The Discourse of 'Distortion' and Health and Medical News Reports: A Genre Analysis Perspective

Imelda Suhardja

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The University of Edinburgh

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Declaration

I declare that this thesis has been composed by me and that the work is my own. The work has not been submitted for any other degree or professional qualification.

Signed

Imelda Suhardja

30 March 2009

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Abstract

The advent of medical journalism was initially felt to be an answer to the problem of communicating health and medical information to the public. However, currently, there is a concern among scientists with the way the media, newspapers in particular, communicate health and medical information. The concern of the medical community in particular and of the scientific community in general is that newspapers 'distort' health and medical information. In order to deal with this 'perceived' problem, scientists adopt a mechanical view and propose to solve it by issuing guidelines for journalists to follow when writing health and medical news. Close investigation of journalistic practice shows that many of the proposed guidelines are already present in journalistic practice, and yet, the concern for 'distortion' remains. The overall aim of the thesis is to contribute to this issue. Adopting an Applied Linguistics perspective, more specifically, using the discourse analytic methodology of Genre Analysis, the thesis demonstrates that Health and Medical News Reports are first and foremost news stories and that the proposed guidelines fail to achieve the envisaged changes precisely because they seem to be ignorant of this essential reality. In order to reach this conclusion, Genre Analysis is applied to different types of texts with a view to comparing their structures. Some of the text types used have already been described in the literature, but others are analysed for the first time in this thesis. Thus, comparison is made between Health and Medical Research Articles and Health and Medical News Reports, between Popularised Health and Medical Texts and Health and Medical News Reports, between News Texts and Health and Medical News Reports and between Health and Medical Press Releases and Health and Medical News Reports. Genre Analysis shows that Health and Medical News Reports are first and foremost news stories and, therefore, that the discourse of 'distortion' is somewhat 'misguided'. However, because of its nature as a structural analysis, Genre Analysis leaves one important question unanswered, namely the 'why' of the discourse of distortion. Although it is beyond the scope of this thesis to investigate this question, in the thesis, it is indicated that a more context-sensitive analysis, using Critical Discourse Analysis (CDA) for example, could fruitfully be pursued. This thesis draws on four types of data. The main data set consists of Health and Medical News Reports published in *The Herald* and *The Guardian* between April and May 2007, where possible, corresponding press releases were collected. Email interviews were conducted with authors whose research was reported in the two newspapers. Finally, ethnographic observation of newsrooms and face-to-face semi-structured interviews were conducted with journalists who wrote the reports over a period of one week.

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List of abbreviations

ABC	Audit Bureau of Circulations
BMA	British Medical Association
BMJ	British Medical Journal
Email	Electronic mail
GMC	General Medical Council
MJA	Medical Journalists' Association
NHS	National Health Services
PRO	Press Release Officers
SIRC	Social Issues Research Centre

1. Introduction

> ".....any differences between genuine and popularised science must be caused by 'distortion' or 'degradation' of the original truths. Thus popularisation is, at best, 'appropriate simplification' - a necessary (albeit low status) educational activity of simplifying science for non-specialists. At worst, popularisation is 'pollution', the 'distortion' of science by such outsiders as journalists, and by a public that misunderstands much of what it reads." (Hilgartner, 1990:519)

1.1 *Popularisation of medical knowledge*

The need for the scientific community to communicate science to the public has led to the emergence of a form of mediation to make scientific knowledge more accessible to the public. This mediation is known as the "popularisation of science" (Shinn & Whitley, 1985). Popularisation is a class of "communicative events or genres that involve the transformation of specialised knowledge into 'everyday' or 'lay' knowledge, as well as a recontextualisation of scientific discourse, for instance, in the realm of the public discourses of the mass media or other institutions" (Calsamiglia & Van Dijk, 2004:370). The aim of popularisation is to communicate lay versions of scientific knowledge. However, the problem is that the process of transforming and recontextualising is felt by the scientific community to lead to 'distortion'. I refer to this problem as the concern for 'distortion'.

The focus of this study is on the problem with a particular type of science popularisation i.e. popularisation of medical knowledge. This is because in the media, the reporting of medicine[1] is more prominent than other disciplines of science. Hargreaves, Lewis and Speers's (2003) found that health and medical related stories are more likely to be reported in the media than other types of science stories such as technology, animals, science/scientists, plants/ genetic modification, outer space, environment and foot and mouth disease. Similarly, Seymour-Ure (1977:55) argues that although general news values affect the day-to-day appearance of science stories, the subject "fashion" is more important and medicine is "always in fashion". Medical and health related stories are more prominent than other science stories because they are usually reported in terms of human interest or in terms of something that readers can relate to (Hansen & Dickinson, 1992).

[1] The reporting of medicine in the media includes not only medical-related issues, such as diseases, but also health-related issues, such as physical and mental health (Hargreaves, Lewis & Speers, 2003). Consequently, the reporting of medicine in the media is referred to as health and medical reporting.

In the "dominant view" (Hilgartner, 1990), popularisation is viewed as "a low status activity", which is external to the research activity and therefore should be left to non-scientists (Whitley, 1985:3). The dominant view[2] is based on the assumption that scientists are the producers of scientific knowledge and the public are the audience of scientific knowledge. The audience is viewed as large, undifferentiated and passive. The audience is excluded from scientific knowledge production. In the dominant view, science is clearly demarcated from its dissemination. Any differences between "genuine knowledge" and "popularised knowledge" are thought to be caused by "distortion" of the original 'truth' (Hilgartner, 1990). Hilgartner (1990:520) argues that the dominant view grants scientists the authority to determine which popularisation is "appropriate simplification" (useful) and which one is "distortion" (useless).

However, the dominant view has been criticised, as popularised knowledge is thought to contribute to scientific knowledge production (Hilgartner, 1990; Bucchi, 1996). Therefore an alternative view of popularisation is proposed, where popularisation is seen as occurring on a continuum (Cloitre & Shinn, 1985) and needs to be incorporated as part of scientific knowledge production (Whitley, 1985:12). Cloitre and Shinn (1985) identify four stages of science communication; intraspecialistic (science communication in specialised scientific journals), interspecialistic (science communication in interdisciplinary journals such as *Nature* and *Science* and academic conferences with researchers from the same discipline but working on different topics), pedagogical (science communication in classrooms) and popular (science communication in via newspapers, radio, television and popular scientific magazines such as *Scientific American* and *New Scientist*).

Although an alternative view of popularisation has been proposed, the dominant view is still prevalent when the scientific community views popularisation at the popular level. Scientists still determine whether popularisation is, using Hilgartner's terms, "appropriate simplification" or "distortion". This is because the dominant view comes from within scientific institutions and is promoted by those institutions (Myers, 2003).

1.2 *The discourse of 'distortion'*

In ordinary everyday language, the term 'distortion' has negative connotations. A short survey of dictionary definitions reveals the following:

[2] Also known as "traditional view" (Whitley, 1985) and "canonical view" (Bucchi, 1998, 1996).

Oxford Collocations Dictionary defines distortion (n) as:

a. change in shape/ sound
b. changing something so that it is shown falsely

Oxford English Dictionary defines distort (v) as:

a. to put out of shape or position by twisting or drawing awry; to change to an unnatural shape; to render crooked, unshapely, or deformed
b. to alter the shape of any figure without destroying continuity, as by altering its angles; to represent an image in which the angles or proportions of parts are altered, as by a convex mirror
c. to give a twist or erroneous turn to (the mind, thoughts, views); to pervert or misrepresent (statements, facts)
d. to become twisted or out of shape

Longman Dictionary of Contemporary English defines distort (v) as:

a. to change the appearance, sound, or shape of something so that it is strange or unclear
b. to report something in a way that is not completely true or correct
c. to change a situation from the way it would naturally be

Collins English Dictionary defines distort (v) as:

a. to alter or misrepresent (facts, motives, etc)

The following examples on the use of the term 'distortion' by the scientific community shows that the same negative connotations are carried over when the term is used by the scientific community:

> While guidelines cannot ensure error-free copy, the following precepts should increase accuracy and reduce *misrepresentation* and *distortion*. (SIRC, 2001:5)

> Researchers who believe their work has been inaccurately reported or that its significance has been *distorted*, should not hesitate to protest, both to the journalist concerned and to his or her editor, preferably in a letter intended (and suitable) for publication. While it may be true that the immediate consequences of *misrepresentation* will not be extinguished by this action, editors do read correspondence with care and may pay attention in the future. (SIRC, 2001:8)

> Moreover, the dominant view holds that any differences between genuine and popularised science must be caused by '*distortion'* or '*degradation'* of the original truths. (Hilgartner, 1990:519)

> Thus, the word '*distortion'* implies negative evaluation of the degree of correspondence between a media account and those aspects of *reality* to which it refers. (Hammersley, 2003:338)

> Further potential for *distortion* arises when studies have consistently *failed to identify evidence of a risk* associated with, say, a particular food ingredient, even after a substantial period of use. (SIRC, 2001:6)

> *Distortion* […] also result from information being presented without perspective or context. (deSemir, 2000:126)

The above examples show that the term 'distortion' has been equated with misrepresentation, deviation from the 'truth' or the 'reality', failure to identify risk involved and presentation of information which is out of context. When referring to 'distorted' reports, the scientific community refers to reports which are 'sensational', 'wrong', draw 'unwarranted conclusions' and have 'misleading headline or caption':

> *Distorted* journalistic reports can generate both false hopes and unwarranted fears. For instance, when a finding is reported in a *sensational* way, the results may create a national media feeding frenzy. (Ransohoff & Ransohoff, 2001)

> In view of all this it is hardly surprising that the media cannot function as transmitters of representations of scientific discoveries or any other events *'true to reality'*. They construct their own reality in the same way as science does. They only use different instruments, different approaches to 'reality' and different forms of representation. Thus the complaint of science about '*wrong'* or '*distorted'* reports or the purportedly wrong 'selection' of news is futile. (Weingart, 1998:870)

> It is clearly important that researchers should communicate their results to the wider public as this will illustrate the potential value to society of their work, and may also enhance the reputation of their professions and of their host institutions. But the communication of research findings imposes on investigators the obligation that findings should be presented accurately and in ways that minimise the potential for *distorted* or *unwarranted conclusions* being drawn. (SIRC, 2006:7)

> In newspapers, headlines and picture captions are not written by the authors of the accompanying text, but by sub-editors. Unfortunately, the effect of a balanced article can be easily *distorted* by a *misleading headline or caption*. (SIRC, 2006:6)

The above examples show that there are many terms available in the scientific literature to refer to the same reality. To refer to this reality and various ways in which it is expressed, I decided to adopt the term 'discourse of distortion' as a short hand. The term 'discourse' is used to refer to a way of signifying a particular domain of social practice from a particular perspective (Fairclough, 1995:14). By looking at 'distortion' as a discourse, a distinction can be made between discourse of 'distortion' (the media practice of distorting as claimed by the scientific community) and 'distortion' as actual process (cf. Fairclough, 2006). Just because the scientific community blame the media for distorting (discourse of 'distortion') does not necessarily mean that the media distorts ('distortion' as actual process).

Previous studies start from the assumption that 'distortion' is 'real'. In showing that 'distortion' is 'real', previous studies mostly use content analysis of media reports and compare them with the 'actual' research reports (see for example Bubela & Caulfield, 2004; Bartlett, Sterne & Egger, 2005). Likewise, proceeding with the same assumption that 'distortion' is 'real', a problem-solution approach such as the guidelines issued by the Social

Issues Research Centre (2001) in collaboration with the Royal Society and the Royal Institution of Great Britain are offered by the scientific community to remedy the problem. However, a casual observation of health and medical news reports before and after the publication of the guidelines shows that nothing much in terms of journalistic practices has changed. This thesis aims to contribute to this issue by asking the following research questions:

1. How similar/different is the genre of health and medical news reports from the genres of health and medical research articles, popularised health and medical texts and news texts? How do these similarities/differences contribute to the discourse of 'distortion'?
2. Does the discourse of 'distortion' have any effect on the health and medical news production process?
3. How similar/different is the genre of health and medical news reports from the genre of health and medical press releases?
4. What is the motivation behind the scientific community's discourse of distortion?

The motivation for the first research question is to support the position that health and medical news are first and foremost news stories. By comparing the genre of health and medical news reports with the genre of health and medical research articles, popularised health and medical texts and news texts, I establish whether or not science and media are two different genres of communication. The motivation for the second research question is to show whether or not the proposed guidelines have any effect on the health and medical news production process. By assessing whether or not journalists in their practices adopt the guidelines when reporting health and medical news, I can establish reasons as to why the discourse of 'distortion' is still present even after the guidelines were issued. On the basis of the answers from the first and second research questions, it will be assumed that the discourse of 'distortion' is a consequence of the scientific community's lack of awareness of health and medical news reports as a genre. The third research question is motivated by the need to explore whether the scientific community really is ignorant of media discourse and how it works. Press releases are chosen because it is a type of media discourse which scientists themselves contribute. The third research question is also motivated by the fact that, as observed during ethnographic observation of journalistic practices, journalists depend heavily on press releases. If health and medical press releases were found to be comparable to health and medical news reports, the discourse of 'distortion' could not be

understood as the scientific community's lack of awareness of media discourse. This leads back to the 'why' of the discourse of 'distortion'. Although it is beyond the scope of genre analysis to answer the 'why' of the discourse of 'distortion', I show that a more context-sensitive analysis such as that by the Critical Discourse Analysis approach can be pursued in future research.

1.3 *Data and methodologies*

Two types of data were collected to answer the research questions; textual data and ethnographic data. The textual data was collected by gathering health and medical newspaper reports and their accompanying press releases. The ethnographic data was collected through participant observation and interviews with the journalists using the ethnographic approach to news production by Cottle (1998).

Health and medical reporting in newspapers can take the form of news and feature articles. News has to follow strict requirements such as the inverted pyramid style, where the conclusion is placed at the beginning of a news story, and who, what, where, when, why, and how ('5Ws&H') of a news story has to be placed in the first few paragraphs (Friedman, 1986). Feature articles, on the other hand, do not have to follow the inverted pyramid style. They can be written using the journalists' own writing style. The aim of feature articles is to provide more detailed information of the news reported (Friedman, 1986). The focus of this study is on news reporting. This is because the concern for 'distortion' is aimed at news reports rather than feature articles (see for example Bartlett, Sterne & Egger, 2005; Bubela & Caulfield, 2004; Ransohoff & Ransohoff, 2001; Shuchman & Wilkes, 1997).

The textual data is analysed using the English for Specific Purposes (ESP) approach to move structure analysis by Swales (1981, 2000). The ESP approach is chosen because the approach provides a model for research articles which can be used for comparison with the genre of health and medical news reports. The presence of a model avoids the need to re-analyse the genre of research articles, which is not feasible within this study. In addition to the ESP approach, this study also adopts the Systemic Functional Linguistics (SFL) approach to identify the lexico-grammatical features of health and medical news reports and health and medical press releases.

The textual analysis and ethnographic evidence can be interpreted using the Critical Discourse Analysis (CDA) approach of Chouliaraki and Fairclough (2005) and Fairclough (2002). Chouliaraki and Fairclough's (2005) and Fairclough's (2002) CDA framework is modelled on "explanatory critique" developed by Bhaskar (1986). By using explanatory

critique, the scientific community's concern for 'distortion' can be seen as a social problem which is needed to maintain the social order.

1.4 *Outline of the thesis*

Chapter 2 provides an overview of medical journalism, the concern for 'distortion' and the proposed solutions to the problem. In providing an overview of medical journalism, I briefly describe the history of medical journalism in Britain. The purpose of this overview is to show why the advent of medical journalism was initially felt to be an answer to the problem of communicating health and medical information to the public. The evidence that the concern for 'distortion' exists is provided via a literature review and interviews I conducted with the scientists (see Chapter 3 for data collection). The solutions proposed by the scientific community include the adoption of "critical medical journalism" (Levi, 2001) and the guidelines issued by the Social Issues Research Centre (2001) in collaboration with the Royal Society and the Royal Institution of Great Britain. Chapter 3 discusses the data, data collection and analytical frameworks used in this study. Three types of data were collected; textual data, email interview data and ethnographic data. The analytical frameworks that I discuss are Genre Analysis and Critical Discourse Analysis. Chapter 4 provides an overview of models for health and medical research articles, popularised health and medical texts and news texts. Chapter 5 analyses the genre of health and medical news reports and compares the structure of health and medical news reports to that of health and medical research articles, popularised health and medical texts and news texts reviewed in Chapter 4. In addition to structure, I discuss lexico-grammatical features of health and medical news reports. Chapter 6 serves two purposes. The first part of Chapter 6 together with textual data analysis in Chapter 5 provides ethnographic and linguistic evidence to support the view that health and medical news are first and foremost news stories. The second part of Chapter 6 explores whether or not the discourse of 'distortion' has any effect on the health and medical news production process. I explore this by asking whether or not the proposed solutions, specifically the guidelines issued by the Social Issues Research Centre (SIRC, 2001) in collaboration with the Royal Society and the Royal Institution of Great Britain, are present in journalistic practices. In Chapter 7 I compare health and medical news reports with their accompanying press releases. Chapter 8 concludes the study and offers a possible way to approach the 'why' of the discourse of 'distortion'.

2. Medical journalism and the concern for 'distortion'

2.1 *Introduction*

The involvement of the media in the popularisation of medical knowledge has led to the emergence of medical journalism. Medical journalists can function as a 'mediator' (Bucchi, 1996:376; 1998:3) or a 'translator' (deSemir, 2000:123; Seymour-Ure, 1977) of medical knowledge to the public. The advent of medical journalism was initially felt to be an answer to the problem of communicating health and medical information to the public.

However, since medical journalism gained its status through the setting up of the Medical Journalists' Association (MJA), the scientific community still reported problems with medical journalism. The literature review and interviews which I conducted with the scientists (see Section 2.3) show that the problem with medical journalism is the concern for 'distortion'. In order to deal with this problem, the scientific community adopt a problem-solution approach.

In providing the situational context of the concern for 'distortion', in Section 2.2 I provide a brief history of medical journalism to show why medical journalism was initially felt to be an answer to the problem of communicating health and medical information to the public. In the same section, I also describe the who, what, where, when and how of medical journalism.

Section 2.3 provides evidence that the concern for 'distortion' exists. The evidence is provided through the literature review and email interviews which I conducted with scientists. Peters et al. (2008) argues that there is a difference between scientists' assessment of their own research and of research in general. While the literature review shows scientists' assessment of the problems with newspaper reporting of health and medical research in general, the email interviews show scientists' assessment of the problems with newspaper reporting of their own research.

Section 2.4 describes the solutions proposed by the scientific community to solve the concern for 'distortion'. These solutions are the adoption of "critical medical journalism" (Levi, 2001) and guidelines such as those offered by the Social Issues Research Centre (SIRC, 2001) in collaboration with the Royal Society and the Royal Institution of Great Britain.

2.2 *Medical journalism*

2.2.1 A brief history

The emergence of medical journalism is not widely recorded. In Britain, medical journalism gained status when the Medical Journalists' Association (MJA) was launched in the 1960s. The MJA was initially set up to further understanding between doctors and journalists, as the distrust that many doctors had with journalists was a "bar to communication and the spread of knowledge" (Thistlethwaite, 1997:17). In this section, I provide a brief history of medical journalism in Britain from an account provided by Thistlethwaite (1997).

Demand for health and medical information to be written in a non-medical language came as a result of the public's preoccupation with stories about health and medical. The National Health Service (NHS) and medical developments have made it possible for everyone to "crack open the carapace of medicine so that all can stare inside" (Thistlethwaite, 1997:2). However, the NHS was seen by doctors, nurses and other medical interest groups as 'selling' itself to the public who should see things the Government's way. The British Medical Association[3] (BMA) press and information department, which was formed in the 1940s, was there to ensure that the Government did not get away with imposing views on doctors and the public through the NHS. The BMA press and information department dedicated themselves to putting the doctors' case first.

In the 1960s, with the increasing number of journalists writing about their chosen subjects and the development of the NHS and medicine in general, journalists writing about the NHS and medicine began to demarcate their territory (Thistlethwaite, 1997). Some of the earliest medical journalists were John Prince at the *Daily Telegraph*, Ronnie Bedford at the *Daily Mirror* and *The Sun* and John Roper at *The Times*. John Prince at the *Daily Telegraph* was known as the founding father of medical journalism as he was the first to write about the NHS. His articles caused unrest among the medical profession. It was thought that the cause of the unrest was because doctors expected health and medical matters to be written only by doctors and for doctors in medical journals instead of the national press. The number of medical journalist started to increase to include journalists from *News Chronicle*, *The Guardian*, *The Observer*, *Daily Mirror*, *Daily Express*, *Evening Standard*, *Evening News*,

[3] The British Medical Association (BMA) is a professional organisation which was established to look after the professional and personal needs of doctors in the United Kingdom (http://www.bma.org.uk/ap.nsf/Content/Hubaboutthebma).

Sunday Express, and *Daily Sketch*. They were also joined by some doctors who wrote a column of answers to patients' queries, although some columns were ghosted by medically unqualified doctors. The most influential doctor was Harvey Flack, who was the editor of the *British Medical Journal* and *Family Doctor*.

Family Doctor was a monthly magazine for the public which was launched due to the BMA policy decision in the 1960s that the public should be better informed about their health (Thistlethwaite, 1997). The magazine explained health problems to the public in a language that they could understand. Many in the medical profession felt that it was not right to openly discuss health and medical problems. Discussion of this nature usually appeared in medical journals which were distributed among doctors instead of the national newspapers. The belief was that patients should not be overburdened with understanding the ills of the mind and body. They should leave all that matter to the doctor as 'Doctor knows best'. Moreover, they should not question the advice given by doctors.

