing for a science advocacy publication, 'Jim' indicated a similar position regarding the use of subpolitical sources that raise ethical questions about a scientific development. He too believes that such perspectives are not newsworthy beyond the initial introduction of the scientific issue into the public sphere.

I would tend to focus on their thoughts if it was some new way of thinking. I don't tend to routinely include [anti-abortion sources] in science stories any more. I did more in the beginning because the science was in its infancy. (Science Writer, US science advocacy periodical, 'Jim' 2005)

Reaching a comparable conclusion, 'Owen' argued against including opposition voices such as anti-abortion activists, because their positions would already be known to the readers:

We assume that our readers know the opposition exists on things like therapeutic cloning. And therefore we don't need to waste space- to use up valuable space- that could be used to describe the science. (Science Editor, elite UK newspaper, 'Owen' 2005)

Arguing from a different perspective, 'Brady' says the overall newsworthiness of therapeutic cloning was based on the 'unusual' or 'surprising' role of Republican (including pro-life Republican) advocates of therapeutic cloning.

This is what makes the issue interesting..., that there are people all over the place on this, even within the Republican party. I mean Orin Hatch is a strong supporter. Schwarzenegger: strong supporter [of embryo research]. But there are certainly people within the [Republican] party- President Bush, Senator Sam Thorne and so on- who are strong opponents. (Political Correspondent, major US newspaper, 'Brady' 2005)

Since it is only surprising when anti-abortion activists are pro-therapeutic cloning, this viewpoint received considerable media attention. The unsurprising anti-therapeutic cloning viewpoint expressed by most anti-abortion activists was not viewed as inherently newsworthy in any sample category. After the initial controversy, this typical view was only of secondary utility for journalists seeking to 'balance' pro-therapeutic cloning patient accounts in the US press and conjure conflict in the UK tabloids to create more sensational stories.

It is clear from such data that the marginalisation of anti-abortion NGOs as journalistic sources is an instantiation of the larger principle of news value identified by Park (1999/1940):

It is not the intrinsic importance of an event that makes it newsworthy. It is rather the fact that the event is so unusual that if published it will either startle, amuse, or otherwise excite the reader so that it will be remembered and repeated. (Park 1999/1940: 13)

Applying such definitions of newsworthiness is by no means universal however. It is governed by the particular socio-historical context in which the journalist is operating. Due partly to the history of the abortion issue in the UK<sup>91</sup>, elite British journalists viewed it as a settled issue with waning relevance to therapeutic cloning.

The debate about whether [embryo research] is moral is one that we've had and we've had democratically. There has been substantial democratic agreement in Britain. And so I don't feel compelled to go into that [anti-abortion perspective] every time. (Science Editor, elite UK newspaper, 'Aaron' 2005)

As such, elite UK journalists viewed anti-abortion NGOs as fringe groups:

Fringe groups' voices can be used to balance stories, but they tend to be tacked on at the end as though they were afterthoughts, a practice that contributes to the impression they are to be taken less seriously than other interests. (Priest 2001a: 103)

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<sup>91</sup> The key points in the recent history of UK and anti-abortion sentiment include (1) the 1967 Abortion Act, which legalised abortion through the Parliamentary process, and (2) the Human Fertilisation and Embryology Act, which represented the defeat of anti-abortion activists within the 1980s debate over embryo research (Mulkay 1997).

In the American sample, on the other hand the abortion controversy was recognised as active<sup>92</sup>, rendering that anti-abortion activists' role in therapeutic cloning coverage was not once questioned by American newspaper journalists in the present sample.

### Chapter Discussion

“A field is a structured social space,...contain[ing] people who dominate and others who are dominated” (Bourdieu 1998: 40). Berkowitz and Terkeurst (1999: 126) argue that the ‘preferred meanings’ in front stage press content emerge out of a fundamental struggle in the field of news production between journalistic ideology privileging “the media as Fourth Estate watchdogs for society” and journalists’ “roles as manufacturers and sellers of news as a product”. This ‘tug of war’ is also manifested in the mutual manipulation of journalist and source within the economic and organisational constraints of their respective fields: “While sources attempt to ‘manage’ the news, putting the best light on themselves, journalists concurrently ‘manage’ the sources in order to extract the information they want” (Gans 1980: 117). However, “looking for dramatic stories and pressed for time, most journalists are vulnerable to the information and the language of their sources” (Nelkin 1990: 45). As such the selection, appropriation and transmission of source perspectives is a key dimension of both news production and inter- and intra-field competitions for symbolic power. In the case of therapeutic cloning, the most significant players in this competition for media meta-capital emerged from the scientific field and mediated subpolitics.

Beginning with scientists, this chapter examined the backstage processes and front stage outcomes of source selection and concomitant attributions of news value evident in Anglo-American press coverage of therapeutic cloning. Two main genres of scientist sources emerged, which I labelled ‘public’ and ‘industry’ scientists. Public scientists predominated in both tabloid and elite British press coverage, while university-based therapeutic cloning scientists in the US and Britain were rarely quoted, except to promote their own research. At the same time, industry scientists were substantially more prominent in American news publications. All scientist sources expressed support for therapeutic cloning research, as well as the broader project of techno-scientific development. This finding is in line with previous social research. For example, based on their study of one media episode in the human cloning

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<sup>92</sup> Unlike most Western nations, the US did not resolve the issue of abortion rights through democratic debate and a vote by elected representatives. Rather, the *Roe v. Wade* ruling by the US Supreme Court in 1973 established the principle of legalised abortion as a constitutional right, guaranteed throughout the fifty states. Some have argued that this abrupt judicial intervention forestalled a democratic, political resolution to the debate. This may explain the sustained intensity of the abortion controversy in the US (Ferree, et al. 2002), which tends to flare during presidential campaigns and confirmation hearings for new Supreme Court justices.

story, Gerlach and Hamilton (2005: 93) found that “the scientific community mobilized, benefiting from considerable credibility in the media and in governmental circles...Therapeutic cloning was rendered scientifically legitimate and nonthreatening...The most effective biogovernmental actor in this scenario is not the state, but rather the scientific community”. Anglo-American coverage of therapeutic cloning is shaped by a surfeit of scientist sources, which are given privileged placement within science news stories.