Apart from medical journalists from newspapers and magazines such as *Family Doctor*, a new breed of medical journalists emerged via medical journals such as *Medical News*. *Medical News* was a weekly tabloid for doctors launched by the proprietors of the *Financial Times*. The proprietors of the *Financial Times* also owned *Practitioner*, a journal which was aimed at family doctors. The *Practitioner*, the *Lancet* and the *British Medical Journal* (*BMJ*) did quite well because the pharmaceutical companies, which were prohibited from advertising in the national press, were keen to find other ways of promoting their medicine to practising doctors. However, the *Practitioner*, the *Lancet* and other specialist journals did not have wide circulation, apart from the *BMJ* because the *BMJ* readership included the BMA members. The proprietors of *Medical News* recognised that if they were able to attract a large numbers of doctors to read their journal, they would be able to attract pharmaceutical advertising. However, another publisher had launched another tabloid weekly aimed at GPs called *Pulse*. *Pulse* was designed to capture the large promotional budget of pharmaceutical companies, who were prevented from advertising in the national press. *Pulse* was therefore designed to entertain. To counter this competition, *Medical News* aimed to report and comment on everything related to health and medicine. They were to be reported in a tabloid newspaper format i.e. short and concise with reasonable accuracy, using words that can be easily understood and arranged in a way that can attract the readers' attention. To achieve this aim, *Medical News* approached professional journalists. However, medical journals which were written by journalists were not something that was easily accepted by the medical profession. Their belief was that medical journals which were only read by doctors

should be written by doctors which have been referred to by other doctors. Journalists who did not have the qualifications and training in medicine could not possibly understand what they were trying to write about. They were likely to produce "gravely distorted version of the truth of a kind liable to be damaging both the morale of the Great British Public *and* to the reputation of the healing trade" (Thistlethwaite, 1997:13).

The journalists at the *Medical News* editorial team soon realised that the public were interested in stories which affect their health. The journalists also realised that they have to make doctors see them as 'respectable and responsible' if they were to be given access to the health and medical information required. They came out with the idea of forming a medical journalists' association to establish their 'importance and credibility'. A committee which consists of journalists representing *Medical News*, *World Medicine*, *New Statesman*, *New Scientists*, *The Practitioner*, *The Guardian* and *Daily Express* were formed to assess "the desirability and feasibility of forming a professional association to cater for the needs of medical journalism and medical journalists" (Thistlethwaite, 1997:16). The committee found that there was a desirability to form a professional association. This was evidenced by the number of people who completed the membership forms. There were 48 prospective members and 20 of them were medically qualified. The committee suggested that to form a better relationship with doctors, doctors should be invited to have a regular meeting with journalists. The committee's assessment found that members of the association did not favour the introduction of formal qualification in medical journalism. This was to avoid exclusivity. They also found the need to adopt a wide approach to all groups of medicine, to appeal for support in professional activities, to have journalism as the main qualification for membership and to search for status.

After the inaugural meeting, they drafted a constitution to fulfil the ambitions of the new Medical Journalists' Association (MJA). These include the duty of the MJA to help journalists to become better medical journalists and to prevent infiltration by the press release officers (PRO) who have a vested interest. As a new organisation which consists of practising journalists, the MJA approached the BMA for support. The BMA was happy to help because quite a proportion of the MJA members were also members of the BMA. Moreover, the BMA was happy to help an organisation which aimed to further the understanding between doctors and journalists. In the 1970s, due to the increasing size and growing reputation, the MJA decided to be independent of the BMA and started to finance itself.

The creation of the MJA lessened the fear that doctors have when talking to the press about health and medical matters. This was because before the MJA was formed, doctors talking to the press risked having their name struck off the register by the General Medical Council[4] (GMC) and would be unable to practice. The publication of the doctor's name, qualifications and talents in the national press was considered advertising. In addition to improving the understanding between doctors and journalists, the MJA was also involved in setting the standards of health and medical news reporting by giving awards for achievement in medical journalism.

This brief history has shown that the MJA was formed to improve the communication of health and medical information to the public. However, after the formation of the MJA, the scientific community still report problems with medical journalism. Before describing what these problems are, in the following section I describe the situational context of the problem.

2.2.2 The who, where, when, what and how of medical journalism

In describing the "who" of medical journalism, instead of looking at who are health and medical journalists, I look at who writes health and medical news. This is because in Britain, not all health and medical news is written by health and medical journalists. Entwistle and Hancock-Beaulieu's (1992:378) analysis of health and medical news reporting in national newspapers in Britain showed that although the majority of health and medical news is attributed to health or medical correspondents, they can also be attributed to science and environment correspondents, non-health specialist journalists, news wire agencies or even anonymous authors. Therefore health and medical news writers need not be specialists. Hansen's (1994:113) analysis of specialist journalists' qualifications and training shows that their qualifications and training can be categorised into three groups; those with a degree (ranging from a bachelor's degree to a doctorate in science) and primary training in science, those with a degree in arts/ social science and those who are principally trained as journalists. Hansen differentiated the journalists in terms of three primary specialisms; science/ technology/ computer, environment/ agriculture and health/ medicine/ social affairs. However, Hansen did not show whether there are any differences in the way journalists report different types of science, for example whether there are any differences between how journalists report general science and health and medicine. There is no indication of the qualifications and training that health and medical journalists have.

[4] The GMC issues registration for doctors to practice medicine in the United Kingdom.

Health and medical news can be reported daily in 'quality' and 'popular' papers. According to Entwistle and Hancock-Beaulieu (1992:370), while quality papers have the broadsheet format, popular papers have the tabloid format. However, since 2005 the format of quality papers has been expanded to include not only broadsheet but also the 'compact' format and the 'Berliner'. The compact format refers to broadsheet quality newspapers which are printed in tabloid format, for example *The Independent*, *The Times* and *The Scotsman*. The Berliner is slightly taller and wider than the tabloid format but narrower and shorter than the broadsheet format, for example *The Guardian*. Other quality papers which still follow the broadsheet format are *The Herald* and *The Daily Telegraph*. Papers which are categorised as popular papers are *Daily Express*, *The Daily Mail*, *Daily Mirror* and *The Sun*.

In addition to format, the content (what is reported as health and medical news?) and form (how is health and medical news reported?) of quality papers are different from popular papers. A wide range of subjects are covered in health and medical news, for example health and disease, safety and risk, progress and failure, coping and crises, fact and speculation, hope and fear and life and death (Levi, 2001:3). Entwistle and Hancock-Beaulieu (1992) did a comprehensive content analysis of health and medical news reporting in British newspapers in the 1990s. They found that the most common health and medical subjects in both quality and popular papers are diseases, National Health Service (NHS), preventive medicine and medical research. However, the reporting of medical research is more common in quality papers than popular papers. Quality papers provide more information on cause, pathological process and epidemiology (information about the science of the disease which includes morbidity and mortality rates and indication of the prevalence), while popular papers often cover treatment and include description of the subjective experience of illness, symptoms and prognosis. The lack of the reporting of scientific information in popular papers could be attributed to their reporting of alternative therapies more so than medical research *per se*.

The reporting of health and medical news can be differentiated into four different "paradigms" (Karpf 1988); (1) medical approach, (2) consumer/patient viewpoint, (3) look-after-yourself approach and (4) social approach to illness. The medical approach refers to reporting which focuses on cure (Karpf, 1988:10). The focus is on treatment rather than causes of diseases. In using the medical approach, the sources of authority are doctors and scientists. The consumer/patient viewpoint refers to reporting that focuses on criticising the unequal doctor-patient relationship (Karpf, 1988:14). In contrast to the medical approach which uses doctors' and scientists' points of view, the consumer/patient approach relates

more to the patient's experience. The look-after-yourself approach refers to reporting that focuses on preventive health and therefore on changing the individual's behaviour and lifestyle (Karpf, 1988:16). This approach seems to challenge medicine by not looking at medicine as a solution. The social approach refers to reporting that focuses on the environment and social issues of the illness and therefore on prevention rather than cure of an illness (Karpf, 1988:19). Both the look-after-yourself approach and social approach believe that there are limits to medicine. The impact of medicine is thought as significantly less than generally assumed. However, while the look-after-yourself approach maintained that diseases resulted from individuals' behaviour or lifestyle, the social approach believe that diseases are environmentally or socially caused. Although the "paradigms" identified by Karpf (1988) were based on radio and television programmes, Entwistle and Hancock-Beaulieu (1992) showed that the same four "paradigms" can also be found in newspaper reporting.

Entwistle and Hancock-Beaulieu (1992) found that quality papers tend to use the medical approach as they are more likely to use quotes from health and medical professionals. Politicians or a spokesperson from government agencies are also often quoted in quality papers. Quality papers tend to report health and medical information in the wider political and social context. Quality papers also commonly use scientific journals, parliament or government reports and health conferences as their sources. On the other hand, popular papers tend to use the consumer/patient approach and the look-after-yourself approach. This is because popular papers usually use quotes from an individual patient's subjective experience of the disease or treatment. Popular papers favour the use of case stories (a story from the point of view of an individual). The availability of case stories can influence whether a story is considered as a good story. The focus on popular papers is on human interest rather than discussion of the science of the disease. Entwistle and Hancock-Beaulieu (1992) found that the social approach to illness is not well covered by both quality papers and popular papers.

In this section I have shown through a brief historical overview that the formation of the Medical Journalists' Association in Britain was initially intended to improve the communication of health and medical information to the public. However, there is still concern among the scientific community. This concern can be attributed to the fact that health and medical news can be written by any journalist. In other words, health and medical news writers are journalists first and specialists second (Hansen, 1994). Thus, the nature of health and medical news reporting can contribute to the problem.

2.3 *The concern for 'distortion'*

This section provides evidence that the concern for 'distortion' exists. The evidence is provided through literature review and email interviews which I conducted with the scientists whose research were reported in *The Herald* and *The Guardian* (see Chapter 3.2 on data collection and justification for using *The Herald* and *The Guardian*). Peters et al. (2008) argue that there is a difference between scientists' assessment of their own research and of research in general. While the literature review shows scientists' assessment of the problems with newspaper reporting of health and medical research in general, the email interviews show scientists' assessment of the problems with newspaper reporting of their own research.

2.3.1 Evidence from literature review

The literature review in this section is used to show that the concern for 'distortion' exists. The concern for 'distortion' has been described by previous studies in terms of sensationalism (Bubela & Caulfield, 2004; Ransohoff & Ransohoff, 2001; Shuchman & Wilkes, 1997) and bias (Bartlett, Sterne & Egger, 2005; Entwistle, 1995; Van Trigt, Haaijer-Ruskamp, & De Jong-Van Deberg, 1995)

Shuchman and Wilkes (1997) described sensationalism as overstatement of scientific findings, which include wide publicity of treatment after a small study and hailing a particular drug as a 'cure' for a disease. Ransohoff and Ransohoff (2001), on the other hand, described sensationalism as extravagant claims or interpretations about research findings. Bubela and Caulfield (2004) measured sensationalism by comparing the content of scientific research articles, specifically genetic research, and their reporting in newspapers in Canada, the United States, the United Kingdom, and Australia. They found that newspapers have a tendency to overemphasise the findings and claims made in scientific research articles.

Bias has been described in terms of journalists' tendency to cover a particular topic (Bartlett, Sterne & Egger, 2005) and rely on a particular source, mainly medical journals (Entwistle, 1995; Van Trigt, Haaijer-Ruskamp, & De Jong-Van Deberg, 1995). Bartlett, Sterne and Egger's (2005) study examined research articles which were published in the *Lancet* and the *British Medical Journal* and their subsequent reporting in *The Times* and *The Sun*. They found that newspapers tend to publish studies which are based on observations and studies which originate from the United Kingdom. Newspapers also tend to report bad news and ignore reassuring studies. In addition to the tendency to cover a particular topic, bias has also been described in terms of reliance on a particular source (Entwistle, 1995; Van Trigt,

Haaijer-Ruskamp, & De Jong-Van Deberg, 1995). In a study using content analysis and interviews with journalists, Entwistle (1995) found that journalists in Britain tend to rely heavily on a particular source, especially journal articles. When a comparable study was conducted in the Netherlands by van Trigt, Haaijer-Ruskamp, and De Jong-Van Deberg (1995), they found that the journalists in the Netherlands also depend heavily on journal articles. Levi (2001) argued that a reliance on a particular source indicates that the reporting is affected by the source's publication bias. In medical journals, there is a publication bias where articles that demonstrate a useful effect are more likely to be published than those with no useful effect. Moreover, as journalists usually use quotes from scientists who can speak with enthusiasm about the research findings, there is a possibility that the comment presented is the scientist's personal opinion instead of comment on the best available scientific evidence.

2.3.2 Evidence from email interviews with scientists

Email interviews which I conducted with scientists also indicate the presence of the problem with how the scientists' research is reported in *The Herald* and *The Guardian*. The scientists I interviewed were asked: What do you think of how *The Herald* and/or *The Guardian* reported your study? (See Chapter 3 on email interview data collection).

The scientists whom I interviewed indicate sensationalism as one of the problems:

> [...] When reporting research that can have an even remotely salacious twist, the press generally focuses on the more sensational aspects of the story and it's just something that I have learned to accept. [...] In general, the tone of the report was about what I'd expect for a newspaper - it was more sensational than the original journal article but probably about as sensational as it needed to be for a national newspaper and the attention of the layperson. [...] (SC, G7/4/07)

> Both reports are completely one-sided, quoting from [the researcher's name] who want to get publicity (and hence funds) for Cancer Research UK. Hence the sensationalist strap line of "1,000 deaths from HRT". What a pity the articles did not look into the findings. The figure of 1,000 deaths was invented by the authors of the Lancet paper, and is scientifically invalid. [...] (JS, H/G19/4/07)

The other problem is inaccurate headline:

> [...] The headline is inaccurate: Our research says absolutely nothing about "Why" dieters don't keep weight off -- we say only "That" that they don't keep weight off. In addition, the headline suggests that dieters won't lose weight, but in fact, what we found (and what they report in the article) is that dieters initially lose 5-10% of their weight. Our main conclusion was that the weight comes back on. So all in all, the headline is completely wrong. [...] (TM, G11/4/07)

> [...] The too-good-to-be-true tagline comes from the original paper we wrote but the word *true* was meant in the sense of fidelity rather than the normal sense - something that was lost on pretty much all the press reports I saw. [...] (SC, G7/4/07)

> [...] The title of the article attached may however be slightly misleading as fertility was not one of the outcome measures of our study. [...] (IA, G3/5/07)

There is also a problem with inaccuracy in the use of statistical figures and overemphasis on this figure:

> [...] The 7th paragraph gives this 83% figure for the percent of people who gained back more weight than they lost. I have NO IDEA where that number comes from. As we said in our paper, and as the Guardian reported in the 6th paragraph, one-third to two-thirds of dieters regain more weight than they lost. So why now give this 83% figure which isn't even in that one-third to two-thirds range? I don't know where they got that or why they directly contradicted what they said in the previous paragraph. Also, that 83% number is written very large in the blown-up section in the middle of the article. [...] (TM, G11/4/07)

> [...] The box in the middle of the second column, 186, I found utterly bewildering. I know that the Guardian likes to have figures dotted around the newspaper to break up the text, but this seemed to be pretty facile to me and I really didn't understand how the number of respondents we had in any way adds to the report. [...] (SC, G7/4/07)

In addition to sensationalism, inaccurate headline and inaccurate use of statistical figure, there is also an inaccurate reporting of research findings and explanation of the research findings:

> [...] The top column heading on column 1 is a clear mis-statement and it certainly was not the case that success and good-looks was a turn-off. We never claimed that it was. In fact, attractive successful men received the second highest ratings in our study. The last line in paragraph 2, concerning time available to devote to family, is repeated in the last paragraph of the article, and is utter nonsense. This is an explanation of our results that we completely discounted in the original article and we explicitly stated that the pattern of results found was absolutely nothing to do with the amount of time that different men might devote to family. Nevertheless, it is something that has appeared in pretty much every single press report about the research. [...] (SC, G7/4/07)

> [...] It was in a different study that we found that antenatal anxiety was associated with raised levels of ADHD in the child, but that is rather a minor mistake. (VG, G31/5/07)

Another ‘minor’ inaccuracy is with inaccurate referencing of the scientists:

> [...] There were some minor inaccuracies including the fact that I was reported as Mr KF (rather that Dr or Professor). However, the main points came across clearly. (KF, H2/5/07)

However, there are other scientists who reported that *The Herald*'s and *The Guardian*'s reports are "fair", "accurate", "balanced", "clear", "responsible" and "excellent":

> I thought the Herald coverage was fair, accurate and balanced. I was delighted it was on the front page! [...] (AM, H13/4/07)

> They were good to cooperate with. The journalist concerned listened carefully to what I had to say and quotes were accurate. They gave the study a good amount of space too and in good locations in the paper. [...] (CE, H29/5/07)

> The report is well written and accurate. Its description of inherited breast cancer is well done and I think it gives a fair assessment of our work. (RG, G25/5/07)

> The report was almost identical to many other newspapers and brought the right balance of scientific breakthrough and precaution that clinical trials are needed. [...] (HC, H2/4/07)

> [...] I think that it was a balanced reflection on our study. [...] However, the main points came across clearly. (KF, H2/5/07)

> The findings of the study were reported accurately, and the concerns voiced in the article are well founded. [...]. (HD, G31/5/07)

> Full details are in the recent Lancet report, but this reflects one of the major findings accurately, although the chemotherapies used were not as good as modern ones. (JC, G18/5/07)

> On the whole we felt that our research findings were responsibly and accurately reported. [...] (IA, G3/5/07)

> The report was excellent and they really did a good job. It is not easy at all to explain the scientific results in lay term. I hope most of the audience got the idea about our discovery. (MCM, G6/4/07)

The news report is considered 'good' when there are quotes from others and background material:

> In general I think they did a good job of reporting our study and with getting other comments and background material. [...] (VG, G31/5/07)

> [...] Finally, as I am sure you are seeing in every article that shows that diets don't work, this article ends with a quote from someone saying that the solution to diets not working is just to keep dieting. In this case, the quote is fairly toned down compared to others I have seen, in that they at least talk about exercising and don't talk about people needing to find more self-control. This quote is pretty good about saying that people need to make small sustainable changes. [...] (TM, G11/4/07)

The news report is also considered 'good' when journalists stick to the press release, which is written with the help of the scientists themselves:

> This is just the Bristol press release I think. I suppose that could be construed as quite lazy journalism but it's Ok with me. I helped write it

> and on reflection it is factually correct but maybe too detailed and dry for most people to interest many people or for them get much from it. It is exciting stuff to us but rather far from having an impact in clinics yet. I have realised how difficult it is to convey scientific jargon in a generally readable format. The work did get quite a lot of radio and press coverage, I guess because of the title. (JH, H8/5/07)
>
> Guardian had a good coverage. When they stick to the press release, it's often in a good shape. Sometimes, when journalists do not contact the author or use the exact press release, some inaccuracies happen. (MM, G18/4/07)
>
> They didn't interview me or [the scientist's name]. The quotes they used came out of the [university's name] press release accompanying the release of the article. They kept fairly closely to the press release in their article, so they were pretty much accurate when they talked about what we did and what we found. [...] The first 6 paragraphs are accurate and based on the press release. (TM, G11/4/07)
>
> I basically have no complaint about the article. [...] Journalists have limited understanding of biology, but this is not a criticism because it's not their job. I have to think quite hard to explain to them in laymen's terms. [...] There is no inaccuracy and the research is reported reasonably well. Many of the newspaper use the standard AP statements. I was going to say that there's some element of hyping up but I don't think so. The hyping up comes from the university press release. It's deliberately written to make a splash. The PR is heighten-up, more than I like, to increase the press interest. However, they didn't over hype it. The copy of the publication is sent to the press office and they then write the press release. I did a little bit of changes. The heading is hyped-up but it doesn't affect because it can increase an interest. (Telephone conversation with PC, H1/5/07)

This section has provided evidence that there is a concern for 'distortion'. The evidence was provided through literature review and email interviews with scientists. The interviews show that although some of the reports are 'good', there are still problems with how the scientists' research is reported in *The Herald* and *The Guardian*. These problems include sensationalism and inaccuracy. While the interviews have provided evidence of the problem with the reporting of the scientists' own research, the literature review provided evidence of the problems with the reporting of health and medical research in general.

2.4 *Proposed solutions to the problem*

In order to deal with the concern for 'distortion', the scientific community adopt a problem-solution approach. The proposed solutions that this section reviews are Levi's (2001) approach to critical medical journalism and the Social Issues Research Centre (SIRC, 2001) guidelines which are issued in partnership with the Royal Society and the Royal Institution of Great Britain.

Critical medical journalism, according to Levi (2001), refers to the use of 'critical' approaches in health and medical news reporting. 'Critical' news reporting is reporting which emphasises journalistic integrity, questioning source's statements, focusing on a particular topic over a period of time, pitting different views against each other, checking facts, using challenging and confrontational rhetoric, employing investigative reporting, engaging in self-criticism, self-observation and institutionalised debate about reporting (Ekström & Nohrstedt in Levi, 2001:74). In the United Kingdom, guidelines for journalists reporting science and health news are issued by the Social Issues Research Centre (SIRC, 2001) in partnership with the Royal Society and the Royal Institution of Great Britain. These guidelines were produced for print and broadcast journalists and science and health professionals in the United Kingdom. According to the SIRC, "the impetus for the development of these guidelines has come from concern expressed within the health and science communities about the ways in which some issues are covered in the media" (SIRC, 2001:3). The SIRC also states that "while guidelines cannot ensure error-free copy, the following precepts [the guidelines] should increase accuracy and reduce misrepresentation and distortion" (SIRC, 2001:5).

Levi (2001:65) argues that to adopt the critical approach in health and medical news reporting, medical journalists need to have a basic understanding of research methodology and a basic knowledge of common errors in medical research. According to Levi (2001), critical medical journalists should be able to separate scientific fact from science fiction by asking whether the claims seem credible and whether the claims are supported by scientific evidence. Journalists should evaluate a source's level of expertise, be independent of other journalists' viewpoints, recognise false claims, disclose uncertainties and inconsistencies and consider potential bias. In identifying whether the claims are supported by scientific evidence, Levi (2001:82) argues that journalists should assess the research methods and research findings. Journalists should assess the effect of the research findings when identifying whether the claims are supported by scientific evidence. Besides assessing the research methods, research findings and effect of the research findings, according to Levi (2001:82), journalists should compare the present findings with previous findings.

In identifying whether the claims seems credible, Levi (2001:81) argues that journalists should evaluate the source's level of expertise by checking the scientists' claim with other reliable scientists who have no interest in the research reported. Journalists should also be independent from other journalists' viewpoints by not depending on stories which are 'pushed' in the press release, by investigating other areas of research, by using and reading

more specialist journals and by convincing the editor to do a follow-up or an investigative reporting of a story. Besides evaluating the source's level of expertise and being independent from other journalists' viewpoints, journalists should recognise false claims by doubting, questioning and challenging the research conclusions and point out the weaknesses and limitations of the research. Journalists should disclose uncertainties and inconsistencies by differentiating between the scientists' personal opinions from scientific findings. Journalists should also consider potential bias by disclosing the scientists' conflicts of interest, if any, when reporting the research findings to enable the readers to judge the validity of the research reported.

According to the SIRC (2001) guidelines, in assessing the credibility of sources, journalists should ask whether the findings have been published in a peer-reviewed journal, whether the researchers have an established track record in the field, whether they are based at a reputable institution or organisation and the affiliations of the scientists (SIRC, 2001:5). On the other hand, in assessing the credibility of the experts, journalists should ask what other professionals in the field think of the research (SIRC, 2001:6). Journalists should assess the opinion of specialist journalists and assess whether the headline and caption are a fair reflection of the report (SIRC, 2001:6). Journalists should also assess whether the methods are appropriate and obtain the opinion of other professionals regarding the methods. Journalists should assess the findings and conclusions by asking whether they are really a 'breakthrough' (SIRC, 2001:5). Journalists should anticipate the impact of the research by assessing whether the report will cause undue anxiety or optimism among the readers and whether important caveats have been prominently included. Journalists should assess the significance of the findings by assessing whether the findings are preliminary or exclusive, whether the findings differ markedly from previous studies, whether the findings appear to contradict mainstream scientific opinion, whether the findings are based on small or unrepresentative samples, whether the conclusions generalise to humans from animal studies and whether the researchers only found a statistical correlation. Journalists should also assess whether the risk has been expressed in both absolute and relative terms, whether the risk can be compared with anything else and whether the researchers have been asked 'how safe' instead of 'is it safe'.

Levi's (2001) critical medical journalism is similar to the SIRC (2001) guidelines in terms of the reporting of procedures, methods, findings, conclusions, anticipating the impact of the research and evaluation of the credibility of sources. One of the differences is in terms of opinion of other journalists. While Levi's critical medical journalism encourages journalists

to be independent from other journalists' opinion, the SIRC guidelines encourage journalists to ask what other journalists in the field think of the research. Other differences are recognising false claims, disclosing uncertainties and inconsistencies and considering potential bias, which are covered in Levi's critical medical journalism but not in the SIRC guidelines. On the other hand, one of the SIRC guidelines which are not identified by Levi is communicating risk.

2.5 *Summary*

This chapter started with a brief history of medical journalism in Britain and the situational context of the concern for 'distortion'. This chapter has also described the problems with communicating health and medical information to the public. As the scientists I interviewed were asked to comment on how their research is reported in *The Herald* and *The Guardian*, the scientists were identifying the problems with their own research. On the other hand, the literature review has provided evidence of the problem with the reporting of health and medical research in general. The literature has described the concern for 'distortion' in terms of sensationalism and bias. While the scientists interviewed also reported the problem with sensationalism, they did not identify the problem with biased reporting. The reason why bias is not reported by the scientists interviewed is because bias can only be identified by a third person and not by those who are personally involved in the argument. Instead of bias, the other problem that the scientists reported is inaccuracy.

The solutions proposed by the scientific community for the problems identified are the adoption of critical medical journalism and adoption of guidelines issued by the Social Issues Research Centre (SIRC, 2001). Levi's (2001) critical medical journalism is similar to the SIRC (2001) guidelines in terms of the reporting of procedures, methods, findings, conclusions, anticipating the impact of the research and evaluation of the credibility of sources. The differences is in terms of asking for other journalists' opinion, recognising false claims, disclosing uncertainties and inconsistencies, considering potential bias and communicating risk. However, as the present study is situated within the context of health and medical news reporting in two newspapers in the United Kingdom (see Chapter 3 on the newspaper data used in this study), the effectiveness of the proposed solution that will be explored in this study is the SIRC (2001) guidelines.

This chapter has shown why the advent of medical journalism was initially felt to be an answer to the concern for 'distortion'. This chapter has also shown what constitutes as the problem i.e. the concern for 'distortion' and the solution proposed by the scientific

community to solve the problem. In the next chapter I discuss the methodology used in this study to show that health and medical news reports are first and foremost news stories and to explore the effectiveness of the SIRC (2001) guidelines that is discussed in this chapter.

3. Methodological overview

3.1 *Introduction*

The present study collected three types of data and uses two analytical frameworks. The three types of data collected for this study are textual data, email interview data, and ethnographic data. The analytical frameworks used in this study are Genre Analysis and Critical Discourse Analysis.

Two types of textual data were collected; health and medical news reports and their accompanying press releases. The first type of textual data, health and medical news reports, are analysed using Genre Analysis to identify their generic structure (see Chapter 5). The results from the genre analysis of health and medical news reports is compared with; (1) health and medical research articles, (2) popularised health and medical texts and (3) news texts (see Chapter 5). The need for three different texts for comparison with health and medical news reports would require the collection and analysis of three more types of textual data; health and medical research articles, popularised health and medical texts and news texts. As it is not feasible within this thesis to identify the genres of all the different texts, a model is picked from the available literature (see Chapter 4 for an overview of the model). The purpose of the comparative analysis between health and medical news reports and health and medical research articles, popularised health and medical texts and news texts is to answer the first research question i.e. How similar/different is the genre of health and medical news reports from the genres of health and medical research articles, popularised health and medical texts and news texts? How do these similarities/differences contribute to the discourse of 'distortion'?

The second type of textual data, health and medical press releases, are analysed using Genre Analysis to identify their generic structure and lexico-grammatical features (see Chapter 7). The genre of health and medical press releases is then compared with the genre of health and medical news reports (see Chapter 7). The purpose of the comparative analysis between health and medical news reports and their accompanying press releases is to answer the third research question i.e. How similar/different is the genre of health and medical news reports from their accompanying press releases?

The email interview data is used to provide textual evidence for the concern for 'distortion' (see Chapter 2.3). The ethnographic data is used for two purposes. Firstly to provide ethnographic evidence that health and medical news are first and foremost news by showing

that the production of health and medical news does not differ from the production of other news items (see Chapter 6). Secondly to answer the second research question (i.e. Does the discourse of 'distortion' have any effect on the health and medical news production process?).

I also describe the Critical Discourse Analysis framework that can be used to account for the findings obtained from Genre Analysis and ethnography. The purpose is to show a possible way to answer the fourth research question (What is the motivation behind the scientific community's accusation of 'distortion'?).

This chapter is divided into two parts. Section 3.2 describes the data and data collection and Section 3.3 describes the analytical frameworks used in this study.

3.2 *Data and data collection*

3.2.1 Textual data

Two quality newspapers were chosen as a case study; *The Herald* and *The Guardian*. *The Herald* was chosen because of all the quality newspapers circulated in Scotland, *The Herald* has the highest average net circulation (Audit Bureau of Circulations, 2007 in allmediascotland.com). On the other hand, *The Guardian* was chosen because their health and medical correspondents have won the 1996, 2003 and 2004 British Medical Association Medical Journalist of the Year awards (British Medical Association, 2007).

The health and medical newspaper reports were collected from *The Herald* and *The Guardian* between April and May 2007. This is the same period of time when the ethnography with the journalists and interviews with the scientists were conducted. The selection of health and medical news reports is governed by four considerations.

Firstly, based on *The Herald* and *The Guardian* articles collected, the reporting of health and medical research can take the forms of news, features and/or opinion. News refers to articles which are based on an event. In *The Herald*, articles which are categorised as news appears in the section titled as "News". In *The Guardian* they appear in the sections which are titled as "News", "National" and "Science". Features refer to articles that are larger than news and written to complement the news. In *The Herald*, features appear in the section titled "Focus" while in *The Guardian* they appear in the section titled "Features". Opinion refers to articles which contain the newspaper's view on a specific health and medical issue. It appears in a section called "Opinion" in *The Herald* and "Comment & Debate" in *The Guardian*. The health and medical news reports used in this study are those which are categorised as news.

This is because news reporting is more likely to contribute to the discourse of 'distortion' than other forms of reporting (Friedman, 1986). News in general can be divided into "hard-news" and "soft-news" (Tuchman, 1978). However, there is a difficulty in distinguishing hard-news stories from soft-news stories, as can be seen in the different definitions employed by different studies. According to Mott (1952:58 in Tuchman, 1978:48), journalists categorise a hard-news story as "interesting to human beings" and a soft-news story as "interesting because it deals with the life of human beings". Tuchman argues that this distinction overlaps and is difficult to apply. Therefore Tuchman offers an alternative way of distinguishing hard-news from soft-news i.e. by the scheduling of potential news occurrences. According to Tuchman (1978:51), hard-news stories include events which are *un*scheduled (events that occur unexpectedly, thus the news can be disseminated either on that day or the day after) and *pre*scheduled (the dissemination is for future date and determined by its convenors). On the other hand, soft-news stories include events which are *non*-scheduled, where the date of dissemination is determined by the journalists. In contrast to Tuchman (1978), Fishman (1980) distinguishes hard-news from soft-news according to the journalists' decision on how to cover and formulate occurrences i.e. whether the story is written from an official angle (hard-news) or from some other non-bureaucratically defined angle (soft-news). Following Tuchman's (1978) and Fishman's (1980) distinction, health and medical news reports collected in this study can be seen as hard-news. Firstly, health and medical news reports are *pre*scheduled because the dissemination is determined by the journals *embargo*[5] (see the third consideration below on why I chose news reports which are based on journal articles). Secondly, as the source for stories on health and medical research originates from the journals, they are usually written from an official angle.

Secondly, there are three types of health and medical news reports in *The Herald* and *The Guardian*; (1) news reports about the research itself, (2) news reports about the politics of the research, for example health policy and ethics of the research and (3) news reports about issues affecting health, for example delivery of health care (such as those provided by the National Health Services in the United Kingdom) and other issues raised by government agencies (such as the Department of Health) and practitioners (such as General Practitioners or surgeons). The type of health and medical news reports which were collected is news reports about the research itself. As popularisation of medical knowledge involves the recontextualisation of scientific discourse, the health and medical news that is analysed

[5] Embargo refers to the time and date that the information must be held until they are allowed to be made available to the public.

should originate from scientific discourse. Therefore, the type of health and medical news reports that I collected are those which originate from health and medical research articles.

Thirdly, there are three types of health and medical research which are reported in *The Herald* and *The Guardian*; (1) those which are published or about to be published in scientific journals, (2) those which have yet been published in scientific journals and (3) those which are not published in scientific journals. For research which is published or about to be published in scientific journals, usually the journal's name will be explicitly stated. Examples of research which have yet to be published in scientific journals are research that is about to be conducted or still under clinical trial and research that is presented at a conference. Examples of research which is not published in scientific journals are; market-based research and research that is conducted by independent government agencies (such as the Food and Standards Agency), advisory groups and pharmaceutical companies. As one of my objectives is to compare the genre of health and medical news reports with the genre of scientific research articles, the articles selected were those which report on research which is published or about to be published in scientific journals.

Fourthly, the type of research reported that is used as data are those which are associated with physical or mental well-being, illness, disease or treatment. This is to differentiate between news about health and medical research from news about other types of scientific research.

Therefore, the health and medical news reports collected in the present study are those which meet the following criteria: (1) news reports about the research itself *and* (2) that appear in the news section of the newspapers *and* (3) are published in scientific journals *and* (4) report physical or mental well-being, illness, disease or treatment. There are 17 articles from *The Herald* and 23 articles from *The Guardian* which met the above-mentioned criteria.

In addition to identifying the genre of health and medical news reports, the other objective of this study is to identify the genre of health and medical press releases. This is because press releases are often described as 'news article look-alikes. The press releases which were used as the source for the health and medical newspaper reports were also collected. As not all of the accompanying press releases could be obtained, the number of news reports which have the accompanying press releases were 25 (10 from *The Herald* and 15 from *The Guardian*). The number of press releases collected was 23. This was because there was an overlap in two of the press releases. Two of the press releases were used by both *The Herald* and *The Guardian*. From the 23 press releases collected, 9 were published by journals, 8 by universities and 6 by funding bodies.

The textual data used in the analysis is coded as 'H10/4/07-7'. This refers to health and medical news reports published in *The Herald* on 10 April 2007 on page 7. The page number is included to differentiate the news reports which were published on the same day. I have attached the textual data in Appendix A.

3.2.2 Email interview data

The scientists whose names appear in the news reports collected for textual data were contacted by email. The purpose of interviewing the scientists was to show scientists' assessment of the problems with newspaper reporting of their own research. In the emails, I explained that I am a student who is researching how newspapers report health and medical news. I also attached *The Herald*'s and/or *The Guardian*'s articles which report on the scientists' research. The scientists were asked an open-ended question: What do you think of how *The Herald* and/or *The Guardian* reported your study?

When more than one scientist was mentioned in the articles, I contacted all of them. There were 44 scientists' names extracted from 40 news reports. The replies came from 19 scientists (43%), including one scientist who requested a telephone interview.

The email interview data is coded as "JJ, G8/5/07". This refers to an interview conducted with a scientist called JJ whose research is published in *The Guardian* on 8 May 2007. In order to maintain the anonymity of the scientist, the page number where the news report is published is not included. I have attached the email interview data in Appendix B.

3.2.3 Ethnographic data

According to Hammersley and Atkinson (2003:1), ethnography involves the participation of the researchers in the participants' day-to-day activities, watching and listening to the participants and asking questions. The method that can be employed in participating, watching and listening is participant observation and the method that can be employed in asking questions is the interview (Hammersley & Atkinson, 2003). The data collected during participating, watching, listening and asking should contribute to an understanding of the research in focus. Following Hammersley and Atkinson (2003), the ethnographic data in this study were collected using participant observation (Cottle, 1998), with interviews as one of the types of data collected in participant observation. The ethnographic data was required for two purposes. Firstly, it was done to show that the production of health and medical news does not differ from the production of other news items. Secondly, it was done to investigate

the effectiveness of the scientists' guidelines on the health and medical news production process.

Fieldwork was conducted with *The Herald* and *The Guardian* between April and May 2007. Participant observation was conducted with *The Herald*'s health correspondent, newsdesk and sub-editors and *The Guardian*'s health editor and health correspondent. Interviews were conducted with 15 journalists. At *The Herald*, I interviewed the editor, deputy editor, news editor, deputy news editor, night editor, deputy night editor, three sub-editors, health correspondent, and two general reporters. In *The Guardian*, I interviewed the health editor, health correspondent and social affairs editor. Total time spent in the field is one week and total digital recording time is 14 hours 37 minutes 19 seconds.

The interview is coded as 'Health correspondent, H14/5/07'. This refers to an interview conducted with the health correspondent at *The Herald* on 14 May 2007. I have attached the transcripts of interviews with the journalists in Appendix C.

In collecting the ethnographic data, I adopted Cottle's (1998) stages to a participant observation study of the media; design, access, field relationships, collecting and recording data, analysing data and write-up. However, as the ethnography was used for data collection, the stage of analysing data and writing-up was not explored. The following will provide a description of Cottle's (1998) stages and how I conducted the participant observation.

3.2.3.1 Design

According to Cottle (1998), the first stage, the designing of participant observation, involves taking into account previous studies and questions such as what and why the research is about and what it is hoped will be achieved. There is no set time limit on the duration of participant observations and no guidelines on the type and number of media that should be studied.

When taking into account previous studies on health and medical news reporting in Britain, previous studies such as those by Entwistle (1995) and Entwistle and Hancock-Beaulieu (1992) focused on the analysis of news as a product, rather than news as a process. Hansen (1994) also noted the lack of research on the production of science news in general. The difficulty in gaining access to the newsroom may account for the lack of research on the science news production process in general and the health and medical news production process in particular.

In terms of what I hoped to achieve, the following was set as the objectives of my participant observation; to understand how health and medical news are produced and to explore whether or not journalists in their practices orient to the concern for 'distortion' and therefore orient to the guidelines issued by the scientific community.

3.2.3.2 Access

The second stage, access, is one of the hurdles in conducting participant observation. Cottle (1998:51) argues that the problem in gaining access raises the question of the difference between 'participant-observer' and 'observer-participant'. A *participant*-observer can avoid the problem of gaining access to the media organisation as they are already working as journalists. However, they may be constrained by their work and therefore less flexible in what they can pursue. On the other hand, although an *observer*-participant may have more flexibility in their movements and in what they can research, they may lose the insider's knowledge.

I encountered a problem in gaining access as I was more of an *observer*-participant rather than a *participant*-observer. The reason for being an *observer*-participant is because I entered the field as a researcher instead of a journalist. The following provides a description of how I negotiated access to the newsroom:

Initial contact was made with a health correspondent from a Scottish newspaper[6]. After initially agreeing with the observation, when contacted again to confirm the date, I was informed that it was not possible for me to conduct the observation because they do not have enough time and the editors would not allow a researcher to observe the newsroom. I decided to contact the editor directly. I received a reply from the editor's personal assistant (PA) asking me to send my curriculum vitae and stating the duration and estimated date of the observation.

In the meantime I contacted the health correspondents from other newspapers. While the majority of the newspapers that I contacted ignored my request, some of them did provide me with reasons as to why they were not able to accommodate my request. One of the health correspondent said that it was because she had terrible daily deadlines and they were a bit understaffed. She said that having 'observers' around can be tough and not popular with the bosses there. One of the Scottish editors of a London-based newspaper said that there was no point for me to do the observation as they do not have health correspondents. However, she

forwarded my request to their London office. When I followed-up with the London office, there was no reply. As I was only given the name of the health correspondent who is based in the London office, I tried to look for the contact details in the newspaper and on their website. However, the health correspondent's contact details were not available either in the newspaper or on the website. What they had was only an on-line general enquiry form. I posted a request for the contact details of their health correspondent. The reply was given by the customer liaison department saying that the newspaper was not permitted to give out an individual's contact details due to the data protection act.

I posted a request for help to a mailing list of people who were doing media research. The replies that I received varied. Some said that it is going to be very difficult or very tricky to get into the newsroom. Others said that no researchers have had several months of access into the newsroom in decades and some advised me to consider doing the ethnography covertly. Although some of the academics who were journalists gave me the names of journalists who I could try to contact, none of the journalists contacted were able to provide me with access to the newsroom.

I also attended a salon organised by the Economic and Social Research Council (ESRC) on how scientific ideas make their way to the public via the media. During the salon I met the general reporter of *The Herald* who covers science news. I asked him for the possibility of me observing *The Herald*'s newsroom. He advised me to contact the newsdesk secretary. I sent my request to the newsdesk secretary and a few days later, after sending a reminder email, I received a reply saying that I should contact the health correspondent directly. I emailed the health correspondent to arrange a meeting. Instead, she asked me to phone her in *The Herald*'s Edinburgh office. I explained to her that I was interested in understanding the process of producing health and medical news. I said that I wanted to know how she decided which stories to report, how to report it, and how the editors decide whether or not to publish the story. She told me that she needed to speak with the newsdesk secretary again. She said that she needed to seek the Editor's approval because I would have to sit in on news conferences. She said that she was not even involved in news conferences and that the news conference is only for the 'big' people. She asked what will happen to what I write because she was worried about confidentiality. I assured her by saying that I am writing for a PhD thesis. I spoke to the health correspondent again a few days later. She advised me to send an email directly to the Editor. I emailed the Editor explaining the purpose of my study. I

[6] The names of the newspapers which denied access have been kept anonymous.

received a reply the next day saying that I would be welcomed to the news conference but suggested that I visit *The Herald* on the day that the health correspondent is in the Glasgow office. He asked me to email his PA to arrange for the visit.

Besides gaining access to *The Herald*, access to *The Guardian* was also gained. As *The Guardian* has their own health editor, I contacted the health editor directly and explained to her the purpose of my study. She initially agreed with a one day visit. She said that the process is simple enough and it is not difficult to understand. She thought that what I could understand in two weeks is no different from one day. She also told me that the decision on which story to be published is dependent on the overall newspaper, in terms of which slot and how many slots are available. I also asked her about the possibility of me doing a work placement. She said that I needed to apply with the managing editor. I did apply for the placement but was not accepted.

3.2.3.3 Field relationships

The third stage is field relationships (relationships between the researcher and the journalists) (Cottle, 1998:53). Once access was gained, field relationships need to be formed. Cottle (1998:53) argues that one way of integrating into the newsroom is by familiarising oneself with the basic organisation of the newsroom such as the journalists sitting arrangement and their roles in the news organisation. Newsroom workers may be less suspicious of young postgraduate researchers than the more experienced and well-known academics, although the academics may be more at ease with the senior newsroom workers (Tuchman, 1991 in Cottle, 1998:54). Continuing acceptance is dependent on how the researcher projected their role and how the journalists' respond to the researcher's presence and projected role (Cottle, 1998:54). As such, the researcher should be able to find an acceptable role.

I familiarised myself with the newsroom organisation by noting the journalists' seating arrangement and their roles in the news organisation. I noted information such as who is who and who is doing what (the people in the newsroom), who is sitting where (the layout of the newsroom) and who is talking or not talking to whom (interactions between different people in the newsroom).