Scientists, as sources, potentially exert a great deal of control over the news production process. Although journalists may choose the topic for a news story, scientists have the opportunity to help define the boundaries from which story choices are made. (Peterson, Anderson and Allan 2005: 350)

After scientists, patient activists were the next most significant category of journalistic sources. They were used to conjure evocative personal narratives of physical suffering. In journalistic parlance these narratives would be described as ‘human interest’ stories. As mentioned in Chapter 1, the human interest story has its origins in the American press’s so-called ‘yellow journalism’ phase beginning late 19<sup>th</sup> century. Taken to “heroic proportions” by early media magnates Joseph Pulitzer and George Randolph Hearst, human interest stories were based on “unabashed curiosity, vigorous writing, and a theatrical flair in the text and the headlines” (Hughes 1981: 20-21). At first, human interest stories were roundly criticised by British journalists as the products of:

A literary [circus promoter] Barnum, whose type, paper, talents, morality and taste are all equally wretched and inferior; who is certain to give us...personality for principle, bombast for eloquence...and news without truth or reliability. (1871 Editorial in the *British Quarterly Review*, as quoted in Starr 2004: 255)

Yet despite such initial resistance to what was viewed as an alarming American innovation, the human interest story has become a standard journalistic device on both sides of the Atlantic. It has been a regular feature of science journalism since at least the 1921 inauguration of the Science Service (Nelkin 1990).

Human interest stories are so pervasive in contemporary journalism because they have been viewed as a successful means of garnering reader attention, and thereby boosting sales. For example, Hamilton (2004: 131) shows that human interest framing is correlated with high audience interest in 18-49 year-old men and women (the most profitable and sought after demographic for advertisers). Moreover, stories of personal hardship due to adverse circumstances (e.g. the life politics frame) are also correlated with elevated audience ratings (Hamilton 2004: 131). Such research indicates that the human interest story resonates with many audience members, making it an economically attractive mode of journalistic

expression. Indeed, this economic factor in human interest framing has long been recognised within the field of news production:

The fundamental change in journalism brought about by the Yellow Press [which first introduced human interest framing] was the complete concentration on the production of a commodity, of something that would sell. (Hughes 1981: 22)

The present study show that ‘human interest’ also guides the selection of non-routine sources. The journalistic appetite for human interest stories benefited patients in the present sample, while anti-abortion activists were ultimately unsuccessful in their attempts to co-opt the patient narrative (see deviant-case analysis, this chapter).

Also important in the source selection process, *celebrity* was found to be a key mechanism through which the heteronomous principle shapes attributions of news value and filters the selection of sources. Journalists in the present sample did not select sources based upon their accrual of field-specific symbolic capital. Rather, media meta-capital was distributed according to criteria internal to the media field. Journalists’ gravitation towards celebrity sources yielded prominent positioning for Lord Winston, amongst others. Winston was selected for press sponsorship at least in part because of his previously extant media meta-capital accrued through his recurring role as a popular science television presenter. His status as an organic member of the media field supports Peterson et al.’s (2005: 350) contention that “increasingly, scientists are becoming ‘media savvy’, taking on the role of expert storytellers in their efforts to educate and inform diverse audiences”. The coverage of Winston corresponds with Nelkin’s (1990: 45) description of the media framing of the ‘scientist as superstar’: “Seeking to personalize science, the press often focuses on individual researchers, obscuring the collective and collaborative nature of much scientific effort”. A similar pattern of personalisation underpinned the concentrated media coverage of celebrity patients<sup>93</sup> such as Christopher Reeve, ‘Jinky’ Johnstone and Michael J. Fox. These activists were used to stand in metonymically for all potentially affected patients, as well as the broader category of therapeutic cloning proponents. For journalists covering this issue, the mixture of celebrity and compelling human interest accounts of personal suffering yielded high news value. Thus Nelkin (1992: xx) argues that “the support of film personalities and public figures are important to protest movements, for they generate media appeal”.

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<sup>93</sup> Anti-abortion subpolitics on other hand lacked the celebrity or the enduring media meta-capital of certain scientist-‘gurus’. Moreover, the personalisation frame was unavailable to them because they were defined unseen, disembodied embryos.

The construction of news values and the source selection process may be understood in light of Bourdieu's criticism of journalism as a virulent example of heteronomous large-scale cultural production. Bourdieu (1998a: 70) contends that while the "journalistic field is structured like other fields, [the] market weighs much more heavily on it than on other fields. Moreover journalists operate based on economic principles and market trends as a matter of daily practice" (also see McManus 1995).

It is possible for anti-abortion activists and other non-routine sources to play a major role in public debate (see Haran 2007; see Mulkay 1997).

Powerful protest groups [can] exercise sufficient political or economic leverage to determine outcomes; anti-abortionists and animal rightists have had a striking influence on [scientific] research. (Nelkin 1992: xxii)

However this study supports Stocking's (1999: 25-26) argument that there is a "tendency among a significant number of journalists to limit themselves to single sources in reporting science stories...Even in cases where controversy would seem to demand multiple sources, a sizable proportion of [science] journalists may use very few". The interview data indicate that this tendency corresponds with an institutional bias favouring elite and powerful scientist sources and celebrities, as well as sympathetic patient narratives of suffering and hope which support the discourse of Progress and scientific utopianism (as discussed in Chapter 3). Through this bias "news organizations limit the range of information about a topic because journalists judge that there are few credible sponsors (i.e. sources) about the topic" (D'Angelo 2002: 877). The present data revealed a pervasive dependency on the supply of information subsidies from 'sponsors' such as the Science Media Centre in the UK, EurekAlert in the US and myriad other non-profit, corporate and government self-reporting apparatuses (also see Kitzinger and Reilly 1997: 325). "Journalists rely heavily upon pre-packaged sources for news and on staged events where scientists and public relations people control the flow of information" (Peterson 2001: 1260). Furthermore, market and organisational pressures are reflected in newsworthiness criteria, which filter sources according to human interest (also see Henderson and Kitzinger 1999), perceived novelty, ease of accessibility, previously extant media meta-capital (e.g. celebrity), willingness to utilise referred expertise, and the source's level of 'discursive overbidding' (Hargreaves and Ferguson 2000). Through these and other entry criteria the process of source selection cultivates an 'invisible censorship' or "closing down effect" in which journalists typically cover the same issues using a routine "cast of characters" (i.e. sources) (Bourdieu 1998a: 25), who have accommodated themselves to the demands of the journalistic field.