In terms of my role, I introduced myself as a linguistic postgraduate researcher who is interested in knowing how and why health and medical news are produced the way they are. In *The Herald*, as the initial access was gained through the health and medical correspondent, my initial observation was only with the health and medical correspondent.

However, after I spoke with the Editor, I was then able to interview other journalists. I was also allowed to observe the newsdesk and sub-editors. In *The Guardian*, as they have their own health editor, access was gained through the health editor. I was also able to attend the morning news conference and interviewed a senior journalist who was previously a health and medical correspondent.

3.2.3.4 Collecting and recording data

The fourth stage is collecting and recording data. According to Cottle (1998:55), the types of data collected in participant observation are observation, talk, interviews and documents. Some of the information that can be recorded during observation includes spatial, temporal and hierarchical structure of the newsroom, particular activity or particular journalist and an unexpected event. This information is recorded in field notes, which should be written-up from basic observation notes and memory prompts and used in ordering and data analysis. Cottle argues that talk and interviews can be recorded using a recorder. However, Cottle also warned that while the use of recorder might be acceptable for some, others might find it intrusive. Moreover, there might be problems in translating and interpreting too many recorded conversations. The use of a recorder is ideal for recording formal interviews and news conferences, which are relatively short and can provide a rich source of journalists' comments and verbalised decision-making. Other documents that can be collected during participant observation are press releases, computerised press agencies reports, computerised archival records and picture libraries, output produced by other news organisations, official listings such as court lists, other documents related to past and present news stories, edited and unedited version of the news stories, and journalists' own notes.

I recorded the observations and interviews using a digital voice recorder and a notebook. At the end of each day the digital data was transferred to a computer and observation notes were recorded into field notes. Permission to record was sought and issues of confidentiality and veto were discussed before the interviews and observations began.

To ensure that the objectives of the participant observation were achieved, I prepared the following topic questions:

1. Organisational structure: How many health and medical journalists are there in a newspaper organisation? What is the background of health and medical correspondents? How are they different from science correspondents? Do health and medical journalists only write health and medical news? Do they also write science

news? Is there a difference between health and medical news and science news? If yes, how are they differentiated?

2. News structure: What are the different types of health and medical news? What type of information is included and excluded?
3. News writing process: How do writers decide what to write and how to write it? Do they follow any guidelines when writing health and medical news? Who are their sources? Do the writers orient to the concern for 'distortion' and therefore the guidelines?
4. News conference: How long does a news conference last? What is discussed during the news conference? Who is involved in the news conference? Who chairs the news conference? Are there any restrictions on who can and cannot attend the news conference? Who represents health and medical news in the news conference? How do the health and medical correspondents feel about the news conference and not being allowed to attend? What affects the decision to publish? Is there an orientation to the concern for 'distortion' and the guidelines in the news conference?

After each visit I reviewed the questions to see if they have been answered. Questions that have not been answered were then asked or observed in the following visit together with new questions that arose after each visit. The follow-up questions were mostly in terms of the news 'production' process, for example: What is the difference between the news 'creation' process and the news 'production' process? Who are the people in the newsdesk? What do they do? Who are the sub-editors? What is the difference between newsdesk and subs-editors? Who decides what to publish and whether or not to publish? How is the decision made? What is the difference between what is happening in the three different news conferences? When is the paper printed? Who decides whether or not to incorporate any changes after the last news conference? How is the headline written? Who writes the headline? Are there any guidelines used when writing the headline?

3.3 *Analytical frameworks*

3.3.1 Genre Analysis

Genre Analysis is used for descriptive analysis of the textual data. It is used to describe the genre of health and medical news reports and the genre of health and medical press releases. The genre of health and medical news reports is then compared with the genre of health and

medical research articles, popularised health and medical texts, news texts and health and medical press releases.

There are three different approaches to genre analysis; the English for Specific Purposes (ESP), the Systemic Functional Linguistics (SFL) and the New Rhetoric (NR). This section briefly reviews all three approaches. The ESP approach provides a model for research articles which can be used for comparison. Moreover, the ESP approach has been applied to health and medical research articles and popularised health and medical texts (see Chapter 4) and press releases, although not specifically on health and medical press releases (see Chapter 7). Although particular attention is paid to the ESP approach, the SFL approach is also taken into consideration. The SFL approach is used to identify the lexico-grammatical features of the moves, which are not dealt with in sufficient detail in the ESP approach. The NR approach is briefly discussed to show why they are not appropriate for this study. This study is not intended to conduct two separate analyses of move structures and lexico-grammatical features; instead the SFL approach is also used to complement the ESP approach

3.3.1.1 The English for Specific Purposes (ESP) approach

There are three key notions which are central to the ESP approach by Swales (1981, 2000); discourse community, genre and schema. A group of individuals are identified as a discourse community when they share the following six characteristics. The first characteristic is the members' shared goals (Swales, 2000:24). In the case of the media, journalists share the goals of informing and entertaining the public (Fairclough, 1995). The second characteristic is the presence of mechanisms for communication among members to achieve their shared goals (Swales, 2000:25). To achieve the shared goals, journalists communicate with each other through emails and telephone or attend the same press conferences. Journalists also share the same journalistic judgement when determining the newsworthiness of a story (Entwistle & Hancock-Beaulieu, 1992). Journalistic judgement is governed by news values such as frequency, intensity, un-ambiguity, meaningfulness, cultural proximity, relevance, unpredictability, personalisation and negativity (Galtung & Ruge, 1973). The third characteristic is active participation by members (Swales, 2000:26). Active participation by journalists can be seen in the presence of the output produced by journalists, for example the news reports and the television/radio programmes. The fourth characteristic is the genre(s) that is possessed by a discourse community (Swales, 2000:26). This is to establish the status of the discourse community in relation to other communities. The fifth characteristic is the members' acquisition of specialised terminologies. Journalistic jargons such as 'headline',

'byline', 'wires' and 'newsdesk' are known to the wider communities as specialised terminologies which are used in the media discourse community. The sixth characteristic is the level of members' expertise (Swales, 2000:27). The survival of a discourse community is dependent on a reasonable ratio of novice and expert members.

A genre is viewed as a class of communicative events with a set of goals that are shared by members of a discourse community (Swales, 2000; 1981). A communicative event refers to an event in which language plays a significant and indispensible role (Swales, 2000:45). It comprises not only of discourse and its participants but also the role of that discourse and the context of its production and reception. The feature that turns a class of communicative events into a genre is the shared set of communicative purposes (Swales, 2000:46). While communicative purpose is the privileged property of a genre, other properties such as form and structure influence genre identification. The two important aspects in genre theory are the use of language in a conventionalised setting and the flexibility of genre (Bhatia, 2005). The use of language in a conventionalised setting reflects the communicative purposes of the particular institution. The communicative purposes set the constraints of the discourse, in terms of structure and linguistic features. On the other hand, the flexibility of genre implies that the structure and linguistic features that characterise the genre can be exploited by the expert member of a discourse community. The view that genre is not static indicates that the ESP approach views text analysis as a process analysis (Swales, 1981:21).

An understanding of genre analysis in the ESP approach is facilitated by an understanding of the notion of schema. According to Swales (1990:84), schema is a psychological concept that is used to refer to the organisation of knowledge in the memory and this is influenced by previous experience and prior texts. The two types of schema that contribute to an identification of genre are content schema and formal schema. Previous experience and prior texts contribute to our knowledge of facts, concepts and procedures. Prior texts also add to our knowledge of structure, rhetoric, and style of texts. Knowledge of facts and concepts contribute to content schema, while knowledge of text structure, rhetoric, style, and procedures contribute to formal schema. Therefore, an understanding of genre requires an understanding of both content and formal schema.

An example of the ESP approach to genre analysis can be seen in Swales' (1981, 2000) identification of the move structure of the Introduction section in scientific research articles. 'Move' refers to a semantic unit which is related to the writer's purposes (McKinlay, 1984 in Swales, 2000). Swales defines a move according to the function that it performs in relation to the overall function of the scientific research article. Move structure refers to the socio-

cognitive patterns that are used by members of a discourse community to "construct and interpret discourses specific to their professional cultures" (Bhatia, 2005:9). According to Swales, the Introduction section of research articles has the following move structure: "Establishing a territory", "Establishing a niche", and "Occupying a niche". The moves can be realised by linguistic features that are typical of a particular move. For example, the move "Establishing a territory" can be realised by stating current knowledge using preparatory statements such as 'There is evidence that …' The move structure and linguistic features that are identified will reflect the communicative purpose of the Introduction section, which is to motivate and justify the need for a new study.

One of the difficulties in Swales' ESP approach is that analysts have to use their own knowledge to identify the function of a particular move. The differences between different analysts' knowledge might contribute to the differences in the moves identified. As the following overview of the SFL approach shows, different lexico-grammatical features can be used to serve different functions. I hope that by describing the relationship between the elements of structure, (i.e. the moves and steps) with linguistic realisation at the lexico-grammatical level, the difficulty in move identification can be overcome.

3.3.1.2 The Systemic Functional Linguistics (SFL) approach

In the SFL approach, genre is viewed as "staged goal-oriented social processes" (Halliday & Martin, 1993; Martin & Rose, 2002). It is a social process because it involves interaction with people, goal-oriented because genre is used to achieve a purpose, and staged because it needs to go through specific stages to achieve that purpose. Thus, similar to the ESP approach, the SFL approach is concerned with the social purpose and the structure that is used to achieve that purpose (Hyland, 2002).

However, in the SFL approach, a genre is realised through register. Register is organised metafunctionally into "field", "tenor", and "mode" (Martin & Rose, 2003:254). Field refers to the nature of social action, tenor refers to the nature of participants, and mode refers to the role of language. The field, tenor and mode characterise the schematic structure of a text which represents a genre. Consequently, an analysis of genre will incorporate an analysis of field, tenor, and mode.

An example of the SFL approach to lexico-grammatical analysis can be seen in Halliday and Martin's (1993) lexico-grammatical analysis of scientific writing. Their analysis showed that scientific language has the following features: interlocking definition, technical taxonomies, special expression, lexical density, syntactic ambiguity, grammatical metaphor, and semantic

discontinuity. The identification of these features, which are specific to scientific discourse, can assist in understanding that the problem with scientific language is not only due to the technical terms used, but also due to the complexity of the grammar used. Other examples of lexico-grammatical features that have been analysed using the SFL approach include lexical cohesion in science and popular science texts (Myers, 1991) and authorial positioning in popular science texts (Fuller, 1993; Crismore & Farnsworth, 1990).

3.3.1.3 The New Rhetoric (NR) approach

Genre is viewed by the NR approach as a recurrent social action that is recognised by both the writer and the reader (Miller, 1994). As recurrent social action, genre acquires meaning from social context (Miller, 1994). The NR focuses on unpacking the relationship between text and context (Freedman & Medway, 1994) and tends to use ethnography as a methodology to discover the attitudes, values and beliefs of the text users (Hyland, 2002).

An example of the use of genre analysis by the NR can be seen in Schryer's (1994) ethnographic study which compares the genre of research with the genre of practice in medicine. In viewing genre as activity, the genre of research and genre of practice can be differentiated in terms of their organisational structure, epistemology, values, purpose, and audiences (Schryer, 1994). The difference between the experimental system, which is the characteristic of research, and the problem solving system, which is the characteristic of practice, differentiates the world of lab and clinic. A report of research is organised into Introduction-Method-Result-Discussion-Summary (IMRDS), while a report of practice is organised into Problem Oriented Medical Record (POMR). The knowledge that is produced by IMRDS is more 'real' than that produced by POMR (Schryer, 1994:121). In terms of values, research values scientific development, facts, validity, methods, and education, while practice values medicine, case problem solving, case-oriented teaching, skills, and training (Schryer, 1994:112). IMRDS is a reporting genre while POMR is a recording genre. In constructing a report, the purpose is to convey an interest towards a particular event, while the purpose of recording genre is to document a particular event or case. IMRDS has wider audiences and different audience awareness than POMR. POMR audiences are only those who are involved in a particular case and "socialised into reading records" (Schryer, 1994:120).

Although the NR approach can be used for genre comparison in terms of the difference in the attitudes, values and beliefs of the text users, the NR approach is not used in this study.

This is because the focus of genre analysis in the present study is on the text itself instead of the text users.

3.3.2 Critical Discourse Analysis

The genre analysis described in the previous section is used to describe the textual data. The critical discourse analysis (CDA), described in this section, can be used to account for the findings obtained from the series of textual analysis and the evidence obtained from the email interview and ethnographic data. CDA can account for the findings by linking textual analysis to the wider contextual situation. CDA assumes that all discourses are historical and therefore must be understood in context. Extra-linguistic factors such as culture, society and ideology are part of the analysis of context. The notion of context plays a crucial role in CDA because it postulates an interdisciplinary perspective. Context also affects the assumptions about the relationship between language and society (Meyer, 2002:14). In addition to the importance of context, other distinguishing features of CDA are the view of procedure as a hermeneutic process, a method of "grasping and producing meaning relations" where meaning of one part can only be understood in the context but is also only accessible from its component part (Meyer, 2002:16). CDA also involves the incorporation of linguistic analyses, interdisciplinary claims, adoption of different perspectives and constant movement between analysis and data collection (Meyer, 2002:16).

This section reviews the CDA frameworks by van Dijk (2002), Wodak (2002) and Fairclough (2002). While Fairclough's CDA is described in terms of social problems and its linguistic manifestation, Wodak's and van Dijk's CDA are described in terms of socio-psychological and socio-cognitive. The differences in the theories employed by the different approaches will show why Fairclough's CDA is more relevant to pursue the 'why' of the discourse of distortion.

3.3.2.1 Different methodologies of CDA

Van Dijk's CDA, which is labelled as socio-cognitive discourse analysis, is confined within the theoretical discourse-cognition-society triangle. Discourse refers to a "communicative event", which includes conversational interaction, written texts and any other semiotic dimension of signification (van Dijk, 2002:98). Cognition refers to personal and social cognition, beliefs, goals, evaluations, emotions and other mental or memory structures, representations or processes (van Dijk, 2002:98). Society refers to local, global, societal and political structures (van Dijk, 2002:98). The combined social and cognitive dimension of the

triangle can be seen as defining the context of discourse (van Dijk, 2002:98). This shows that van Dijk's focus is on the importance of text-context relationships. Only integration of text, cognitive and social analysis can reach descriptive, explanatory and critical understanding of the social problem (van Dijk, 2002:98). Van Dijk argues that CDA also needs a linguistic basis. The linguistic basis can be understood in a broad sense of 'structural-functional'. In other words, CDA as a form and practice of discourse analysis needs to account for some of the structures, strategies and functions of text and talk.

While van Dijk's CDA approach is focused more towards the socio-psychological side, Wodak's CDA approach is more linguistically oriented (Meyer, 2002:21). Wodak's CDA approach is known as the discourse-historical approach. This approach is in-line with the pragmatic approach of Mouzelis' (1995 in Wodak, 2002:64), where theory formation and conceptualisation need to be related closely with the social problem that is being studied. Therefore the question that needs to be asked is "what conceptual tools are relevant for this or that problem and for this and that context?" (Wodak, 2002:64). According to Wodak, CDA approaches should try to make their choices transparent and justify why certain interpretations are more valid than others. In trying to minimise bias, the principal of triangulation should be followed (Wodak, 2002:65). Thus, the discourse-historical approach tries to use different approaches, in terms of the methods used, empirical data and background information. This triangulation approach is based on a concept of 'context', which can be divided into four levels; linguistic analyses, discourse theory, middle range theory and grand theory (Wodak, 2002:167).

Unlike Wodak's discourse-historical approach which focuses on linguistic theories and discourse theories, Fairclough's CDA takes a specific middle range theory, which focuses on a social problem and tries to detect its linguistic manifestations in discourses (Meyer, 2002:22). Fairclough's CDA is based on the view of "semiosis as an irreducible part of material social processes" and every social practice has a semiotic element (Fairclough, 2002:122). Fairclough argues that the reason for focusing on social practice is because it allows a combination of structure and action. A practice can refer to both "a relatively permanent way of acting socially" and "a domain of social action and interaction" (Fairclough, 2002:122). As a habitual way of acting, a practice is defined by its position in a network of practices. As a social action, a practice can reproduce and possibly transform the structure. All practices are practices of production and involve configurations of elements of life, which include productive activity, means of production, social relations, social identities, cultural values, consciousness and semiosis. These elements are dialectically

related, in a sense that "each 'internalises' the other without being reducible to them" (Harvey, 1996 in Fairclough, 2002:122). Fairclough's CDA analyses the dialectical relationships between semiosis and other elements of a social practice. In other words, Fairclough's CDA is concerned with "shifts in the relationship between semiosis and other social elements within networks of practices", i.e. their relative stability when articulated as 'moments' of that practice, and with how semiosis figures in the process of change that is taking place (Fairclough, 2002:123). The role of semiosis needs to be established through analysis because semiosis might be more important and salient in one practice than another and its importance might change over time (Fairclough, 2002:122). In social practices, semiosis can figure as part of the social activity (genres), in representations (discourses) and in 'performance' of a position (styles). Social practices which are networked in a particular way constitute a social order (Fairclough, 2002:124). The semiotic aspect of a social order is called an order of discourse, which refers to a particular configuration of genres, discourses and styles (Fairclough, 2002:124). As an order of discourse is an open system, it can be put at risk by what 'actually' happens (Fairclough, 2002:124). Thus, there is a constant movement between a focus on the shifting of structuring relationships between genres, discourses and styles (constitute social structure) which maintain a relative stability of orders of discourse (constitute the semiotic aspect of a social practice) and a focus on the relationships between genres, discourse and styles in 'actual' texts and interactions (constitute social event).

From the models reviewed above, the version of CDA which is relevant for the present study is that of Fairclough's. This is because the present study is interested in looking at a specific social phenomenon i.e. the concern for 'distortion'.

3.3.2.2 CDA Framework

This section explores the CDA framework of Chouliaraki and Fairclough (2005) and Fairclough (2002) which is modelled on "explanatory critique" developed by Bhaskar (1986). It takes the following framework; focus upon a social problem which has a semiotic aspect; identify obstacles to its being tackled and consider whether the social order in a sense "needs" this problem (Chouliaraki & Fairclough, 2005:60).

The first stage in Fairclough's CDA analytical framework is to focus on a social problem which has a semiotic aspect. A problem with a semiotic aspect refers to a social problem which is discourse-related (Chouliaraki & Fairclough, 2005:60). The problem can be identified in terms of the activities of a social practice or in the reflective construction of a

social practice. The former is "need-based" explanatory critique while the latter is "cognitive" explanatory critique (Chouliaraki & Fairclough, 2005:33; Collier, 1994:184; Bhaskar, 1986:191). The advantage of focusing on practices is that practices can relate abstract structures with concrete events and agency (Chouliaraki & Fairclough, 2005:21). The term 'practices' will be used to refer to both an action, which refers to what is done in a particular time and place, and a habitual way of acting (Chouliaraki & Fairclough, 2005:22). In cognitive explanatory critique, "the production of explanations of social institutions is not only, as a general rule, a precondition of criticising and changing them; sometimes it *is* criticising them, and beginning the work of their subversion" (Collier, 1994:172).

The classic example of explanatory critique that is provided by Bhaskar is Karl Marx's account of the wage form (Collier, 1994:172). Wage-labour occurs when the workers have to sell their power to the owner of the means of labour (the tools, materials and place of work used to produce a product). The product of the worker's labour is owned by the owner of the means of labour and the worker is paid for the labour-power that they sold to the owner. However, wage-labour generates the ideology of "wages as payment for labour", which is a false belief in that what is paid for is labour-power and not labour. The worker can only be paid for labour-power when the worker's labour is only possible with such exchanges. Moreover, as only a small portion of the product sold goes to the worker, the worker would not be able to acquire the means of labour. In other words, the small portion of payment to the worker ensures that the worker is deprived of the means of labour. Therefore, "not only does the institution of wage-labour *cause* false beliefs about itself, it also *protects itself* from the wrath of the workers by this illusion" (Collier, 1994:173). In Chapter 8 I show that the concern for 'distortion' can be explained in terms of cognitive and need-based explanatory critique.

The objective of the second stage is to understand the obstacles which prevent the scientific community's concern for 'distortion' being tackled. These obstacles can be seen in terms of the "network of social practices which constitute the social structure" (Chouliaraki & Fairclough, 2005:61). The purpose is to get a sense of an overall view of the social practice where the concern for 'distortion' is located.

In the first and second stages, the concern for 'distortion' is explained in terms of the differences between scientific practices and journalistic practices. In the third stage, the analysis shifts to evaluation of the practice in terms of its function (Chouliaraki & Fairclough, 2005:65). In other words, the third stage evaluates the practice of the scientific

community in terms of the function that the concern serves which makes the concern exist in the first place.

In summary, CDA can be used to make explicit the relationships between networks of practices where the concern for 'distortion' is located. Some of the distinguishing features of CDA are the importance placed on context, the view of procedure as a hermeneutic process, the incorporation of linguistic analyses, interdisciplinary claims, adoption of different perspectives and constant movement between analysis and data collection (Meyer, 2002:16). From the different methodologies reviewed, such as the socio-cognitive discourse analysis by van Dijk (2002), discourse-historical approach by Wodak (2002) and Bhaskar's (1986) "explanatory critique" by Fairclough (2002), the version of CDA which can be relevant is that of Fairclough's. This is because the present study is interested in looking at a specific social phenomenon (the concern for 'distortion').

3.4 *Summary*

The first part of this chapter described the data collected for this study, specifically textual data, email interview data and ethnographic data. The second part of the chapter described the two analytical frameworks used in this study, namely Genre Analysis and Critical Discourse Analysis. This study employs the English for Specific Purposes (ESP) approach to genre analysis. Although particular attention is paid to the ESP approach to identify the move structure, the Systemic Functional Linguistics (SFL) approach is also taken into consideration. The SFL approach is used to identify the lexico-grammatical features of the moves, which are not dealt with in sufficient detail in the ESP approach. The SFL approach is used to complement the ESP approach. The version of CDA which can be used to interpret the data is that of Fairclough's.