## CHAPTER 6: DISCUSSION

“As for the press, it is an omnivorous, omnipresent, self-righteous busybody that pokes its nose everywhere” (Rosenfeld 1999: 122).

The present research was designed to address the limitations of previous studies of media coverage of human cloning and embryonic stem cell research (outlined in Chapter 1). The most common methodological limitations in the existing literature include small, mono-national and elite-only samples, research designs only assessing one dimension of the circuit of mass communication (Thompson 1988: 374), and methods of data analysis that are poorly elaborated, unsystematic or unreflective. In contrast, the present study has adduced evidence from 5,185 press articles, drawn from comprehensive samples of 19 Anglo-American<sup>94</sup> newspapers’ and periodicals’ coverage of therapeutic cloning over a nine-year timeframe. Data from non-elite newspapers are included, such as *USA Today* in the American sample and *The Daily Mail* and *The Sun* in the UK sample. In addition, 18 in-depth qualitative interviews with journalists and editors provided direct insight into the backstage news production process. A grounded discourse analysis of these data was employed to develop a longitudinal account of the production and content of Anglo-American press coverage of therapeutic cloning. A systematic data analysis plan was devised and executed for this study, based first of all on grounded methodology. The investigation began with a *tabula rosa*. Once an interesting theme emerged through open and axial coding, the literature was consulted to identify relevant previous research and theory. This literature was then critically applied to the data to develop a sociological, discourse analytic account of the therapeutic cloning news. At the same time, the quality assurance techniques of ‘deviant-case analysis, ‘thick description’ and ‘procedural clarity’ through CAQDAS were implemented to ensure a high standard of rigour and transparency.

Despite using these techniques to assure the quality of the analysis, there are a number of limitations inherent in the study design. Unfortunately, I was unable to obtain a sample of UK tabloid journalists for this study. This is a major limitation, which has severely restricted my ability to depict the production dimension of UK tabloid coverage of therapeutic cloning. A more fundamental limitation though, is that only print media content is sampled and

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<sup>94</sup> The use of a cross-national sample moderates Beck’s (2006) concerns regarding ‘methodological nationalism’.

analysed herein<sup>95</sup>. This leaves television, radio and new or ‘liminal’ media unaddressed, potentially compromising the generalisability of this study’s findings. Yet previous studies have not shown any major distinctions between television news and press coverage of human cloning (Haran 2007; Holliman 2004). The situation for new or liminal media is less clear. Nerlich et al. (2000) found similar themes in online news sources as in print news. On the other hand, Haran et al. (2007) identified some unusual patterns in liminal media dealing with human cloning, which suggests the present study’s applicability to such media may be restricted. Therefore, while it is unclear precisely how the present findings would generalise to non-print news media coverage of therapeutic cloning, the available evidence suggests the likely generalisability to television and online news coverage but not liminal media.

The second major limitation of the present study is that it does not close the circuit of mass communication by providing empirical evidence about audience reception. Previous studies examining the reception of media coverage of human cloning have yielded important results, which have been cited in this dissertation. However, the present study cannot be considered fully comprehensive without original data regarding audience appropriation of the content analysed herein (Thompson 1988: 374). Lacking reception data, I have carefully avoided the ‘fallacy of internalism’ wherein analysts “‘read off’ the consequences...by reflecting on the messages themselves” (Thompson 1990: 24). I have understood the content sample in the present study to represent part of the larger mediated public sphere. While I sometimes referenced theoretical or empirical perspectives on how similar content has been received by audiences (e.g. Billig 1995; Haran 2007; Wellcome 1998), at no point have I made any claims about reception based on the present data.

Finally, the exclusively qualitative nature of this investigation could be considered a limitation. Chapters 3 and 4 explicated discourses that would have been extremely difficult to assess through traditional content analysis (Krippendorff 1981; Neuendorff 2002) or other quantitative approaches. Nonetheless, there are certain points that may have benefited from quantitative analysis. For example, in Chapter 3, content analysis could have established the precise number of articles in the sample that referenced a cultural work of dystopian science fiction. This would have revealed the precise numerical differentiation amongst the three content samples in their use of science fiction allusions. On the other hand, such an analysis would be confounded by Kitzinger and Williams’ (2005: 737) finding, “Science fiction is thus not so much a way of promoting concern about science...Rather it is here used...as a

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<sup>95</sup> Some of the print journalists interviewed for this study also work in other media including radio and television news.

rhetorical weapon to discredit the opposition”. Such qualitative distinctions regarding *how* and *why* particular rhetoric is used in a given article would be lost in a quantitative analysis of these data, which could lead to misleading conclusions. Given this danger, a mixed methods research design aimed at ‘complementary assistance’ (Morgan 1998; Morgan in press) would probably be the best framework through which to add a quantitative dimension to this study or similar future research<sup>96</sup>.

### **Summary of Results**

Whatever its limitations, this study has identified a complex array of differences and similarities between and amongst US and UK news publications. On some issues the national ‘structure of feeling’ defined the epistemic boundaries of the press coverage. Raymond Williams (1961) describes this as the everyday lived experience that is shared amongst those living in a particular cultural milieu. This cultural outlook is “as firm and definite as ‘structure’ suggests, yet it operates in the most delicate and least tangible parts of our activity” (Williams 1961: 64). For example, Christian fundamentalists comprised a strong opposition force in US culture and politics. Knowledge of the strength of such perspectives within the American cultural milieu influenced US journalists’ approach to therapeutic cloning. This helped to prevent a monopoly of scientific utopianism in the US sample, instead promoting ‘balanced’ or dualistic reporting (see Chapter 3). At the same time, the UK press saw minimal public outcry or political opposition on this issue within the British structure of feeling. As such, elite UK journalists felt that dismissing anti-abortion opponents as unimportant or ‘old news’ was in keeping with the general structure of feeling in early 21<sup>st</sup> century British culture (see Chapter 5).