The next chapter, Chapter 4 deals with the application of the ESP approach, specifically the move structure of research articles, health and medical research articles and popularised health and medical texts. Chapter 4 also provides an overview of the schematic structure of news texts and shows why move structure analysis is comparable to schematic structure analysis.

4. Overview of the structure of research articles and news texts

4.1 *Introduction*

In Chapter 3 I have indicated that a model for the genres of health and medical research articles, popularised health and medical texts and news texts, is picked from the available literature. This chapter provides an overview of the model.

I start by reviewing the structure of research articles in general and move on to focus on health and medical research articles. This is followed by a review of the structure of popularised health and medical texts and news texts. Section 4.2 provides an overview of the move structure of research articles in general before moving on to health and medical research articles in particular (Nwogu, 1997; Skelton, 1994; Adams-Smith, 1984). The review on the move structure of research articles in general will show that there are disciplinary variations in the move structure of research articles. As such, the move structure that is used for comparison should be health and medical research articles.

Section 4.2 also provides an overview of how Swales' ESP approach has been applied to popularised health and medical texts (Nwogu, 1991). An overview of the structure of popularised health and medical texts is placed under the research articles section because the move structure of popularised health and medical texts resembles the move structure of health and medical research articles. As previous studies on the genre of news texts use van Dijk's (1985) and Bell's (1991) approach to schematic structure analysis instead of Swales' approach to move structure analysis, Section 4.3 provides an overview of the structure of news texts by van Dijk (1985, 1986) and Bell (1991). Section 4.4 shows why move structure analysis is comparable to schematic structure analysis.

4.2 *Research articles*

Swales (2000) argues that there are three different macrostructures in scientific research articles; problem-solution structure, Dogma-Dissonance-Crisis-Search-New Model, and Introduction-Method-Results-Discussion. However, the most common macrostructure is the Introduction-Method-Results-Discussion (IMRD) format. Swales (2000), using Hill et al.'s (1982) model, shows that the macrostructure of a scientific research article can take the shape of an hour-glass diagram, which is comprised of Introduction, Procedure (Method and Results), and Discussion. The Introduction moves from the general context to the specific

experiment by describing the limitations of previous research that leads the present research to be carried out. The Method and Results sections provide the operationalisation and the result of the experiment respectively. This is the narrow part of the hour-glass structure. The Discussion, contrary to Introduction, moves from the specific experiment to general implications. It provides an interpretation of the result, limitations of the present research, and suggestions for future research.

This section starts by reviewing the move structure of research articles in general (Section 4.2.1) before focusing on health and medical research articles (Section 4.2.2) and popularised health and medical texts (Section 4.2.3).

4.2.1 Move structure of research articles

'Move' refers to a semantic unit which is related to the writer's purposes (McKinlay, 1984 in Swales, 2000). Swales defines move according to the function that it performs in relation to the overall function of the scientific research article. Each move is specified into 'steps'. 'Steps' refers to the means to realise the function of a move. Some steps are obligatory and some are optional. This implies that while the genre of research articles recognises a typical pattern, it also allows for variation.

4.2.1.1 Introduction section of research articles

In identifying the move structure of the Introduction section, Swales (2000) proposes a model of three 'moves' structure; *Establishing a territory*, *Establishing a niche*, and *Occupying the niche*. According to Swales (2000), the communicative purpose of the Introduction section is to motivate the present research and justify its publication. It also provides the audience with information on what the article is about without giving all the information the research reported (Bhatia, 1993:82). By doing so, it places the study in an appropriate context. These communicative purposes are reflected in the move structure and linguistic features of the Introduction section of research articles. Swales' (2000) move structure of the Introduction section is outlined in the following figure:

Move 1: Establishing a territory
Step 1 Claiming centrality and/or
Step 2 Making topic generalisation and/or
Step 3 Reviewing items of previous research

Move 2: Establishing a niche
Step 1A Counter-claiming or
Step 1B Indicating a gap or
Step 1C Question-raising or
Step 1D Continuing a tradition

Move 3: Occupying a niche
Step 1A Outlining purposes or
Step 1B Announcing present research
Step 2 Announcing principal findings
Step 3 Indicating research article structure

Figure 4-1 Swales' (2000:141) move structure of Introduction section in research articles

As the above figure shows, in Move 1, the territory of the study is established by orienting the reader to the established knowledge. This move is specified into three steps. Step 1, *Claiming centrality*, is an appeal to the discourse community where members are asked to accept that the research is part of an on-going and well-established research area (Swales, 2000:144). Step 1 links the research to be investigated with other relevant research. Step 1 is signalled by claiming an interest, such as 'Recently, there has been an increased interest in …' and stating current knowledge and current phenomena such as 'There is evidence to show that …'. Step 2, *Making topic generalisation*, is where the researchers the current state of knowledge in general terms. Step 3, *Reviewing items of previous research*, is where the researchers review one or more items that are considered to be relevant to establishing the territory. Step 3 is realised by specifying previous findings, providing attribution to those who publish the studies, and providing a position towards the previous findings.

In Move 2, niche establishment does not necessarily have to occur after the entire review is completed but may follow after each review. The niche of the research about to be reported is established using sentence connectors which indicate a contradiction, such as 'however', 'yet', 'unfortunately' and 'but'. The gap in previous studies can be signalled using verbs such as 'limited to' and 'failed', adjective phrases such as 'not sufficiently accurate' and verb negation such as 'cannot treat'. Other linguistic features of Move 2 that are identified by Swales include negative or quasi-negative quantifiers such as 'no', 'little' and 'none'; lexical negation such as 'lack', 'inconclusive' and 'limited'; negation in verb phrases such as 'not' and 'rarely'; direct and indirect questions; expression of the needs/desires/interests to do more research; logical conclusions such as 'must' and 'appear'; contrastive comments such as 'the focus of the present study is ….. rather than …..'; and problem raising. (Swales, 2000:155)

Move 3 introduces the new research by turning Move 2 into a research space that can provide justification for the present research. Whenever a Move 2 occurs, Move 3 subsequently offers to substantiate the claim made, fill the gap or continue the research tradition. The obligatory element in Move 3 is Step 1. In Step 1, the author can either

indicate their main purpose or describe the main features of their research. They are typically marked by the absence of references to previous research and the use of deictic to signal the present research, for example *this*, *the present*, *now* and *here*. When the deictic refers to the paper, report or review, the tense is restricted to present tense, for example 'The purpose of this paper is to.....'. However, when the deictic refers to the investigation, study or experiment, the tense can be present tense or past tense. The presence of Step 2 varies according to different disciplines. Step 3, if it occurs, is usually at the end of the article.

Although Swales' model of the Introduction section of research articles is based on articles from hard sciences, social sciences, life and health sciences, when Kanoksilapatham (2005) applied the model to biochemistry research articles, he found some differences. Kanoksilapatham found that some articles in biochemistry do not include Move 2 in their Introduction, especially in studies which were continuations of established research programmes. Move 2 is not used because researchers assume that the readers will be familiar with the established research. Move 3 in biochemistry research articles also does not include an explicit outline of the structure of the research articles.

4.2.1.2 Method section of research articles

The communicative purpose of the Method section is to describe the procedures used in the study, as the following figure shows:

Kanoksilapatham (2005)	**Lim (2005)**
Move 1: Describing materials (1) Listing materials (2) Detailing the source of the materials (3) Providing the background of the materials Move 2: Describing experimental procedures (1) Documenting established procedures (2) Detailing procedures (3) Providing the background of the procedures Move 3: Detailing equipment Move 4: Describing statistical procedures	Move 1: Describing data collection procedures (1) Describing the sample (2) Recounting steps in data collection (3) Justifying the data collection procedures Move 2: Delineating procedures for measuring variables (1) Presenting an overview of the design (2) Explaining methods of measuring variables (3) Justifying the methods of measuring variable Move 3: Elucidating data analysis procedures (1) Relating data analysis procedures (2) Justifying the data analysis procedures (3) Previewing results

Figure 4-2 Move structure of the Method section in research articles

The above figure shows that while Kanoksilapatham (2005) identifies four moves in the Method section of biochemistry research articles, Lim (2005) identifies three moves in the Method section of management research articles. The difference is in the presence of Move 3 in biochemistry research articles. According to Kanoksilapatham, Move 3 is used in biochemistry research articles to provide details of the apparatus used in an experiment. The function of Moves 1, 2 and 4 in biochemistry research articles is similar to the function of Moves 1, 2 and 3 in management research articles. The function of Move 1 is to describe the data used in the study. The function of Move 2 is to describe the procedures used to analyse the data described in Move 1. The function of Move 4 in biochemistry research articles and Move 3 in management research articles is to describe how the data described in Move 1 is analysed.

4.2.1.3 Results section of research articles

The communicative purpose of the Results section is not only to report the results but also comment on the results as the following figure shows:

Kanoksilapatham (2005)	**Yang and Allison (2003)**
Move 1: Stating procedures (1) Describing aims and purposes (2) Stating research questions (3) Making hypotheses (4) Listing procedures or methodological techniques Move 2: Justifying procedures or methodology (1) Citing established knowledge of the procedure (2) Referring to previous research Move 3: Stating results (1) Substantiating results (2) Invalidating results Move 4: Stating comments on the results (1) Explaining the results (2) Making generalisations or interpretations of the results (3) Evaluating the current findings (4) Stating limitations (5) Summarising	Move 1: Preparatory information Move 2: Reporting results Move 3: Commenting on results (1) Interpreting results (2) Comparing results with literature (3) Evaluating results (4) Accounting for results

Figure 4-3 Move structure of the Results section in research articles

The above figure shows that while Kanoksilapatham identifies four moves in the Results section of biochemistry research articles, Yang and Allison only identify three moves in the Results section of applied linguistics research articles. The difference is in the presence of

Move 2 in Kanoksilapatham's research articles. In Move 2, the results are situated within a context, assuring the readers that the results have been obtained using a justifiable methodology. The function of Move 2 in biochemistry research articles is for the researcher to gain acceptance from the scientific community. The function of Move 1 in a biochemistry research article is similar to the function of Move 1 in an applied linguistics research article, which is to provide relevant information to present the results. Move 1 is used to remind readers why and how the data has been produced. The function of Moves 3 and 4 in biochemistry research articles is also similar to the function of Moves 2 and 3 in applied linguistics, which is to present the results and comment on the results. Although the function of the Result section is biochemistry is similar to applied linguistics, the above figure shows that the steps taken to realise each move is different.

4.2.1.4 Discussion section of research articles

Previous studies of the move structure in the Discussion section usually focus on the cyclicity of the moves in the Discussion section. The importance of move cycle is noted by Hopkins and Dudley-Evans (1988). They argue that move cycles describe the functions of language in such a way that it reflects the writers' constant shifting of foreground. Studies of move cycles focus more on the Discussion section of research articles, for example Hopkins and Dudley-Evans (1988), Dudley-Evans (1994), and Peacock (2002). The moves and cyclicity of the moves in the Discussion section are outlined below:

Moves:
1. information move (background about theory/research aims/methodology) 2. finding (with or without a reference to a graph or table) 3. expected or unexpected outcome (comment on whether the result is expected or not) 4. reference to previous research 5. explanation (reasons for expected or unexpected results) 6. claim [contribution to research (sometimes with recommendations for action)] 7. limitation 8. recommendation (suggestions for future research)
Move cycles:
I. Introduction: moves 1, 2, or 6 II. Evaluation: the key move cycles are 2+4, 2+6, 3+4, and 3+5. Other less common cycles are 6+4 and 4+6 III. Conclusion: moves 2+6, 8, 8+6, or 7+6

Figure 4-4 Moves and move cycles of the Discussion section in research articles

Peacock (2002) shows that move cycles in the Discussion section involve a combination of two or three of the eight available moves. The move cycles form a three-part framework consisting of Introduction, Evaluation, and Conclusion. Peacock's (2002) moves are a revised model of an earlier model by Dudley-Evans (1994). Dudley-Evans (1994) identifies nine sets of moves with three-part frameworks in the Discussion section. Peacock's (2002) analysis shows that Dudley-Evans' (1994) model is not accurate when applied to his data, which was collected from a wide range of disciplines. Peacock's (2002:484) analysis was conducted across seven different disciplines: Physics and Material Science, Biology, Environmental Science, Business, Language and Linguistics, Public and Social Administration, and Law.

Peacock's (2002) interdisciplinary analysis shows that there are interdisciplinary differences in the number of moves and move cycles used. Although different disciplines can share the same move, move cycles vary across different disciplines. For example, the use of move cycles is more often in Language and Linguistics and Law than in Physics and Environmental Science (Peacock, 2002:488). Peacock suspects that this could be due to the intensity of competition in that discipline. A discipline with little competition, such as Physics and Environmental Science, will use fewer moves and move cycles. As move cycles characterise the genre of that particular discipline, an analysis of move needs to involve an analysis of the cyclicity of moves (Hopkins & Dudley-Evans, 1988; Peacock, 2002). Although most previous studies focus on the cyclicity of the Moves in the Discussion section, Yang and Allison's (2003) study on the Discussion section of research articles focus on the similarities/differences between the Discussion and Conclusion section. The following figure summarises Yang and Allison's (2003) moves in the Discussion and Conclusion section of research articles:

Discussion section	**Conclusion section**
Move 1: Background information Move 2: Reporting results Move 3: Summarising results Move 4: Commenting on results (1) Interpreting results (2) Comparing results with literature (3) Accounting for results (4) Evaluating results Move 5: Summarising the study Move 6: Evaluating the study (1) Indicating limitations (2) Indicating significance (3) Evaluating methodology Move 7: Deductions from the	Move 1: Summarising the study Move 2: Evaluating the study (1) Indicating significance (2) Indicating limitations (3) Evaluating methodology Move 3: Deductions from the research (1) Recommending further research (2) Drawing pedagogic implication

research (1) Making suggestions (2) Recommending further research (3) Drawing pedagogic implication	

Figure 4-5 Move structure of the Discussion and Conclusion sections in research articles

Yang and Allison (2003) show that there is an overlap in the moves and sub-moves identified in the Discussion and Conclusion sections. Moves 5 to 7 in the Discussion section are similar to Moves 1 to 3 in the Conclusion section, with some variations in the steps. The difference is the presence of Moves 1 to 4 in the Discussion section. This is due to the difference in the communicative purpose of the Discussion and Conclusion sections. The primary communicative purpose of the Discussion section is to provide a comment on a specific finding, while the communicative purpose of the Conclusion section is to summarise the overall findings and assess the study (Yang & Allison, 2003:379). Although the linguistic features of the Discussion and Conclusion sections are not assessed by Yang and Allison, the ESP approach argues that different moves are realised by different linguistic features. As the move structure of the Discussion and Conclusion sections are different, the linguistic features that are used to realise the moves in the Discussion section may be different from the linguistic features that are used in the Conclusion section. Yang and Allison's study has shown that although the Discussion and Conclusion section can utilise the same moves, the difference in the communicative purpose of each section prompts the use of different section headings to indicate that they belong to different genres in the research article.

The review of the move structure of research articles in general has shown that although different disciplines might share some of the moves, there are disciplinary variations. As the focus of the present study is on health and medicine, the research articles that are used for comparison should be specifically on health and medical research articles. Thus in the next section I review the move structure of health and medical research articles.

4.2.2 Move structure of health and medical research articles

This section shows how Swales' ESP approach is applied to health and medical research articles. Nwogu (1997), Skelton (1994) and Adams-Smith (1984) show that similar to other research articles, health and medical research articles also consist of Introduction, Method, Result and Discussion sections.

According to Adams-Smith (1984), medical research papers can be divided into two types; those based on clinical trials and those based on epidemiological studies (Adams-Smith,

1984:28). Adams-Smith (1984:29) shows that the Introduction is where the subject and limit of the article is defined, the method is set out and relevant literature is briefly reviewed. However, Adams-Smith also shows that not all Introduction sections in health and medical research articles follow Swales' (1981) move structure. The Introduction section for epidemiological papers tends to be "quite loose in their structure" (Adams-Smith, 1984:30). The Method section is usually followed by Results section. This is where the data is presented in an "orderly, dispassionate, and logical manner" (Adams-Smith, 1984:30). They are usually accompanied with tables and graphs. The Discussion section is where the results are interpreted, the relationship of the current research with general knowledge of the subject is shown and the implications of the current research are considered (Calnan, 1973:90 in Adams-Smith, 1984:30). The concluding statement in the Discussion section includes recommendations for more effective research procedures, suggestions and hope for future research.

Nwogu's (1997) genre analysis of research articles, on the other hand, focused on the move structure of health and medical research articles. Nwogu's study is an extension of Swales' (1981) approach to genre analysis. Nwogu analyses the moves and linguistic features that characterise the Introduction, Method, Result, and Discussion sections of health and medical research articles. 'Move' is defined by Nwogu as "a text segment made up of a bundle of linguistic features (lexical meanings, propositional meanings, illocutionary forces, etc.) which gave the segment a uniform orientation and signal the content of discourse in it". A text segment is considered a move when there is an association between a function and the linguistic features which realise it. Similar to Swales, Nwogu also identifies moves in terms of their function. However, unlike Swales, Nwogu's moves are associated with the content of the moves. As Nwogu is including content as part of identification of the moves, Nwogu refers to 'sub-moves' instead of 'steps'. Nwogu argues that each move is comprised of a number of sub-moves, which constitute information in the move. Move and their sub-moves are determined by referring to the linguistic features and by inferring from the context. Therefore, the difference between Nwogu's moves/sub-moves and Swales' moves/steps is in terms of the inclusion of content as part of move identification.

Skelton's (1994) genre analysis of health and medical research articles also adopts Swales' approach to genre analysis. However, Skelton's criteria for identification of moves are less elaborate than Swales'. Skelton does not identify the different steps and linguistic features that are used to realise each move. On the other hand, Skelton speaks of 'exponents'. A move, according to Skelton (1984:456), is identifiable by "the common association between

function and exponent". Skelton argues that move structure analysis assigns a function to a text and the function is identified using exponents which signal its presence. As such Skelton's exponents can be likened to Swales' linguistic features.

The cyclicity of moves which are discussed by Swales (1981, 2000) and Hopkins and Dudley-Evans (1988) is not analysed by Nwogu or Skelton. However, while Skelton identifies whether a move is obligatory or optional and whether they are orderly, which is similar to Swales, Nwogu does not analyse whether a move is obligatory or optional. Nor does Nwogu analyse whether they are orderly or not. The following sub-sections describe the Introduction, Method, Result and Discussion sections of health and medical research articles by Nwogu and Skelton.

4.2.2.1 Introduction section of health and medical research articles

Nwogu (1997)	**Skelton (1994)**
Move 1: Presenting background information (1) Reference to established knowledge in the field (2) Reference to main research problems **Move 2: Reviewing related research** (1) Reference to previous research (2) Reference to limitations of previous research **Move 3: Presenting new research** (1) Reference to research purpose (2) Reference to main research procedure	**Move 1: Stating the relevance of the research** **Move 2: Contextualising the research in the literature** **Move 3: Claiming the novelty of the research** **Move 4: Stating the purpose of the research**

Figure 4-6 Move structure of the Introduction section in health and medical research articles

As the above figure shows, for Nwogu there are three moves in the Introduction section and Skelton shows that there are four moves in the Introduction section. According to Nwogu, Move 1, which is an initiation move, provides background information by presenting previous knowledge or highlighting the main research problems or both. The linguistic features used are present tense form and temporal and locative adverbials, for example "*In Britain*, the number of people affected with ….." (Nwogu, 1997:126) As the function of Move 1 is to assert the importance of the research, exponents that can be used include "important", "central", "common", "expanding", "evolving" and "growing" (Skelton, 1994:456). Although not common, Skelton finds that the importance of the research can also

be asserted by referring to a document in the public domain and referring to other researchers.

Although Nwogu's Move 1 differs from Skelton's Move 1, Nwogu's Move 2-1 is comparable to Skelton's Move 2. Nwogu's (1997) Move 2-1, which aims to show that the present study is part of continuing research, is a move that is used to indicate a gap in previous studies. Similarly, Skelton's Move 2 functions to contextualise the present research in recognised research traditions by reviewing previous research and can appear several times as different aspects of previous research can be discussed. Nwogu's Move 2-1 is realised by: indicating the author's name as subject, for example 'Nwogu (1997) reported that …..'; identifying the researchers by using common nouns, for example 'the researchers argue that …..'; and generalised reference to previous research, for example 'a number of studies show that …..'. Similarly, the exponent of Skelton's Move 2 is usually the researcher's name and/or the use of superscript numbers. Although not common, references to other researchers can also be used as an exponent of Move 2. According to Skelton (1994:466), references to other researchers can also be seen as Move 1. This shows that Move 1 and Move 2 can be combined in the same sentence.

While Nwogu's Move 2-1 is comparable to Skelton's Move 2, Nwogu's Move 2-2 is comparable to Skelton's Move 3 in terms of gap indication. Skelton's Move 3 functions to claim the novelty of the research by drawing the gap in the literature and asserting that the research questions need to be answered. The exponents used include "but", "however", "nevertheless" and "little is known" (Skelton, 1994:466). Nwogu's Move 2-2, on the other hand, reviews related research using negative evaluation of previous research and indicating a gap in previous studies. This shows that although gap indication is present in both moves, the function of indicating a gap is different. While gap indication in Nwogu's Introduction section is used to review previous research, Skelton's gap indication is used to claim novelty of the research. Reviewing previous research, according to Skelton, is part of Move 2.