In many respects however, journalistic values inherent to Anglo-American news production took precedence over any differences in national outlook. For example, banal nationalism played a very similar role in US, UK tabloid and elite UK press coverage (also see Billig 1995). In addition, the uncritical use of scientists and patient advocacy groups as the primary sources in both US and UK therapeutic cloning coverage reflected the fundamental journalistic biases favouring powerful expert institutions and human interest stories respectively. In this chapter, these and other findings will be further contextualised in terms of the existing research literature, social theory and the implications for the mediation of public engagement with science.

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<sup>96</sup> Through complementary assistance, a qualitative analysis could feed explain and expound on quantitative results, which in turn allow for the precise depiction of underlying patterns.

This dissertation has addressed a number of emergent themes relating to the production and content of Anglo-American press coverage of therapeutic cloning. First, the role of dystopian/utopian hype was examined, revealing a pattern of inflated hopes and excessive pessimism across the various samples with potentially negative implications. Second, nationalism emerged as a surprisingly central feature of therapeutic cloning coverage in both the US and UK samples. To elucidate this theme, Billig's (1995) theory of banal nationalism was used to identify the latent yet pervasive myth of the nation within the present sample (also see Barthes 1973). Finally, in Chapter 5 the role of journalistic sources was considered, with particular attention to scientists and subpolitical activists. Bourdieu's field theory and the concept of media meta-capital (Couldry 2003) were employed to assess news production and source selection criteria.

Chapter 3 showed how the grand meta-narrative of Progress (Lyotard 1984) and a patient-based 'rhetoric of hope' (Mulkay 1997: 70-71) were used to construct scientific utopianism across the entire sample. The idealised therapeutic possibilities of cloning for stem cells dominated the coverage in elite British newspapers and science advocacy magazines. Promised cures were foregrounded in these publications, with ethical concerns and technical limitations de-emphasised. Although, as Gerlach and Hamilton (2005: 90) found:

Authorities- governmental, industrial, and scientific- had not successfully normalized the idea of human cloning. As a result popular culture motifs filled in the gaps in meaning.

The confluence of competing utopian and dystopian visions of the future in the public debate over therapeutic cloning constituted a dialectical tension between hope and fear (Jensen *in press-a*), which played out on the news pages of the American and UK tabloid press. Indeed previous research found that the American press and UK tabloids (not broadsheets) tended to employ dystopian imagery in their coverage of human cloning (Nelkin and Lindee 2001; Nerlich and Clarke 2003; Nerlich, Clarke and Dingwall 2000; Priest 2001b). The present study confirms these earlier findings, demonstrating that US and UK tabloid journalists drew inspiration from fictional accounts of human cloning. Above all Huxley's *Brave New World* and Shelley's *Frankenstein* cast a long shadow, helping to shape doom scenarios portraying the (mis)use of human cloning technology. I argued in Chapter 3 that these doom scenarios and scientific utopianism are each constituted out of the same underlying tendency towards uncritical media hype or sensationalism. As Nelkin argues,

[Science journalists] tend to magnify events and to overestimate if not sensationalize their significance. Research applications, after all, make better

copy than qualifications. 'Revolutionary breakthroughs' are more exciting than 'recent findings'. (Nelkin 1995: 112-113)

Moreover the 'balanced hype' of the American press and 'haphazard hype' of the British tabloids are implicated in muddling the debate by presenting an uncritical melange of pro-science utopian propaganda, red herrings, and dystopian apocrypha in therapeutic cloning coverage.

In Chapter 4, nationalism was identified as an equally pervasive and potentially pathological dimension of the debate. Nationalism reinforces scientific hype by legitimising the inflation of 'home' successes, as in the case of the 20 May 2005 Newcastle 'breakthrough'. The explication of nationalism's role in hype, and the banal interpellation of science news readers as national subjects, constitutes a new finding in the research literature on this topic. These results support Billig's (1995) theory by showing banal and deictic nationalism permeates even science news coverage. In addition, this nationalist news filter has important implications for limiting the range of participants and perspectives in the mediated debate. Journalists were unwilling to challenge the perceived nationalism of their readers by accurately describing the significance of therapeutic cloning 'breakthroughs' occurring in the 'homeland'. Scientific nationalism also underpinned the conjuring of an international competition, promoting the concept of the nation-as-landlord to legitimate reducing restrictions and distributing public resources to therapeutic cloning research.

Press constructions of the nation played a major role in setting the parameters of therapeutic cloning discourse. In addition to framing Britain and America through deictic language and competitive metaphors, there were similarities and differences in the types of sources employed by each national sample. The overall similarity between the two national samples was in the use of scientists and patients as the most prominent journalistic sources. However, the UK press drew primarily upon university-affiliated public scientists, while American journalists utilised substantially more industry scientists. There were also differences in the selection of celebrity activists, reflecting the particular media culture of each nation and press genre. In the elite UK press, Christopher Reeve was the preferred source of life political activism. In the tabloid press, the favourite celebrity patient was 'Jinky' Johnstone. The US press used Michael J. Fox most, but also mentioned former First Lady Nancy Reagan frequently, as well as Christopher Reeve to a lesser extent.

According to Kitzinger (1999: 64), "no account of media production processes is completed without giving equal attention to the activities, resources and motivation of sources and the source-journalist interface". Within large-scale cultural production, sources

provide the daily fuel for the engine of the news. As indicated above, the present study focused on the role of scientists and subpolitical sources such as patient and anti-abortion activists. First, in keeping with previous research findings (e.g. Conrad 1999), scientists were identified as the most important category of journalistic sources in Anglo-American press coverage of therapeutic cloning. Like Nelkin (1990: 41), I found that “scientists and their institutions are actively publicising- at times to the point of hype- their research and its potential social benefits”. Scientists and elite institutions greatly influenced the coverage by providing science journalists with information subsidies, hyped pronouncements of success and inflated predictions regarding a utopian future achievable through therapeutic cloning.

Collins and Evans suggest external pressures from media, publics and politicians are responsible for compelling scientists to make such unqualified, reductionist declarations. They point out that “The consumers...of scientific knowledge have no use for small uncertainties” (Collins and Evans 2002: 246). In a similar vein, Couldry (2003: 26) points to external pressures potentially restructuring the scientific field to better service the media:

When the media intensively cover an area of life for the first time...they alter the internal workings of that sub-field and increase the ambit of the media’s meta-capital across the social terrain. (Couldry 2003: 26)

Yet as Bourdieu (1998a: 60) argues, “For the media to exert power on worlds such as science, the field in question must be complicitous”. Indeed there is no shortage of potential ‘gurus’ (‘Becky’ 2005) within the scientific field willing to compromise their scientific autonomy to gain fame and fortune in the media field. The necessity of such a compromise for entry into the journalistic field makes the mediated public sphere an inherently problematic domain for scientists from the perspective of the Bourdieuan ideal of field autonomy (Bourdieu 1998a; Couldry 2003).

At the same time, scientist sources’ privileged position in press coverage of therapeutic cloning raises important concerns for public engagement with science. Collins and Evans (2002: 250) argue that “scientists, as scientists, have nothing special to offer toward technical decision-making in the public domain”. As such, the “wider scientific community *should* be seen as indistinguishable from the citizenry as a whole” (Collins and Evans 2002: 250). Yet the scientific community (in the form of scientist-gurus exercising referred expertise) was the single greatest contributor to mediated public discourse on this issue. Not only did scientist sources garner the largest quantity of coverage, but also the quality of the coverage was deferential and sympathetic to the pro-science meta-narrative of

Progress. As a result, opposition perspectives were displaced, invisibly suppressing pluralistic debate on this issue.

In line with the promotion of a discourse of Progress, patients supporting therapeutic cloning were the next most significant source category in the present sample. Kitzinger noted that such non-routine “sources may have ‘better’ resources in terms of being able to process requests quickly, provide vivid quotes and provide ‘human interest’ stories (Kitzinger, 1998; Miller *et al.*, 1998)” (Kitzinger 1999: 66). In the present sample, patient activists became a semi-routine source using “vivid quotes” and “human interest stories” to promote the dominant discourse of scientific utopianism. Anti-abortion groups were the other main category of subpolitical sources. These activists were the main source of critical commentary about therapeutic cloning in both national samples. To be sure, Haran (2007: 204) contends “the anti-abortion lobby is recognised by journalists as a key contributor [in] media debates about reproduction”. Although the present study broadly supports this argument, the broadsheet marginalisation of anti-abortion sources (Chapter 5) casts doubt on the elite UK press’s willingness to sustain critical coverage of techno-scientific development (also see Evans 2002b). Indeed there is reason to question the quality of the mediated public debate that is revealed in the present study.

### **Mediating Public Engagement: Promises and Problems**

Almost 150 years ago John Stuart Mill (1859: 22) wrote, “The time, it is to be hoped, is gone by, when any defence would be necessary of the ‘liberty of the press’ as one of the securities against corrupt or tyrannical government”. Participants from both the US and UK samples defined science journalism in similar ‘4<sup>th</sup> Estate’ terms:

#### **Extract 1)**

I think it is the role of science journalism to be the public’s representative to scientists and ask them the questions that the public needs answered. (Science Correspondent, major US newspaper, ‘Nick’ 2005)

#### **Extract 2)**

We are here to be as objectively critical of science as sports journalists are of sport and political journalists are of politicians. It’s like, as science writers, we are not here to do PR [public relations] ... There is too much science writing... that ends up as a glorified PR job. The definition of news is ‘printing something that someone somewhere doesn’t want printed’. There should be far more emphasis on that objective criticism. (Science Correspondent, elite UK newspaper, ‘Danny’ 2005)

Yet given the limitations of contemporary commercial journalism seen in the present study, these 4<sup>th</sup> Estate notions of the press are difficult to sustain. Thompson (2000a) contends that

the mere fact of making leaders and their actions visible serves a similar function in terms of fostering transparency and public accountability. However mediated visibility is routinely manipulated by economically powerful institutions (Herman and Chomsky 1988). Indeed Donahue et al. (1995) argue that the press predominately acts as a ‘guard dog’, securing the interests of powerful institutions against possible threats. As such,

News content in the public sphere is not shaped by the classic vision of socially autonomous journalists acting as societal watchdogs. Instead, the influence of journalists appears largely beholden to the preferred meanings of their media organization, their news sources, and their geographic community’s power structure. (Berkowitz and TerKeurst 1999: 130)

The framing of therapeutic cloning varied according to nation and press genre. Nonetheless, there are enough similarities to identify a number of key limitations inherent to Anglo-American science journalism, which make the journalistic field an irremediably flawed venue for engaging publics and science in pluralistic dialogue and debate. Overall the quality of therapeutic cloning coverage shows little change from Nelkin’s description of science news 13 years ago:

Too often science in the press is more a subject for consumption than for public scrutiny, more a source of entertainment than of information...Too often the coverage is promotional and uncritical, encouraging apathy, a sense of impotence, and the ubiquitous tendency to defer to expertise. (Nelkin 1995: 162)

The limitations of the media’s role as a central forum for adult public engagement with science (Ferree et al. 2002; Kitzinger 2006) largely stem from the commercial *telos* of news production. The central concern of the journalistic field is satisfying economic and market-based demands for efficient news production. Attaining this efficiency frequently compels fraught journalistic practices such as the use of a limited range of sources, information subsidies and the ‘beat’ system (Fishman 1980; Gandy 1982; Herman and Chomsky 1988; McManus 1994; McManus 1995). Moreover the market-driven “short life-cycle of issues of front-page news discourages a robust public consideration of the issues” (Gerlach and Hamilton 2005: 90; also see Iyengar 1994). Essentially, “the entire practice of the culture industry transfers the profit motive naked onto cultural forms” (Adorno 1991: 99). As such, cultural products such as newspapers and periodicals “are no longer *also* commodities, they are commodities through and through” (Adorno 1991: 100). As can be seen in the pervasive scientific utopianism identified in this study (Chapter 3), much of the Anglo-American press aims to promote “conformist and contented attitudes” and suppress information about the “negative aspects of reality”, thereby reinforcing the instrumental

rationality pervasive in modern capitalist societies (Adorno 1994: 65; cf. Thompson 1990: 24). Likewise the widely disseminated grand meta-narrative of scientific progress can be viewed as “strengthening the sense of fatality, dependence and obedience[.] It paralyses the will to change objective conditions...[,] reproduc[ing] the *status quo* within the mind of the people” (Adorno 1994: 121).