As an indication of a gap provides a motivation for conducting a new study, the next move according to Skelton is to fill the gap, which is the function of Move 4, achieved by stating the aim of the research using exponents such as "aim", "intention" and "purpose". Similarly, Nwogu's next move after gap indication is Move 3, which functions to introduce the new research. The dominant sub-move in Move 3 is Step 1, which is realised using simple present tense, present perfect tense and explicit lexeme such as 'the objective of the present research is.....' On the other hand, references to the main research procedure is realised by referring to the method of investigation and sample data.

4.2.2.2 Method section of health and medical research articles

Nwogu (1997)	Skelton (1994)
Move 4: Describing data-collection procedure (1) Indicating source of data (2) Indicating data size (3) Indicating criteria for data collection **Move 5: Describing experimental procedures** (1) Identification of main research apparatus (2) Recounting experimental process (3) Indicating criteria for success **Move 6: Describing data-analysis procedures** (1) Defining terminologies (2) Indicating process of data classification (3) Identifying analytical instrument/procedure (4) Indicating modification to instrument/procedure	**Move 5: Identify the population being studied** **Move 6: Describe the research procedures** **Move 7: Name the statistical tests**

Figure 4-7 Move structure of the Method section in health and medical research articles

The above figure shows that the number of moves in the Method section identified by Nwogu (1997) is similar to those identified by Skelton (1994). Both Nwogu and Skelton show that the Method section comprises of three different moves. However, Skelton shows that the three moves in the Method sections are extremely likely to occur in the same order, with Move 5 and 6 identified as obligatory moves.

In Nwogu's analysis, Move 4 identifies, selects, and delimits the data. This move is realised using linguistic features such as the use of passive verb form to indicate the source of data, simple present tense or past tense to indicate the size of data and an explicit lexeme such as 'The study population.....' or 'Criteria for the inclusion is.....'. Nwogu's Move 4 is similar to Skelton's Move 5. According to Skelton (1994:457), Move 5 identifies the population being studied using exponents such as the labels of occupation, social role and class such as "patient" and "doctor".

Nwogu's Move 5 presents the steps and procedures used in the experiment. This move only occurs in text where there has been laboratory experiment. Linguistic features such as an explicit lexeme are used to identify the main research apparatus and to indicate criteria for success and passive verb forms and temporal adverbials are used to recount experimental

procedures (Nwogu, 1997:130). Nwogu's Move 5 is similar to Skelton's Move 6. Skelton (1994:457) shows that Move 6 describes the research procedures using labels for procedures such as "questionnaire".

Nwogu's Move 6 is used in research that includes statistical analysis. It is used to describe the statistical tools used and this move is realised using explicit lexeme and passive forms, for example ".....was defined" or ".....was classified" (Nwogu, 1997:130). Similarly, Skelton's (1994:457) Move 7 is used to name the statistical tests applied using subsections labelled as "analysis", "statistics" or the name of the statistical tests.

4.2.2.3 Results section of health and medical research articles

Nwogu (1997)	Skelton (1994)
Move 7: Indicating consistent observation (1) Highlighting overall observation (2) Indicating specific observations (3) Accounting for observations made **Move 8: Indicating non-consistent observations**	**Move 8: Adjustment and exclusion from the general population stated in Move 5** **Move 9: Representation of the results** **Move 10: Discussion of the data** **Move 11: Assessment of the data**

Figure 4-8 Move structure of the Results section in health and medical research articles

As the above figure shows, Nwogu's (1997) Moves 7 and 8 in the Result section is comparable to Skelton's (1994) Moves 9, 10 and 11. While Nwogu identifies consistent and inconsistent observations as two different moves, the moves in Skelton's Method section are differentiated in terms of whether the data is represented in the table (Move 9) and discussed using words (Move 10) and whether the data is discussed (Move 10) or assessed (Move 11).

According to Nwogu (1997), Move 7 aims to highlight and account for the observations made. The linguistic features used to realise this move are preparatory expressions, such as 'At the beginning of the study …..', the use of passive and present tense forms to refer to visuals, the use of past tense to report results and the use of hedging to account for the observations such as '.....appears to be due to …..'. Move 8 presents the negative results and therefore does not occur very often and is quite flexible in terms of its position in the text (Nwogu, 1997:131). Move 8 is realised using negative verb phrases and negative qualifiers, for example 'The study did not show.....'

Skelton (1994:457), on the other hand, shows that Move 9 refers to the representation of the results in tables and therefore is not part of the main body of the text and has no position in the text. While Move 9 presents the data in tables, Move 10 describes the data in words and Move 11 interprets the data. The Results section is typically either a list of Move 10s or a repeated cycle of Move 10 plus Move 11. The use of the word "significant" is important in the Results section because it refers to statistical significance and therefore objective reporting.

The difference between Nwogu's move structure in the Results section and Skelton's move structure is the identification of Move 8 in Skelton's move structure. Move 8, according to Skelton (1994:457), is concerned with adjustment and exclusion from the general population stated in Move 5 using exponents such as "withdrew", "were excluded" and "refused/declined". Moreover, Skelton also shows that while the position of Move 8 is ordered, Moves 9, 10 and 11 are not ordered.

4.2.2.4 Discussion section of health and medical research articles

Nwogu (1997)	**Skelton (1994)**
Move 9: Highlighting overall research outcome **Move 10: Explaining specific research outcomes** (1) Stating a specific outcome (2) Interpreting the outcome (3) Indicating significance of the outcome (4) Contrasting present and previous outcomes (5) Indicating limitations of outcomes **Move 11: Stating research conclusions** (1) Indicating research implications (2) Promoting further research	**Move 12: State the limitation and defend the success of the research finding** **Move 13: Present what the study has achieved** **Move 14: Contextualise the research procedures and findings** **Move15: Offer recommendation**

Figure 4-9 Move structure of the Discussion section in health and medical research articles

As the above figure shows, Nwogu's (1997) Move 9 is comparable to Skelton's (1994) Move 13, Nwogu's Moves 10-3, 10-5 and 11-1 to Skelton's Move 12, Nwogu's Move 10-4 to Skelton's Move 14 and Nwogu's Move 11-2 to Skelton's Move 15.

According to Nwogu (1997), Move 9 functions to show whether the objectives of the study are confirmed or refuted. Move 9 is a short move that can be signalled using an explicit

preparatory statement, for example ‘The findings in this study supported …..’ and the use of an explicit lexeme, for example ‘The major aim of this trial.....’. Nwogu’s Move 9 is comparable to Skelton’s (1994) Move 13. Move 13 presents what the study has achieved using exponents such as “demonstrates” and “shows”. This move is a reflection of Move 4, which is filling the gap by stating the aim of the research.

Nwogu’s Move 10 functions to provide an overview of the observations in terms of the outcomes, significance of the outcomes, comparison of outcomes in the present study with previous ones, and the limitation of the outcomes. Move 10 is realised using; past tense verb forms, for example ‘indicated’ and ‘showed’ (Move 10-1); explicit lexical items to signal the interpretation (Move 10-2) and significance (Move 10-3) of the findings, for example ‘The finding implies that.....’ and ‘These results are particularly important.....’; explicit preparatory expressions or lexical items to signal the contrast between present and previous research (Move 10-4); explicit preparatory expressions to indicate the limitation of the research finding (Move 10-5), for example ‘The limitation of this study.....’ and negative forms to indicate the limitation of previous studies, for example ‘However, previous studies did not identify.....’.

Nwogu’s Move 10-5 is comparable to Skelton’s Move 12. Skelton (1994:458) shows that Move 12 states the limitations of the research and defends the success of the research by claiming the success of the study. The exponents used include “limitation”, “difficulty”, “successful” and “justification”. However, instead of defending the success of the research, Nwogu identifies the Move indicating the significance of the research (Move 10-3) and the implication of the research (Move 11-1). While Nwogu’s Move 10-5 is comparable to Skelton’s Move 12, Nwogu’s Move 10-4 is similar to Skelton’s Move 14 which functions to contextualise the research procedures and findings by pointing out how they compare with other research (Skelton, 1994:458).

Nwogu’s (1997:133) Move 11 aims to provide a summary of the study by presenting the contributions that the study has made and the future research that can be explored. This move is realised using explicit lexemes to indicate the implications of the research (Move 11-1), for example ‘The implication of the present study is …..’ and to prompt further research (Move 11-2), for example and ‘Future research is needed to explore …..’. While Nwogu’s Move 11-1 is comparable to Skelton’s Move 12, Nwogu’s Move 11-2 is comparable Skelton’s Move 15. However, prompting further research is only one form of Move 15. Other forms of Move 15 are achievable courses of action and goals that may be difficult to achieve (Skelton, 1994:458).

Although Nwogu (1997) and Skelton (1994) identify the move structures of health and medical research articles using Swales' approach to move structure analysis, Nwogu's and Skelton's identification of moves looks different from Swales'. The reason for this difference is that while Swales' identifies move in terms of the function that the move serves, Nwogu and Skelton identify moves not only in terms of the function that the move serves but also in terms of the content of the move. The inclusion of content in Nwogu's and Skelton's moves is due to the difficulty in identifying moves in terms of their function. This is because function is a less overt category than content. This might explain why Nwogu's and Skelton's moves appear more like content rather than function. Although Nwogu's and Skelton's moves appear different from Swales', Nwogu's and Skelton's move structure can be used as a model for health and medical research articles for two reasons. Firstly, Nwogu's and Skelton's move structure is identified using the English for Specific Purposes (ESP) approach to genre analysis, which is the same approach that this study used to identify the genre of health and medical news reports (see Chapter 3 on why this study employs the ESP approach). Secondly, Nwogu's and Skelton's move structure is specifically on health and medicine. As such, it is in the same area of specialisation as this study. Although Nwogu's and Skelton's move structure can be used as a model for health and medical research articles, the one used in this study is Nwogu's (1997) health and medical research articles. This is because Nwogu's move structure is more elaborate than Skelton's.

4.2.3 Move structure of popularised health and medical texts

In addition to applying Swales' model to health and medical research articles, Nwogu (1991) has also applied Swales' model to popularised health and medical texts. The term popularised health and medical texts is used by Nwogu to refer to journalistic versions of health and medical research articles. This section shows how Swales' ESP approach is applied to popularised health and medical texts (Nwogu, 1991).

The texts used for analysis by Nwogu include a popular science magazine (*New Scientist*), a general magazine (*Newsweek*) and a British newspaper ("The Times Science Report" column at *The Times*). The difference between the newspaper that is used by Nwogu and the ones used in this study is that while Nwogu uses articles which are published in a science column, this study focuses on news reporting.

Nwogu (1991:112) identifies nine moves that are typical of popularised texts written by journalists or what are termed "Journalistic Reported Versions" (JRV) of health and medical research articles. The following figure summarises the moves and sub-moves identified by Nwogu:

INITIAL MOVES	**MOVE 1: Presenting background information** (1) by reference to established knowledge in the field (2) by reference to main research problem (3) by stressing the local angle (4) by explaining principles and concepts **MOVE 2: Highlighting overall research outcome** (1) by reference to main research result **MOVE 3: Reviewing related research** (1) by reference to previous research (2) by reference to limitations of previous research **MOVE 4: Presenting new research** (1) by reference to authors (2) by reference to research purpose
MEDIAL MOVES	**MOVE 5: Indicating consistent observations** (1) by stating important results (2) by reference to specific observations **MOVE 6: Describing data collection procedure** (1) by reference to authors (2) by reference to source of data (3) by reference to data size **MOVE 7: Describing experimental procedure** (1) by recounting main experimental processes
FINAL MOVES	**MOVE 8: Explaining research outcome** (1) by stating a specific outcome (2) by explaining principles and concepts (3) by indicating comments and views (4) by indicating significance of main research outcome (5) by contrasting present and previous outcomes **MOVE 9: Stating research conclusions** (1) by indicating implications of the research (2) by promoting further research (3) by stressing the local angle

Figure 4-10 Nwogu's (1991:115) move structure of popularised health and medical texts

As the above figure shows, Nwogu classifies the nine moves into three broad divisions; *Initial* moves which consist of Moves 1, 2, 3 and 4; *Medial* moves which consist of Moves 5, 6 and 7 and *Final* moves which consist of Moves 8 and 9. Nwogu argues that this division is in line with van Dijk's (1985) news production principles, except that van Dijk places background information last:

a. important consequences come first
b. details of an event or actor come after overall mentioning of the event or person
c. causes or conditions of events are mentioned after the event and its consequences
d. context and background information comes last

Nwogu argues that the schematic structure of JRV texts is organised hierarchically due to the constraints in science journalists' social and professional routines. Some of the routines that are identified by Nwogu are the five-Ws beginning (who, what, where, when and why), which can be seen to be present in the first moves of typical JRV texts.

According to Nwogu (1991), Move 1 functions as the lead as it provides background information to attract the readers to read the text. This move is realised using simple present tense. This move tends to include information which identify the topic of the research reported with identical problems that the readers can relate to, especially for research conducted in foreign countries. Moreover, this move also attempts to explain the principles and concepts in the research reported. Move 1 is characterised by the use of prepositional phrases and temporal adverbials such as "In Britain ….." Move 2 functions to present the major outcome of the research in a form of a brief statement. The outcome of the research is signalled using explicit lexical items such as "the new research has shown that ….." Move 3's, aim is to place the new research within the context of on-going research by providing the information that can be used to assess the contributions made. Move 3 is realised by negative verb forms such as "there are no studies that show ….." Move 4, which is used to present the purpose of the new research, is achieved using explicit lexical clues such as "the aim of the present study is ….."

Move 5 functions to report the importance of the result in terms of what the writer considers of interest to readers and is characterised by the use of simple past tense forms. Move 6, corresponds with the information that is presented in the Method section of the scientific research article, functions to report the process of data collection and analysis, as such, this move can be realised in a single complex sentence. This move is usually contained in a single complex sentence using a passive construction and past tense forms. Move 7 is only used for experimental research or non-experimental research that focuses on data description and analysis. This move is characterised by reference to statistical figures and measurements.

Move 8 is a major move in JRV texts because it aims to restate the main observations of the study by indicating significance, interpretations, justification, and contrast with previous studies. Linguistic features that characterised this move are; the use of rhetorical questions and simple present tense forms to explain principles and concepts, such as '….. is common but how does it work?'; the use of reporting verbs and direct quotations to indicate comments and views, for example 'Dr ….. says that …..'; the use of exemplification and explicit lexical clues to contrast the new research with previous research, for example 'In contrast to previous studies, the present study …..'. Move 9, is used to present the view of

the source, implication of the study, and future studies. This move aims to relate the new research to the audience and is characterised by explicit lexical clues such as 'This study adds further weight to the conclusion that .....' and the use of prepositional phrases to refer to the local angle such as 'In Britain …..'.

Section 4-2 has reviewed the move structure of the Introduction, Method, Results and Discussion section of research articles in general and health and medical research articles in particular. This section has also reviewed the move structure of popularised health and medical texts. The model which is used for comparison is Nwogu's (1997) health and medical research articles and Nwogu's (1991) popularised health and medical texts.

4.3 *News texts*

Previous studies on the structure of news text which resembles the ESP approach is van Dijk's (1985, 1986) and Bell's (1991) approach to schematic structure analysis. In this section I start by reviewing van Dijk's (1985, 1986) and Bell's (1991) approach before showing why their model is comparable to Swales' model.

4.3.1 News schema

This section reviews the news schema identified by van Dijk (1985). Analysis of news schema focuses on structures that are beyond the sentence level. Van Dijk argues that news discourse has a conventional "news schema" in which the overall topic or global content can be part of the news schema. The theoretical term "superstructure" is used to describe such schemata. "Schematic superstructure" is therefore used to refer to the conventional global *form* of a discourse (van Dijk, 1985:69). The global *content* that may be inserted into the global form and therefore characterise the meaning of a text is referred to as "thematic macrostructure" (van Dijk, 1985:69). Thematic analysis takes place against the background of the theory of semantic macrostructures (van Dijk, 1985:69). The relationship between schematic superstructure and thematic macrostructure is that schematic superstructure assigns thematic functions as well as organises and orders the topics of a text. Due to their conventional nature, news schema is implicitly known by their users (journalists and readers). Such schematic superstructure can be described in terms of conventional categories and rules. Whatever the content is, there is a conventional schema consisting of categories that are typical of news discourse and each category corresponds to a specific sequence of sentences of a text.

Schematic superstructure orders the textual sequence of sentences and assigns functions to such sequence (van Dijk, 1986:158). The categories identified by van Dijk include; *Summary*

(which consists of *Headline* and *Lead*), *Main Event*, *Background* (which consists of *History*, *Context* and/or *Previous Events*), *Consequences* (which consists of *Verbal Reactions*) and *Comments*. While some of the rules are fairly strict, others are optional. The *Main Event* is the most important information and as such should be summarised in *Headline* and *Lead*. The order of *Context*, *History* and *Consequences* are less strict. *Comments* usually occur towards the end of the article, although occasionally some elements may be placed earlier in the article.

In identifying thematic macrostructure, analysis deals with meaning and reference instead of syntactic form, style or rhetorical devices (van Dijk, 1985:74). Here, meaning does not refer to the meaning of isolated words or sentences but the whole text. As thematic structure is identified by readers and writers, they are cognitive units. As cognitive units they represent "how text is understood, what is found important, and how relevancies are stored in memory" (van Dijk, 1985:76). Principles that may be used to derive topics from a text are deletion, generalisation and (re-)construction (van Dijk, 1985:76). They reduce the complex and detailed meaning of a text into a more general meaning.

However, the schematic superstructures and thematic macrostructure are independent of their actual realisation (van Dijk, 1985:90). The identification of news schema is only one of the production strategies, which enables the writers to organise the order of topics and categories and the amount of information from each topic or category. The schematic superstructure and thematic macrostructure represent topics and their interrelations and the typical functions (categories) of the topics. The actual production depends on constraints such as relevance (van Dijk, 1985:90). While thematic macrostructure represents a formal collection of topics, various devices can be used to assign the relevant value of the topics. Some of these devices are general scriptal knowledge and general attitudes and ideologies, general models of situation, thematic structure and practical production moves. Due to the importance placed on relevance, the topics in news schema are delivered in cyclical delivery or instalment. Although the main event is introduced in the lead paragraph, the details can be delivered throughout the text in decreasing degrees of relevance. Therefore, the difference between news schema and its actual realisation shows that identification of news schema is only one of the production strategies.

The following shows an example of van Dijk's schematic superstructure and thematic macrostructures applied to a health and medical news report:

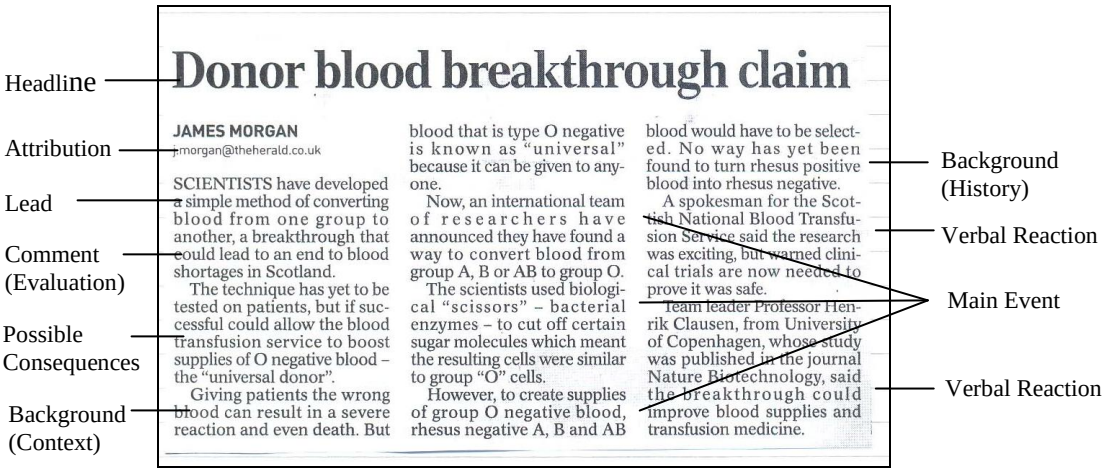


Figure 4-11 Van Dijk's (1985) categories in a health and medical news report

Source: The Herald, 2 April 2007

The above figure shows that there is a category which is not mentioned by van Dijk (1985). This category is known as *Attribution* (see Bell, 1991). The above figure shows that *Attribution* is used to indicate that the article is written by a journalist. The name of the journalist is not only mentioned but also his or her email address. The email address also shows that the journalist has an email address on the official *'The Herald'* email server (@theherald.co.uk). Besides *Attribution*, categories that are obvious in news schema are *Headline* and *Lead*. Van Dijk argues that as both the *Headline* and the *Lead* are used to summarise the news story, they can be categorised as *Summary*. Other categories that are found in the examples above are *Comment*, *Possible Consequences*, *Background*, *Verbal Reaction* and *Main Event*.

According to van Dijk (1986:167), the *Comment* category is used by journalists to formulate opinions about the event, either in the form of *Expectation* which imply references to a future event or *Evaluation* which features evaluative expressions such as good, bad and controversial. News reports have evaluative dimensions which can be implicit or explicit. In the example above, "a breakthrough that could lead to an end to blood shortages in Scotland" is categorised as a *Comment* because the journalist provides an evaluation of how the research conducted by scientists from Copenhagen is relevant to *The Herald*'s readers who are mostly living in Scotland. This evaluation may be derived from general knowledge that there are blood shortages in Scotland. Moreover, the term breakthrough is an evaluative expression just like the terms good, bad or controversial. The consequence of the main event is "to boost supplies of O negative blood" because this is the direct result of the main event. The consequence identified in the example above is categorised as *Possible Consequences*

instead of *Consequences* as identified by van Dijk. The consequence of the research is only a possibility because the research reported is inconclusive.