### **Mediated Subpolitics- A Window of Hope?**

Gerd Baumann (1996) theorises a distinction between ‘dominant’ and ‘demotic’ discourse. He points out that minority groups in Western societies are not only subjected to dominant discourses of the “political and media establishments”, but they are also forced to use these discourse to function and achieve official legitimation within the current system (Baumann 1996: 192). At the same time, Baumann (1996: 10) argues that there exists an authentic ‘demotic’ discourse (literally, “of the people”), arising to resist the attempted imposition of a bourgeois ‘false consciousness’ (cf. Althusser 1971; Gramsci 1971; Marx 1977/1844). Amidst the myriad flaws inherent in the mediation of public engagement with science through the Anglo-American press, there remains the possibility that mediated subpolitics (discussed in the second half of Chapter 5) may allow such a demotic discourse to infiltrate even commercial mass media (cf. Adorno 1991). This may also be the best hope for the construction of a pluralistic public sphere for debating scientific issues. Yet the danger persists that mediated subpolitics will simply become a new mechanism for legitimating the continued dominance of traditional political and technocratic elites within science governance.

Although this study principally addresses the dominant discourse of science presented in national press coverage of therapeutic cloning, mediated subpolitics raises the question: To what extent can demotic discourses penetrate Anglo-American press coverage of science. This study yields ambivalent evidence about whether subpolitical groups maintain their emancipatory potential after being incorporated into the news media machine. Chapter 5 indicated that such groups are merely folded under the canopy of traditional political and institutional interests within coverage of therapeutic cloning. In principle though, the grassroots, ‘bottom-up’ nature of subpolitical discourse reserves the possibility that fragmentary elements of demotic discourse may find their way into even large-scale news operations. Anti-abortion discourse would fit this description in the present study. The key question is to what degree mediated subpolitics constitutes a *de facto* challenge to the legitimacy of dominant media discourse.

### *Subpolitical Legitimation*

“Legitimacy means a political order’s worthiness to be recognized. This definition highlights the fact that legitimacy is a contestable validity claim; the stability of the order of domination also depends on...recognition” (Habermas 1979: 178).

Legitimation is central to the role of mediated patient subpolitics in the present sample. With the reputed decline of public trust in expert institutions (Beck 1992; Giddens 1990; Wynne 2003) there could scarcely be a better source of symbolic legitimacy than grassroots patient groups, offering a compelling ‘rhetoric of hope’ (Mulkay 1997) and promoting an epic narrative of scientists as heroes struggling against the adversary of otherwise incurable diseases (e.g. also see Sontag 1991). As the issue of therapeutic cloning worked its way through Parliament and Congress, patient groups were highly visible in the news media. Politicians<sup>97</sup> sought to attach themselves to the legitimation offered by patients’ stories of authentic suffering (Brown and Michael 2002) and the grand meta-narrative of scientific progress (for discussion of the modern Progress narrative, cf. Bauman 1991; Bauman 2000; Beck 1992; Lyotard 1984). Of course, the narrative of Progress is itself supported by advocacy groups<sup>98</sup> (e.g. the Royal Society, the American Association for the Advancement of Science, Progress, etc.) favouring a largely technocratic means of expert decision-making on issues such as this.

Ultimately most mediated subpolitics in the present sample appears to ratify the interests of scientific institutions and political and economic elites. The commercial interests of news organisations encouraged journalists across the entire sample to give greater and more favourable coverage to patient narratives because of their perceived ‘human interest’ value. Moreover the clearest counter-example to this patient bias- anti-abortion activism- was marginalised for most of the sample time frame in the elite UK press. On the other hand, both religious and anti-abortion criticisms of science were presented at the outset of the therapeutic cloning debate in the elite UK press, and throughout the sample frame in the US press and UK tabloids. Secondary placement and partial marginalisation of anti-cloning groups still left a large enough space for substantive moral criticism of therapeutic cloning and of the larger project of techno-scientific development (cf. Evans 2002b) to reject Bourdieu’s (1998a) and Adorno’s (1991) claims of a complete monopoly of dominant,

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<sup>97</sup> Thus, even some explicitly anti-abortion politicians in the US supported embryo research based on the promise of cures for suffering patients. At the same time, those cited in the press as opponents of therapeutic cloning were connected to pro-life and religious sources of moral and political legitimation.

<sup>98</sup> These pro-science advocacy groups do not meet Beck’s (1992) definition of ‘subpolitics’ however. This is because they are based upon elite institutions and organisations, not grassroots responses to the pervasive impact of risk and individualisation in second modernity.

heteronomous discourses and instrumental rationality in commercial mass media.

Determining whether this demotic discourse arising from anti-abortion mediated subpolitics represents an historical shift in the quality of news coverage following broader trends in risk society or rather the longstanding presence of communicative rationality within the culture industry (cf. Habermas 1987) would require longitudinal research over several decades and multiple topics. Nevertheless it is clear that although mediated subpolitics in the present sample failed to fully exemplify the emancipatory potential identified by Beck (1992), it still remains one of the best hopes for authentically demotic discourse infiltrating the instrumentally rationalised domain of commercial mass media (Adorno 1991).

### **Legitimising Subpolitical Expertise**

We find ourselves caught on the horns of a dilemma: do we maximise the political legitimacy of our decisions by referring them to the widest democratic processes, and risk technical paralysis, or do we base our decisions on the best expert advice and invite popular opposition? (Collins and Evans 2002: 283)

In the context of patient groups achieving and supporting political legitimisation, it is worth considering Collins and Evans' (2002) 3<sup>rd</sup> Wave thesis. They argue that experience and expertise are the only legitimate bases for participating in 'technical decision-making', by which they mean political deliberations about aspects of techno-scientific development such as therapeutic cloning. Their thesis is that rather than aiming for radical democratisation of science governance "by dissolving the distinction between expertise and democracy", we should "recogniz[e] and us[e] new kinds of expertise emerging from non-professional sources" to "reconstruct knowledge and develop Studies of Expertise and Experience - SEE" (Collins and Evans 2002: 269, 270; cf. Jasanoff 2003; Rip 2003; Wynne 2003). In the case of patient activists, their claim to legitimate participation in the therapeutic cloning debate is grounded in the *experience* of personal suffering. That is, they are 'experts' in the consequences of the diseases for which promises a cure. According to Collins and Evans' (2002) model, this should be sufficient 'experience' and 'expertise' to certify their participation as legitimate, even though they are not technical or scientific experts.

But what about opposition subpolitical activists, such as pro-life NGOs? On what basis can they claim the 'experience' or 'expertise' legitimate their participation in political decision-making and public debate about therapeutic cloning? According to Collins and Evans' (2002) framework, these groups would not to have a legitimate role. Likewise, if the issue is defined as one of 'technical decision-making' (cf. Wynne 2003), then religious

groups have a rather tenuous claim to expertise or experience as well. While religion can claim some form of expertise in ‘moral decision-making’, technical experience or expertise about embryo research is unlikely. Thus the majority of therapeutic cloning opponents would be marginalised from the debate following Collins and Evans’ (2002) exclusionary framework for public deliberations over scientific issues. Their model privileges scientific rationality and expertise as “the proper, ‘natural’ frame[s] of reference”, while excluding non-expert, technically inexperienced lay people from the debate (Wynne 2003: 404). Indeed Collins and Evans’ (2002) uncritical valorisation of technical expertise is highly questionable:

Expertise is constituted within institutions, and powerful institutions can perpetuate unjust and unfounded ways of looking at the world unless they are continually put before the gaze of laypersons who will declare when the emperor has no clothes. (Jasanoff 2003: 398)

Habermas’s (1989; 1992) theory of public deliberation applies to all political issues (including therapeutic cloning), offering a more comprehensive alternative to Collins and Evans (2002). Habermas (1989: 51) argues decisions about the direction of politics and society are best taken within the context of a disinterested public sphere comprised of an informed (but not expert) “public of private people making use of their reason” in an open and unfettered manner. He conjures an historical ideal-type of a “society engaged in critical public debate” (Habermas 1989: 52) where Enlightenment rationality was exercised through the “critical judgment of a public making use of its reason” (Habermas 1989: 24). He writes approvingly of 18<sup>th</sup> century French physiocrats’ definition of the “strict meaning of an opinion purified through critical discussion in the public sphere to constitute a true opinion” (Habermas 1989: 95).

Habermas’s model harkens back to early liberal political theory valorising public opinion as the critical force in society, keeping the government in check and subjecting political decisions to scrutiny. For example, Rousseau wrote, “[public] Opinion, queen of the world, is not subject to the power of kings; they are themselves her first slaves” (Rousseau 1960/1762: 73-74). John Stuart Mill (1984/1859: 268) identified a similarly important role for ‘mass’ publics as the basis for the legitimation of state actions: “The only power...is that of the masses, and of governments [as] organs of the tendencies and instincts of masses”. Bentham (1994/1791: 590) viewed press publicity as the prerequisite for “putting the tribunal of the public in a condition for forming an enlightened judgment” as part of a broader “system of distrust” maintaining a watchful eye on government.

Within the context of risk society (Beck 1992), such a ‘system of distrust’ (if it exists) cannot exclude scientific or technical issues. However, such accounts assume a level of engagement between publics and governments that simply does not translate into the contemporary world (Entman and Herbst 2001: 208), least of all for scientific issues such as therapeutic cloning (cf. Irwin 2006). According to Habermas (1989), the fundamental problem is the degraded quality of the contemporary public sphere where such engagement. He attributes the decay of the public realm to the ascendance of large-scale mass media production and the concomitant spread of instrumental rationality throughout society (also see Adorno 1991). In the contemporary mediated public sphere, only a small sub-groups from within the polity “are ready and in the position to express themselves responsibly about questions of public relevance and thereby exercise an office of criticism and control over the government in the name of the governed” (Noelle-Neumann 1984: 62). Entman and Herbst (2001: 207-208) describe this sub-group of “engaged, informed and organized citizens” as the basis for ‘*activated public opinion*’. Moreover Herbst (1998: 139) found that media content and interest groups acted as “conduits for public opinion”. This corresponds with the present study’s findings that demotic discourse is seldom seen in Anglo-American press coverage of therapeutic cloning, except when it is expressed through activated political opinion, or mediated subpolitics.

This condensation of activated public opinion and demotic discourse into mediated subpolitics suggests the problematic notion of a ‘special interest’-based public sphere that eschews more democratically-oriented notions such as the ‘general will’ [*volonté générale*] (Rousseau 1953/1762) and the ‘common good’ (Bauman 1999). The filters limiting entry into the journalistic field distort mediated subpolitics’ capacity to even represent the demotic discourses of its own limited constituencies, let alone the broad spectrum of publics in Anglo-American society. Furthermore the present research shows that mediated subpolitics can be (mis)used as a public relations tool to serve the interests of scientific and economic elites. Given these limitations and the biases governing special interest groups’ access to media meta-capital, the role of subpolitical organisations operating within the public sphere is far more ambivalent than is widely assumed<sup>99</sup>. Overall, this study supports a downward revision of Beck’s arguments regarding the emancipatory power of subpolitics. In order to gain status and power within the mediated public sphere, these groups have to engage in compromises

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<sup>99</sup> For example, Beck’s (1992) unremittingly positive discussion of subpolitics does not acknowledge the problem of achieving authentic democratic representation for the public within the context of special interest-based politics.

and alliances with powerful institutions to accrue media-meta capital and political power, as was the case with patient groups in the present sample. Under these conditions, it is unrealistic to envision subpolitics mustering an enduring imminent critique of techno-scientific development and the narrative of Progress.