Main Event refers to a category that dominates the description of the news event (van Dijk, 1986:87). In the examples above, the overall research finding and experimental procedure forms the *Main Event*. While *Main Event* refers to the description of the news event, *Background* contains information which is not part of the actual news event but provides the context or conditions of the event. The sub-categories of *Background* include *Context, History* and *Source*. The category *Context* is used to organise information about the actual situation. In the example above, the research is placed against the background of the effect of giving the wrong blood. *History* is used to organise events in the past that are related to the present event. In the example above, indication of previous research forms the historical perspective on the research reported. The last category, *Verbal Reaction*, refers to quotations. In the example above, verbal reactions are given by the spokesman for the Scottish National Blood Transfusion service and the leader of the study. The following figure shows how the categories are structured:

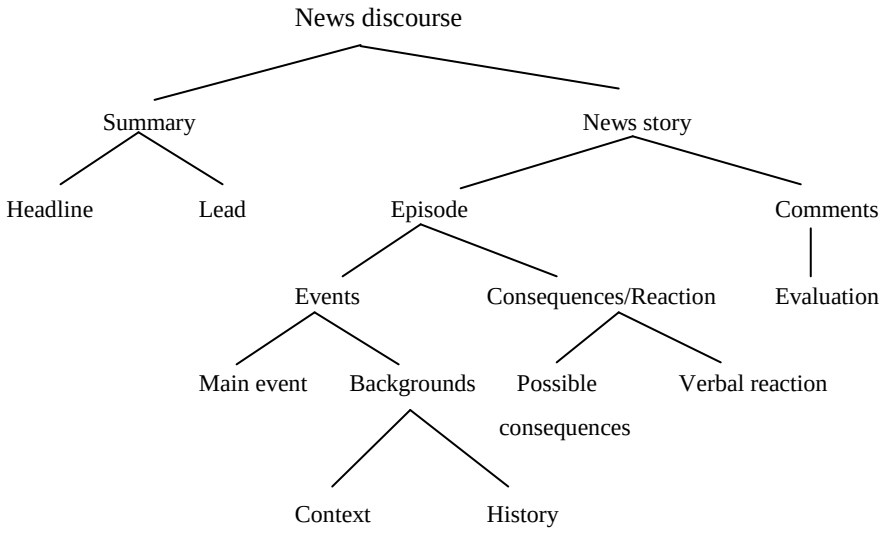


Figure 4-12 Van Dijk's (1986:169) schematic superstructure of news discourse

In the above example I have shown how to conduct a schematic analysis of a health and medical news reports. I will now show how to conduct a thematic analysis of the same health and medical news reports:

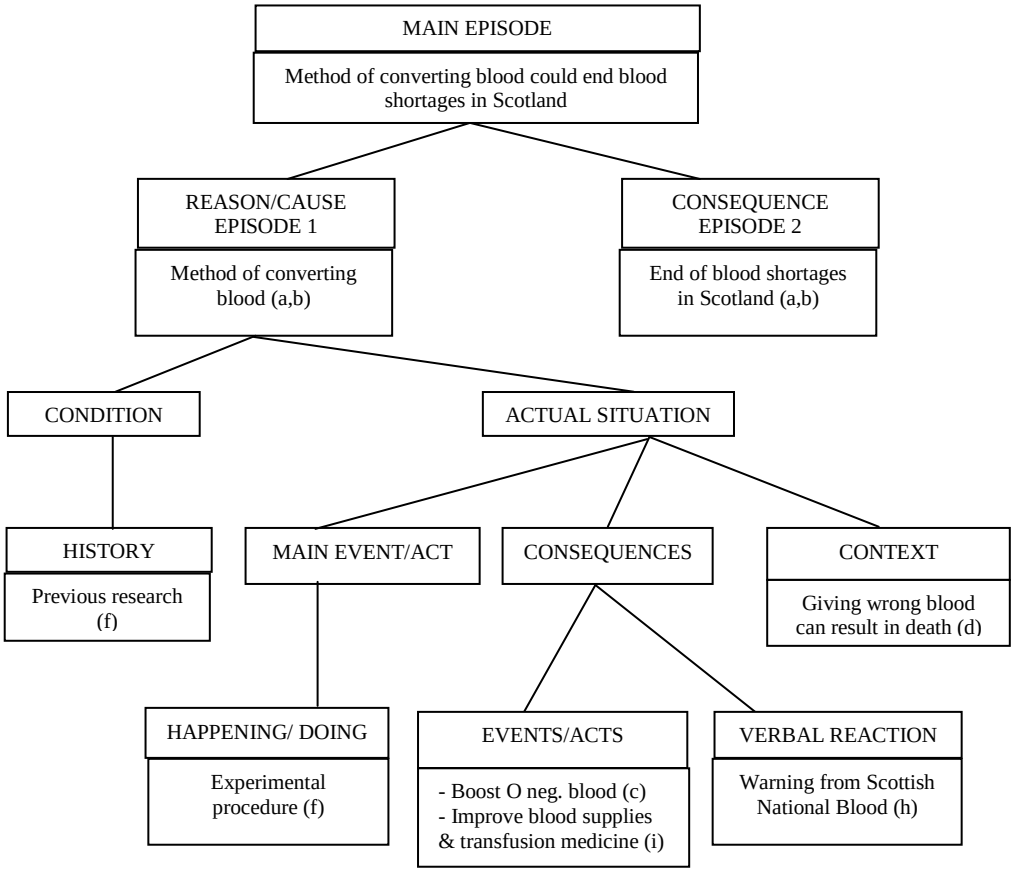


Figure 4-13 Van Dijk's (1985) thematic macrostructure of a health and medical news report

Using the example of health and medical news reports in Figure 4-11, both the headline and lead paragraph express the main topic, which is the method of converting blood and end of blood shortages in Scotland. However while the headline only indicates that the main topic is "donor blood" and a "breakthrough" claim, the lead specifies some of the details of the main topic; actors (scientists), actions (have developed a simple method of converting blood from one group to another) and evaluation of the consequences of the research finding to the local community (a breakthrough that could lead to an end to blood shortages in Scotland). The second paragraph specifies the possible consequence of the research findings (could allow the blood transfusion service to boost supplies of O negative blood). The third paragraph specifies the context of the research (giving patients the wrong blood can result in death). The fourth paragraph comes back to the method of converting blood but it specifies even more detail of the actor (international team of researchers) and object of the action (convert blood from group A, B or AB to group O). The fifth and sixth paragraphs specify the experimental procedure. However, the sixth paragraph also indicates information about previous research (no way has yet been found to turn rhesus positive blood into rhesus negative). The seventh paragraph mentions the warning from a spokesman for the Scottish

National Blood Transfusion Service. The last paragraph comes back to consequences of the research (improve blood supplies and transfusion medicine). However, in this paragraph there is detail regarding the actor (team leader Professor Henrik Clausen, from University of Copenhagen). Thus, the thematic structure can be summarised as follows:

a. Donor blood and a breakthrough claim
b. Method of converting blood could lead to end of blood shortages in Scotland (actor + action + consequences)
c. Boost supplies of O negative blood
d. Giving wrong blood can result in death
e. Method of converting blood (actor + object of the action)
f. Experimental procedure
g. Previous research
h. Warning from a spokesman for the Scottish National Blood Transfusion Service
i. Improve blood supplies and transfusion medicine (actor)

4.3.2 Structure of news stories

Bell (1991) identifies the structure of news stories by adapting van Dijk's (1985) news schema and Labov and Waletzky's (1967) and Labov's (1972) narrative structure. Although Bell uses similar categories as van Dijk, there is a difference to how some of the categories are identified and structured. This difference can be attributed to the relation between form and content. While van Dijk shows that form (schematic superstructure) can be differentiated from content (thematic macrostructure), Bell (1991:155) argues that when discussing the structure of news stories, news form and news content cannot be separated. Bell also shows that the categories of news stories are similar to the categories of narrative as identified by Labov and Waletzky (1967) and Labov (1972). Although news stories and narratives share similar categories, the ordering of the categories in news stories is in contrast to narrative. A narrative is structured chronologically, while news stories are structured non-chronologically (Bell, 1991:172). A news story is structured according to news values where the most newsworthy event in the story will be placed at the beginning of the story, while narrative is structured according to the order of events, where the event which occurred first will be placed at the beginning of the story. In addition to being similar to narrative, the embedding of other people's speech events is common in news articles. In producing a news story, journalists are reporting other people's accounts of the situation rather than providing the journalists' account. Therefore, the texts that journalists produce will be a paraphrase or quotation of other people's accounts.

According to Bell (1991), a news text consists of *Abstract*, *Attribution*, and *Story proper*. The function of *Abstract*, which consists of headline and lead, is to attract readers to read the story further. A headline is an abstract of a lead and a lead is an abstract of a body copy. As such, a headline is an abstract of an abstract. A headline consists of the main action and actor of a story, while lead consists of the main action, actor, and place. The lead functions not only as a summary but also the beginning of a story. *Attribution* is situated outside the body copy. It includes the agency credit and/or journalist's byline and sometimes place and time. The function of *Attribution* is to display a story as information that is provided by a source. However, as I show in Chapter 5, attribution is a move which is different from the move providing the source of information because they have different functions. *Story* consists of one or more *Episodes* and *Episodes* consist of one or more *Events*. *Events* are comprised of actors, action, and setting. Additional components that can be used to form an event are *Follow-up*, *Commentary*, and *Background*. *Follow-up* covers any action that follows after the main action of an event. It can include verbal *Reaction* or non-verbal *Consequences*. *Commentary* covers the actor's observations. It can include *Context*, *Evaluation* and *Expectation* on how the situation could develop. *Background* covers any events that occurred before the current events. It is called *Previous Events* if they are recent and *History* if they are beyond the *Previous Event*. The following figures show an example of how Bell's categories (Figure 4-14) and structure (Figure 4-15) are applied to a health and medical newspaper report:

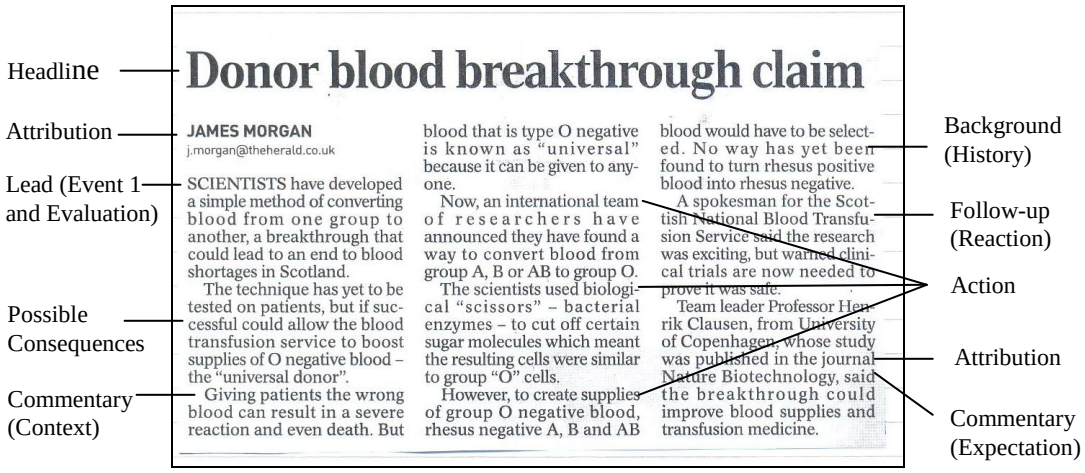


Figure 4-14 Bell's (1991) categories in a health and medical news story

Source: The Herald, 2 April 2007

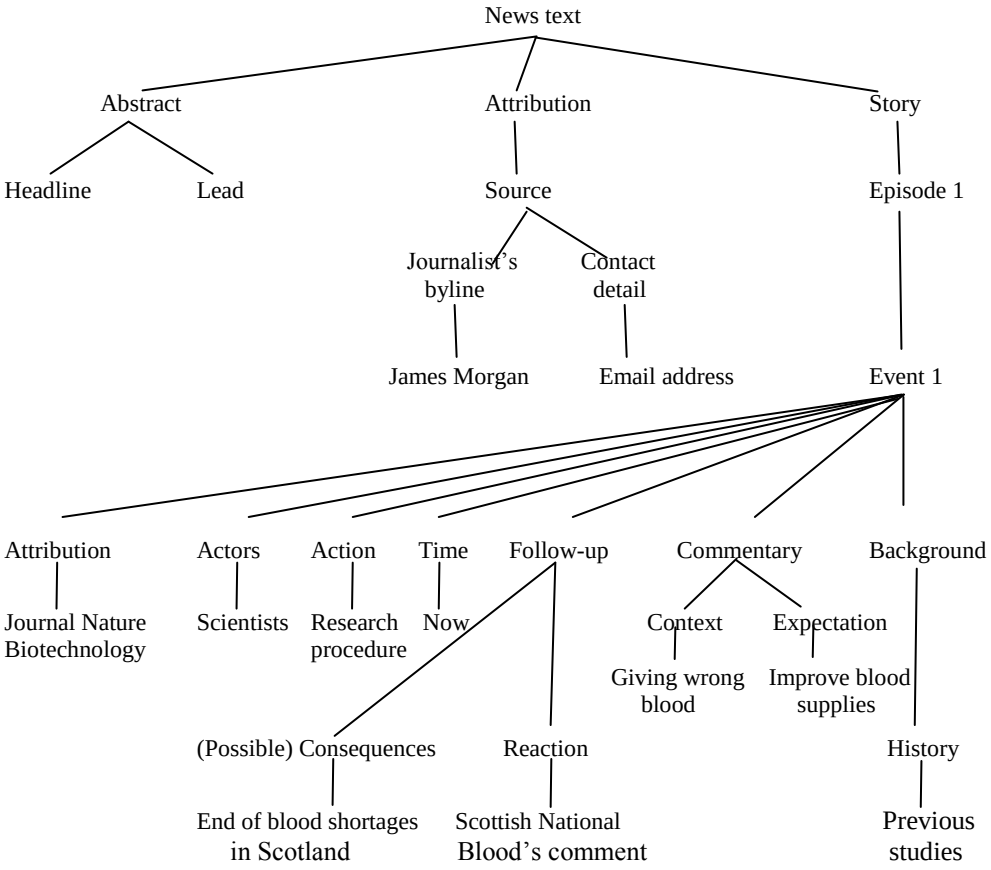


Figure 4-15 Bell's (1991) structure of a health and medical news story

Bell's (1991) news stories structure is a revised model of van Dijk's (1985) news schema. In terms of structure, Bell argues that news stories are structured in terms of news values, with the most newsworthy part of the text placed first. Similarly, van Dijk argues that the most important, recent, and general topics should be placed in the top part of the news text. In terms of categories, van Dijk argues that news texts consist of *Summary* and *News Story* while Bell argues that they consist of *Abstract*, *Attribution* and *Story*. Bell's category of *Abstract* is similar to van Dijk's category of *Summary*. Both *Abstract* and *Summary* consist of *Headline* and *Lead*. Similarly, Bell's *Story* is also comparable to van Dijk's *News Story*. The difference is the inclusion of *Attribution* by Bell. This category is absent in van Dijk's structure.

However, when Bell's (1991) *Story* is compared to van Dijk's (1985) *News story*, there is a difference in how the sub-categories are organised. The first difference is between the categories of *Events* and *Episode*. Both Bell and van Dijk view *Events* as part of an *Episode*. However, while van Dijk views *Episode* as consisting of *Events* and *Consequences*/*Reactions*, Bell views *Episode* as consisting of only *Events*. *Consequences* and *Reaction*, according to Bell, are sub-categories of *Follow-up*, which is a sub-category of

Events. The second difference is between the categories of *Comments* and *Commentary*, which affects the subsequent categorisation. While van Dijk keeps *Comments* apart from the actual *Episode*, Bell placed *Commentary* as part of *Events*. Moreover, while *Comments* in van Dijk's structure consists of *Expectation* and *Evaluation*, *Commentary* in Bell's structure adds another category *Context*. However, *Context* in van Dijk's structure is a sub-category of *Circumstances*, which is part of *Background*. The other sub-category of *Background* according to van Dijk is *History*. *Circumstances*, which is absent from Bell's structure, is replaced by *Previous Episodes*. Although Bell shows that *Follow-up*, *Commentary* and *Background* are sub-categories of *Event*, he argues that they can be a part of *Episodes* in their own right if they are fully expanded. The differences identified show that although van Dijk (1985) and Bell (1991) use similar categories, there is a difference in how some of the categories are identified and structured. Moreover, while Bell takes into account both form and content when identifying the categories; van Dijk differentiates between the categories in form (schematic superstructure) and content (thematic macrostructure).

Section 4-3 has reviewed the structure of news texts by van Dijk (1985, 1986) and Bell (1991). The next section shows why van Dijk's and Bell's model, which are identified using schematic structure analysis, can be compared with the structure of health and medical news reports that this study identifies using move structure analysis.

4.4 *Schematic structure analysis and move structure analysis*

Swales (1981, 2000) uses a genre-based approach to research articles because his to utilise his work for the enhancement of teaching English for Academic Purposes. A genre-based approach offers "a workable way" to make sense of the communicative events that occur in English-speaking academic settings (Swales, 2000:1). On the other hand, van Dijk (1985, 1986) and Bell (1991) use a schema-based approach to news texts because their purpose is to understand the process of news production and reception. However, the similarities between the genre-based approach and the schema-based approach make it possible for comparison between the two approaches to be extrapolated.

Firstly, both models take into account the role of "schema" as introduced by Bartlett (1932). According to Swales (2000:84), schema is a psychological concept that is used to refer to the organisation of knowledge in the memory and this is influenced by previous experiences and prior texts. Similarly, van Dijk (1986:156) also argues that schema refers to the "mental organisation of our accumulated experiences".

Secondly, both models take into account the relationship between schematic structure and function. Both van Dijk (1985) and Swales (2000) discussed schematic structure in terms of their function. However, while Swales' moves are phrased as functional, van Dijk's categories are not phrased as functional.

Thirdly, both models take into account the relationship between form and content. Swales (2000:88) argues that as schematic analysis tends to focus on cognitive aspects of text processing, there is an alleged distinction made between form and content. Although Van Dijk's schematic structure analysis does differentiate between form (schematic superstructure) and content (thematic macrostructure), Bell's (1991) model, which adapts van Dijk's model, does not make a distinction between form and content.

Fourthly, both models take into account the importance of context. Swales (2000:88), argues that the nature of genre does not only combine *what* is sayable (content) with *how* it is sayable (form) but also with *when* it is sayable (context). Similarly, van Dijk (1986:157) argues that his analysis of news schemata should be seen within the context of "news processing by newsmakers and readers and the constraints of the production of news and its uses in social situations and institutions".

As the two models use of the notion schema, take into account the interplay between context, form and content and the association between structure and function, the similarities/differences between the structure of news texts, which follows van Dijk's and Bell's model, and the structure of health and medical news reports, which is analysed in using Swales' ESP approach, can be extrapolated.

4.5 *Summary*

This chapter has reviewed the structure of research articles and news texts. This chapter started by providing an overview of move structure analysis by reviewing the move structure of research articles (Kanoksilapatham, 2005; Lim 2005; Yang and Allison, 2003; Peacock, 2002; Swales, 2000, 1981; Dudley-Evans, 1994; Hopkins and Dudley-Evans, 1988), medical research articles (Nwogu, 1997; Skelton, 1994) and popularised health and medical texts (Nwogu, 1991). This chapter has also provided an overview of the structure of news texts by van Dijk (1985) and Bell (1991), which were then followed by the identification of comparability between move structure analysis and schematic structure analysis. The following figure summarises the moves and categories reviewed in this chapter:

Swales (1981, 2000) move structure in the Introduction section of research articles	**Nwogu's (1997) move structure in health and medical research articles**	**Skelton's (1994) move structure in health and medical research articles**	**Nwogu's (1991) move structure in popularised health and medical texts**	**Van Dijk's (1985, 1986) structure in news schema**	**Bell's (1991) structure in news stories**
Move 1: Establishing a territory Step 1 Claiming centrality and/or Step 2 Making topic generalisation and/or Step 3 Reviewing items of previous research Move 2: Establishing a niche Step 1A Counter-claiming or Step 1B Indicating a gap or Step 1C Question-raising or Step 1D Continuing a tradition Move 3: Occupying a niche Step 1A Outlining purposes or Step 1B Announcing present research Step 2 Announcing principal findings Step 3 Indicating	Introduction (1) Presenting background information (2) Reviewing related research (3) Presenting new research Method (4) Describing data collection procedure (5) Describing experimental procedure (6) Describing data analysis procedure Result (7) Indicating consistent observation (8) Indicating non-consistent observations Discussion (9) Highlighting overall research outcome (10) Explaining specific research outcomes (11) Stating research conclusions	Introduction (1) Stating the relevance of the research (2) Contextualising the research in the literature (3) Claiming the novelty of the research (4) Stating the purpose of the research Method (5) Identify the population being studied (6) Describe the research procedures (7) Name the statistical tests Results (8) Adjustment and exclusion from the general population (9) Representation of the results (10) Discussion of the data (11) Assessment of the data Discussion (12) State the limitation and defend the success of the research	Initial moves (1) Presenting background information (2) Highlighting overall research outcome (3) Reviewing related research (4) Presenting new research Medial moves (5) Indicating consistent observation (6) Describing data collection procedure Final moves (7) Describing experimental procedure (8) Explaining research outcome (9) Stating research conclusions	Summary Headline Lead News story Episodes Main Event Background (History, Context and Previous Events) Consequences (Verbal Reactions and Events/ Acts) Comments (Expectation and Evaluation)	Abstract Headline Lead Attribution Source Place Time Story proper Episodes Events Follow-up (Reaction or non-verbal Consequences) Commentary (Context, Evaluation and Expectation) Background (Previous Events and History)

research article structure		findings (13) Present what the study has achieved (14) Contextualise the research procedures and findings (15) Offer recommendation			

Figure 4-16 Structure in research articles, popularised health and medical texts and news texts

The above figure shows that previous studies have identified the structure of research articles in general (Swales, 1981, 2000) and health and medical research articles in particular (Nwogu, 1997; Skelton, 1994), popularised health and medical texts (Nwogu, 1991) and news texts (van Dijk, 1985, 1986; Bell, 1991). While the structure of health and medical research articles and popularised health and medical texts have been identified using move structure analysis, the structure of news texts have been identified using schematic structure analysis.