In the coverage of therapeutic cloning, the interests of those with the most financial capital, institutional support and media meta-capital were best serviced, while the demotic discourses of the underprivileged and socially excluded were invisibly redacted from the mediated public sphere. Indeed Felt identifies the increasing stratification of mediated public engagement with science:

The multiplication of media [has] opened new spaces where science meets the public...Paradoxically, [this] did not lead to closeness between science and the public...On the contrary,...the people who already had a considerable initial intellectual capital became ever so privileged. (Felt 2000: 265-266)

Given the stratification of publics in debates over scientific issues, the exclusionary function of criteria for entering the journalistic field is particularly salient. The present study has pointed to a number of key conditions for entry into the mediated public debate over therapeutic cloning. In Chapter 3, promoting scientific hype and the grand meta-narrative of Progress were highlighted as conducive to gaining and maintaining media attention, while counter-myths of science drawing on *Brave New World*, *Frankenstein* and recent Hollywood films were also recognised as newsworthy within the context of American and UK tabloid journalism. Longstanding journalistic frames such as ‘conflict’ and ‘competition’ were identified as constitutive of newsworthiness in Chapter 4. Moreover, discourse reinforcing the economically useful myth of the nation (Barthes 1973) was enlisted to underpin such frames. Chapter 5 emphasised the significance of newsworthiness criteria such as human interest framing (also see Henderson and Kitzinger 1999), willingness to utilise referred expertise and previously extant media meta-capital or celebrity. Taken together, these entry criteria restrict the range of participants in mediated public debate, limiting discursive pluralism and promoting the dominant ideology of the culture industry (Adorno 1991).

### **Pluralism in Mediated Public Engagement with Science**

Given the previously discussed limitations on the mass media’s capacity to act as a forum for critical-rational debate about scientific issues such as therapeutic cloning, the press cannot be expected to function as a 4<sup>th</sup> Estate monitoring science in the public’s interest (unless that interest coincides with the media’s primary aims of sales and profitability). Nor is there a consistent, broad-based phenomenon of critical public opinion operating within the

Anglo-American public sphere to scrutinise and intervene in science policy (e.g. Entman and Herbst 2001). Indeed Habermas's (1989) historical ideal-type of a bourgeois public sphere comprised of 'disinterested', rational agents seems to run counter to the empirical evidence uncovered in the present study. First, individuals are more likely to participate in the mediated public sphere if they have a personal stake in the issue (e.g. consider the life politics frame). Second, the inherent allure and fungability of media meta-capital gives even apparently 'disinterested' scientific experts a personal and professional interest in gaining and maintaining media attention. Thus the present study reveals an inherently 'interested' mediated public sphere wherein entry criteria and status are governed by the rules of the journalistic field.

Fraser (1992), Ryan (1992), Benhabib (2002; 1992), Young (2000) and others emphasise the contribution of *interested* individuals and groups who have been marginalised or excluded from political decision-making. These theorists advocate a 'pluralistic public sphere' built upon principles of open access and raucous, agonistic discourse in which everyone has a voice. It is averred that such a space for "contestation amongst a plurality of competing publics" (Fraser 1993: 14) would combat "the unnatural conformism of a mass society" identified by Arendt (1958: 58). Zygmunt Bauman (1999: 87) envisions this pluralistic public realm following the *agora* of Ancient Greece, as a "territory of constant tension", "tug-of-war", and "dialogue, co-operation or compromise". Far from Collins and Evans' (2002) demand for swift closure of the ranks of possible participants in public debate over scientific issues (see Rip 2003: 423), the ideal of a pluralistic public sphere calls for open participation and inclusion at all stages of decision-making (Holliman and Jensen *In press*; Irwin 1999; Irwin and Wynne 1996; Irwin 2001; Jensen *in press-b*; Jensen and Weasel 2006; Weasel and Jensen 2005; Wilsdon and Willis 2004; Wynne 2003). To avoid the "peculiar evil of silencing the expression of an opinion" (Mill 1859: 24), the goal of mediated public engagement with science should be a "more inclusive social debate over [scientific] knowledge and its proper grounds and human purposes" (Wynne 2003: 408). Wynne (2003: 408) calls on media and governments to "open up spaces, now colonized by existing scientific culture, to collectively negotiate questions of public meaning". If joined with pluralistic engagement extending beyond the existing constituencies of mediated subpolitics, such a public dialogue might be effective at charting a new course between the "Scylla of public disillusion and the Charybdis of technical paralysis" (Collins and Evans 2002: 272).

## Conclusion

Drawing upon a large cross-national sample, this study shows how backstage action within the journalistic field translates into front stage press content. The end product does not always correspond with the best intentions of news workers (see Chapter 3). I have proposed a Bourdieuan interpretation of this disjunction between word and deed amongst journalists in the present sample. I argued that notions of the press as a ‘public watchdog’ or ‘4<sup>th</sup> Estate’ are part of the *illusio* of the journalistic field. That is, most interview participants defined their role around the idea of ensuring scientific accountability in the public’s interest. Yet journalistic practice prioritises efficiency in producing the news. For example, scientific hype serves the purpose of promoting efficient news production by inflating the significance, and therefore the newsworthiness, of otherwise unremarkable scientific research. Efficient news production also involves practices such as selecting sources on the basis of accessibility and ‘quotability’ rather than scientific symbolic capital or critical capacity.

The contradiction between *illusio* and practice is ingrained in the *doxa* of the journalistic field. Indeed, “journalistic production is always strongly dictated by the social, especially political and economic, conditions in which it is organized”, daily demonstrating the “impossible autonomy” averred in the ‘4<sup>th</sup> Estate’ *illusio* (Champagne 2005: 50). In Chapter 3, five socio-economic and organisational factors were identified as interdicting this *illusio* somewhere between backstage discourse and front stage press content:

- 1) The inter-media agenda-setting effect (McCombs 2005)
- 2) Organisational constraints on science journalists’ independent judgments of newsworthiness (Bourdieu 1998a; Champagne 2005; Herman and Chomsky 1988).
- 3) Personal pro-science biases.
- 4) The agonistic pursuit of prominent (especially front page) placement in the newspaper.
- 5) Dependence upon technocratic and scientific sources undermining the feasibility of presenting a critical perspective (Peterson, Anderson and Allan 2005).

These five interdicting factors constraining journalistic practice, combined with the imperatives of efficiency and profitability, suggest that journalists may be less powerful players in the media game than is typically assumed. Sources, institutional information subsidies, editors and organisational norms frequently set the terms and exercise agenda-setting influence within the newsroom. Thus, “journalists are caught up in structural processes which exert constraints on them such that their choices are totally pre-constrained” (Bourdieu 2005: 45). These constraints typically reinforce the interests of powerful

institutions and technocratic elites. However, as explicated above, mediated subpolitics raises the possibility that certain demotic discourses and agendas may be able to challenge dominant interests through news coverage in the context of risk society.

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