In this chapter I have reviewed the models for health and medical research articles, popularised health and medical texts and news texts. In the next chapter, I discuss the genre of health and medical news reports which will be used for comparison with the models identified in this chapter.

5. Health and medical news reports: Structural and lexico-grammatical analysis

5.1 *Introduction*

In this chapter I establish whether health and medical news reports are more similar to news texts or to research articles. I start by identifying the structure of health and medical news reports. I adopt the English for Specific Purpose (ESP) approach to genre analysis by Swales' (1981, 2000) to identify the structure of health and medical news reports.

Following Swales (1981, 2000), a move is defined according to the function that it performs in relation to the overall function of the news reports. I identify whether a move is cyclical or non-cyclical. A cyclical move refers to a move which can be repeated and therefore can appear more than once, while a non-cyclical move cannot be repeated. Each move is specified into steps, which refer to the means to realise the function of a move. Each step is realised using linguistic features. I also identify whether a step is obligatory or optional. An obligatory step refers to a step which has to occur every time while an optional step does not necessarily have to occur. One of the difficulties in Swales' ESP approach is that analysts have to use their own knowledge to identify the function of a particular move. Different knowledge might contribute to the differences in the moves identified. I hope to overcome this difficulty by describing the relationship between the elements of structure (i.e. the moves and steps) with linguistic realisation at the lexico-grammatical level. Therefore, unlike Swales, I explicitly describe the linguistic features at the lexico-grammatical level using the Systemic Functional Linguistics approach.

Once each move, their steps and linguistic features (including lexico-grammatical features) are identified, I compare them with; (1) van Dijk's (1985) and Bell's (1991) news texts, (2) Nwogu's (1991) popularised health and medical texts and (3) Nwogu's (1997) health and medical research articles.

5.2 *Move structure and lexico-grammar of health and medical news reports*

The following Figure 5-1summarises the moves and steps I have identified in health and medical news reports:

Move 1: Attracting the readers' attention
Step 1 Headline and
Step 2 Sub-deck
Step 2A indicating the implication of the research or
Step 2B indicating the debate surrounding the research or
Step 2C comparing present research with past research or

Move 2: Providing attribution
Step 1 Specifying the name of the journalist and/or
Step 2 Specifying the title of the journalist and/or
Step 3 Specifying the contact detail

Move 3: Summarising the news report (the lead paragraph)

Move 4: Presenting the main event
Step 1 presenting the main and specific research finding and
Step 2 specifying the research method
Step 2A describing the research process and/or
Step 2B specifying the type and size of data collected

Move 5: Indicating the significance of the event
Step 1 referring to intrinsic qualities of the research articles and/or
Step 2 referring to the implication of the research and/or
Step 3 referring to the local relevance

Move 6: Presenting background information
Step 1 comparing the present research with past, present and/or other related research and/or
Step 2 explaining the technical terms and concepts used and/or
Step 3 indicating the funder of the research

Move 7: Indicating the source of information
Step 1 referring to the scientists and
Step 2 referring to the journal

Move 8: Showing balanced reporting
Step 1 indicating the reaction of other scientists and/or
Step 2 indicating the reaction of other users

Figure 5-1 Move structure in health and medical news reports

5.2.1 Move 1: Attracting the readers' attention

Move 1 is conveyed in a short and concise form. Move 1 is a non-cyclical move. It is non-cyclical because it is only presented once. Move 1 is marked by bold printing and the font size is always bigger than the rest of the article. Move 1 is realised in two steps: (1) *Headline* and (2) *Sub-deck*[7]. The obligatory step in Move 1 is Step 1.

[7] The term s*ub-deck*, which is also known as *standfirst*, is a journalistic term that is used to refer to the text after the headline.

Step 1, *Headline*, is used by journalists to provide readers with a general idea of what health and medical research is being reported. This step is obligatory and presented by describing the main research finding using adjectives such as "breakthrough" and "new", as the following examples show:

a. *Breakthrough* hope for eczema. (H9/4/07-9)

b. *New* breast cancer genes identified. (G28/5/07-1)

Intensifying adjectives such as those used in the examples above can attract the readers' attention because they indicate to readers the extent of the disease and/or treatment that is reported. The readers' attention can also be attracted using lexico-grammatical features such as simple present tense:

a. Bullfrog hops in to fight with superbug. (H1/5/07-12)

b. Treatment now doubles chances of surviving heart attack. (H2/5/07-2)

c. Scientists to unlock genes behind common serious illnesses. (G14/4/07-8)

d. Gene discovery raises hope of treatment for memory loss. (G6/4/07-19)

As the above examples show, the use of simple present tense can attract the readers' attention because it indicates a high level of certainty and generality of the research finding reported.

However, modality such as "may" is also found in the headline, as the following examples show:

a. DNA find *may* identify early heart risk victims. (G3/5/07-3)

b. Regular aspirin *may* raise stroke risk for healthy people. (G1/5/07-4)

The use of modal verb "may" indicates that the reporting of the main research finding is being hedged. The use of modality allows journalists to say something about the implication of the research, but as it is only a possibility, journalists cannot be held accountable if the implication is not achieved.

The use of reported speech also serves a similar function to modality, as the following example shows:

a. Flu is a killer for cardiac patients, warn scientists. (G18/4/07-12)

b. HRT *'*reduces the risk of heart disease*'*. (H10/4/07-7)

c. Cured meats *'*double risk of lung disease*'*. (H17/4/07-7)

Although simple present tense is used to indicate the certainty and generality of the research findings reported, the use of direct and indirect quotation indicates a sense of objectivity. The use of indirect quotation in example (a) indicates that the main finding is based on what is warned by the scientists, as can be seen in the use of reporting verbs "warn" and followed by a generic term "scientists". The use of direct quotation in examples (b) and (c) indicates that the journalists are quoting the scientists verbatim. In these instances, the use of reported speech, direct or indirect, allows journalists to make important claims but in a manner which distances themselves from the claim.

While Step 1 is obligatory, Step 2 is optional. In terms of their position in the article, Step 2 appears directly below Step 1. Although both steps are marked by bold printing, the font size for Step 2 is always smaller than Step 1. This is because Step 2 is seen as an additional headline. Step 2 elaborates as Step 2A (*Indicating the implication of the research*) or Step 2B (*Indicating the debate surrounding the research*) or Step 2C (*Comparing the present research with past research*).

Example 5-1 The move *Indicating the implication of the research* (H11/4/07-10)

Example 5-1 shows an example of the step *Sub-deck* as Step 2A (*Indicating the implication of the research*). The figure above shows that the implication of the research is realised using the explicit lexical item "may signal". The following example shows other lexical items used:

a. **Step 1 (Headline)**: Breakthrough hope for eczema

   Step 2 (Sub-deck): Mutation in genes *could help* search for treatment. (H9/4/07-9)

b. **Step 1 (Headline)**: Scientists find key to fighting deadly bird flu

   Step 2(Sub-deck): Antibodies *could defeat* H5N1 virus. (H29/5/07-8)

Similar to the use of modality in the headline, modal verbs such as "could" in the sub-deck are also used to report the possible implications of the research.

Sub-deck can also be identified as Step 2B (*Indicating the debate surrounding the research*), for example:

a. **Headline**: Researchers uncover genetic link to obesity

   Sub-deck: Scientists insist diet and exercise *still* important (G13/4/07-4)

The above example shows that the lexical item "still" is used to indicate that the research claim is debatable. While the category "researchers" refers specifically to the scientists who conducted the research, the category "scientists" refers to the scientific community in general. The use of different categorisations in the headline and sub-deck is to inform readers of the current debate within the scientific community.

In addition to scientists, the debate surrounding the research can also be raised by organisations affected by the research reported, for example:

a. **Headline**: Mother's stress harms foetus, research shows

   Sub-deck: Charity urges supportive environment in pregnancy. (G3/5/07-4)

b. **Headline**: Cured meats 'double risk of lung disease'

   Sub-deck: Calls for further research into the link (H17/4/07-7)

While example (a) clearly states that the debate is raised by a charity, in example (b) there is no indication on who raised the "calls for further research". Only in the last paragraph of the article does it become clear that the calls are raised by a spokesperson from Chest, Heart & Stroke Scotland:

a. A spokesperson from Chest, Heart & Stroke Scotland said: "This study ..... but more research will be needed to find out if there is a direct causal link between them." (H17/4/07-7)

Step 2 can also be identified as Step 2C (*Comparing the present research with past research*), for example:

a. **Headline**: New breast cancer genes identified

   Sub-deck: *Most* significant advance in decade (G25/5/07-1)

b. **Headline**: Antibodies from survivors may hold clue to bird flu remedy

   Sub-deck: Treatment *similar to* that used in *1918 pandemic* (G29/5/07-8)

The use of the superlative "most" in example (a) and comparative adjective "similar to .... 1918 pandemic" in example (b) is attracting the readers' attention by indicating to the readers the importance of the present research when compared with past research.

The step *Headline* indentified in this study is comparable to van Dijk's (1985) and Bell's (1991) category of *Headline*. However, instead of viewing *Headline* as a category, I argue that *Headline* is a step that is used to realise the function of Move 1, which is to attract the readers' attention. The difference between the category *Headline* and the step *Headline* is in their function. While the step *Headline* is used to realise the function of attracting the readers' attention, the category *Headline* is a sub-category of *Summary* which functions to summarise the news report. As I show in Section 5.2.3 below, it is the lead paragraph which functions to summarise the news report. Although van Dijk (1985) and Bell (1991) do not identify any category that is similar to *Sub-deck*, van Dijk briefly indicates that "secondary headline" usually expresses important causes or consequences (van Dijk, 1985:78). As the analysis of headline and sub-deck are both absent in Nwogu's (1991) popularised medical texts and Nwogu's (1997) medical research articles, no comparison is possible. The reason for the absence of the analysis of *Headline* by Nwogu could be because he considered *Headline* and *Attribution* as peripheral features instead of core features. Analysis of move structures usually only take into account the core features of the text (see the review on move structure analysis in Chapter 4).

5.2.2 Move 2: Providing attribution

Move 2 is used to give credit to the journalist who wrote the news report. Move 2 is non-cyclical. It is always presented after Move 1-1[8] (*Headline*) or after Move 1-2 (*Sub-deck*) when Move1-2 is present. Move 2 is realised in three steps; Step 1 (*Specifying the name of the journalist*), Step 2 (*Specifying the title of the journalist*) and/or Step 3 (*Specifying the contact detail*). The obligatory step in Move 2 is Step 1.

The following shows an example when Steps 1, 2 and 3 co-occur:

Example 5-2 Move 2 which is realised using Steps 1, 2 and 3

[8] Move 1-1 refers to Move 1 Step 1.

The following shows an example when Step 1 and 2 co-occur:

Example 5-3 Move 2 which is realised using Steps 1 and 2

The following shows an example when Step 1 and 3 co-occur:

Example 5-4 Move 2 which is realised using Steps 1 and 3

The following shows an example when only Step 1 occurs:

Example 5-5 Move 2 which is realised using Step 1

The Herald typically includes all three steps (the name, title, and contact detail of the journalist), while *The Guardian* typically use Step 1 and 2 (the name and title of the journalist). In both papers, when the journalist is a general reporter, instead of a specialist correspondent, no particular title is mentioned.

Move 2 is comparable to Bell's (1991) category of *Attribution*. However, unlike Bell which includes the agency credit and/or journalist's byline, place and time, Move 2 (*Providing attribution*) identified in the present study includes the journalist's byline and their title and/or their contact detail. The absence of agency credit, place and time in Move 2 is due to the difference in the news texts used in the analysis. While Bell's news stories are collected from international news agencies, this study only includes articles which are written by the journalist working for the newspaper. This move is not included as part of Nwogu's (1991) analysis of popularised medical texts and Nwogu's (1997) analysis of medical research articles.

5.2.3 Move 3: Summarising the news report

Move 3 refers to what is known as the lead paragraph. The lead paragraph is comprised of information that will be further explored in the news report. In other words, the rest of the article is an elaboration of what is presented in the lead. As such, Move 3 is presented at the

beginning of the news report. This move can be presented after Move 2 (*Attribution*). Move 3 is non-cyclical and obligatory. This move is realised by presenting the main research finding.

The main research finding is presented using reporting speech, as the following examples show:

a. The secret to developing stem cell therapies for diseases such as diabetes, Parkinson's and heart disease is to use cells taken from women, *scientists claimed* yesterday. (H10/4/07-9)

b. People who regularly take aspirin to ward off strokes in later life could be doing themselves more harm than good, *according to a new study*. (G1/5/07-4)

The above examples show that by using reporting speech such as "scientists claimed" in example (a) and "according to a new study" in example (b), journalists are attributing the claim to the scientists who conducted the study or to the study itself. Similar to the use of reporting speech in the headline, the use of reporting speech in the lead paragraph also allows journalists to make important claims in a manner which distances themselves from the claim.

Move 3 summarises the news report by elaborating on Move 1 (*Attracting the readers' attention*). As such, some of the lexico-grammatical features found in the headline are also found in the lead, for example the use of intensifying adjectives:

a. **Move 1**: It's in the genes: *breakthrough* confirms DNA link with obesity

   Move 3: Clear evidence that DNA affects whether you are fat or thin was published last night following *groundbreaking* research involving thousands of Scots. (H13/4/07-1)

b. **Move 1**: *Breakthrough* hope for eczema

   Move 3: Scientists from a Scottish university have made a major *breakthrough* which could help ease suffering for tens of thousands of people with debilitating skin complaints. (H9/4/07-9)

However, not all lexico-grammatical features found in Move 3 are the same as Move 1. The use of adverbs which indicate approximation is only found in Move 3:

a. **Move 1**: Cured meats 'double risk of lung disease'

   Move 3: Regularly eating cured meat, including sausages and bacon, can almost double the chance of developing chronic lung disease, according to new research. (H17/4/07-7)

b. **Move 1**: Treatment now doubles chance of surviving a heart attack.

Move 3: The number of deaths from severe heart attacks following hospital treatment has nearly halved in six years, Scottish researchers revealed last night. (H2/5/07-2)

The above examples show that Move 3 develops Move 1 by adding detail. In example (a), there are details on the type of cured meat and the type of lung disease referred to i.e. "chronic lung disease". In addition to adding detail, the reporting of the research finding is hedged. The use of an adverb such as "almost" indicates that the finding is less than double. In example (b), there are details that the type of heart attack referred to is "severe heart attacks" and the treatment referred to is "hospital treatment". Similar to example (a), the reporting of the research finding in example (b) is also hedged using an adverb "nearly". By hedging the reporting of the research finding, Move 3 has toned-down the claim made in Move 1. The difference in the use of lexico-grammatical features between Move 1 and Move 3 indicates the difference in the functions of these moves. While Move 1 functions to attract the readers' attention, Move 3 functions to summarise the news report.

In addition to the difference in lexico-grammatical features, the visual difference between Move 1 and Move 3 also shows that the function of Move 1 is different from Move 3:

Figure 5-2 Visual differences between Move 1 and Move 3 (*The Herald*, 9/4/07-9)

As the above figure shows, while Move 3 is presented as part of the news report, Move 1 is presented as, using Catenaccio's (2008) term, a "peripheral" feature. They are printed in bold using a font size which is bigger than the rest of the news report. Moreover, while Move 3 is written by news writers, Move 1 is written by sub-editors.

Van Dijk (1985) and Bell (1991) also found the similarities between *Headline* and *Lead*. They argue that although the topic in the categories *Headline* and *Lead* are similar, the *Lead* specifies more detail of the topic. While Nwogu (1991) also speaks of the lead paragraph in popularised medical texts, according to Nwogu the lead paragraph is realised by presenting background information. In health and medical news reports, on the other hand, the lead paragraph is realised by presenting the main research finding. Although Nwogu speaks of the lead paragraph in popularised medical texts, its function and content is different from that of the lead paragraph in news reports. According Nwogu the function of the lead paragraph in

popularised medical texts is to attract the readers' attention by presenting background information. On the other hand, the function of the lead paragraph in health and medical news reports is to summarise the news report by presenting the main research findings. When compared with medical research articles, as Move 3 is realised by presenting the main research finding, the content of Move 3 in health and medical news reports is comparable to Move 9 (*Highlighting overall research outcome*) in Nwogu's (1997) medical research articles. However, while the function of presenting the main research finding in health and medical news reports is to summarise the news report, the function of presenting the main research finding in medical research articles is to highlight the overall research outcome.

5.2.4 Move 4: Presenting the main event

The main event is presented throughout the text. This move is cyclical. It is cyclical because it can be presented directly after Move 3 and cycled throughout the news report. This move dominates the news report. Two steps are used to present the main event; Step 1(*Presenting the main and specific research finding*) and Step 2 (*Specifying the research method*). Both Step 1 and 2 are obligatory. However, in Step 2, the research method can be specified as Step 2A (*Describing the research process*) and/or Step 2B (*Specifying the type and/or size of data collected*).

Move 4-1 (*Presenting the main and specific research finding*), is a move which elaborates on Move 3 (*Presenting the main research finding*), for example:

a. **Move 3-1**: Scientists have developed a simple method of *converting blood from one group to another*, a breakthrough that could lead to an end of blood shortages in Scotland.

   Move 4-1: Now, an international team of *researchers have announced they have found* a way to *convert blood from group A, B or AB to group O*. (H2/4/07-1)

b. **Move 3-1**: Taking too many vitamin supplements can increase the risk of *deadly prostate cancer*, new research suggests.

   Move 4-1: After five years, *they found* a surprising link between rates of *advanced and fatal prostate cancer* and men who regularly took multi-vitamins. (H16/5/07-5)

c. **Move 3-1**: *Clear evidence* that *DNA* affects whether you are *fat* or thin was published last night following groundbreaking research involving thousands of Scots.

   Move 4-1: People with two copies of *a particular gene* have a *70% higher chance* of being *obese* than people without the variety, *according to the study*. (H13/4/07-1)

Example (a) shows that while Move 3-1 only states that one group of blood is converted to another group of blood, Move 4-1 specifies the type of blood that is converted, which are group A, B or AB to group O. In example (b), while Move 3-1 describes the prostate cancer using an adjective "deadly", Move 4-1 describes the prostate cancer using a different adjective "fatal". Besides describing the prostate cancer using a different adjective, Move 4-1 also explicitly states the stage of the cancer, which is signalled using the explicit lexical item "advanced". Similar to examples (a) and (b), in example (c), "clear evidence" is specified by referring to the statistical finding "70% higher chance", "DNA" is specified by referring to "a particular gene" and "fat" is specified using a specific medical term "obese". These examples show that while Move 3-1 only presents the main research finding, Move 4-1 presents both main and specific research findings, with specific research finding signalled by referring to a statistical finding. As both moves function to present the research findings, the lexico-grammatical features used to realise Move 4-1 is similar to those used to realise Move 3-1, for example "researchers have announced they have found....." in example (a), "they found....." in example (b) and "....., according to the study" in example (c). Other reporting speech used to realise Move 4-1 include:

a. New *findings* from Million Women Study *suggest* that HRT use in the UK resulted in 1300 extra cases of ovarian cancer between 1991 and 2005. (H19/4/07-1)

b. *Researchers* at Dundee University have *discovered* 15 mutations of the gene which is responsible for ….. (H9/4/07-9)

The specific research finding is reported by stating the exact statistical finding, for example:

a. The researchers, funded by Wellcome Trust, discovered people carrying one 'fat' FTO had a 30% higher risk of being obese than those with none. People with two copies had a 70% higher risk of being obese and were, on average, 3kg heavier than a similar person with none. (H13/4/07-1)

b. *Statistics showed* that for every 1000 women on HRT, 2.6 developed ovarian cancer over five years, compared with 2.2 per 1000 women not using HRT. (H19/4/07-1)

Other examples of lexico-grammatical features used in Move 4-1 include:

a. A team from the University of Bristol believe that altering the amount of a protein called SUMO *could* reduce the effects of brain conditions. (H8/5/07-9)

b. Those who ate cured meat products 14 times or more a month were *almost* twice as likely to developed COPD as people who consume none, the researchers found. (H17/4/07-7)

c. Specific genetic markers also showed that a small proportion – *about* 3% - had developed to a further stage, as spermatagonial stem cells. (H13/4/07-10)

d. Scientists have discovered four genes which, if faulty, can increase a woman's chance of developing breast cancer – by *up to* 60% in the case of two of the genes. (G28/5/07-1)

The above examples show that Move 4-1 uses lexico-grammatical features such as; modality "could" in example (a), adverbs "almost" in example (b), "about" in example (c) and "up to" in example (d). Adverbs such as "almost", "about" and "up to" infer that the statistical findings reported are higher than the 'actual' number. These examples show that the lexico-grammatical features found in Move 4-1 are similar to those found in Move 3-1.

While Move 4-1 is associated with the Result section of the medical research article, Move 4-2 (*Specifying the research method*), is associated with the Method section of the medical research article. Step 2 can be identified as Step 2A (*Describing the research process*) and/or Step 2B (*Specifying the type and/or size of data collected*).

The following shows an example of Step 2A:

a. **Move 3-1**: Researchers have for the first time *created* immature human sperm cells from stem cells in bone marrow.

   Move 4-2A: In the new study, Karim Nayernia, at the University of Newcastle, and his team *isolated* mesenchymal stem cells from the bone marrow of male volunteers. The team *cultured* them in the lab and by *adding* a form of vitamin A were able to *coax* them into becoming a cell type that is the first step to being a fully developed sperm cell. (G13/4/07-11)

The above examples show that Move 4-2A describes the steps taken by the researchers to create sperm cells from stem cells in bone marrow. The researchers "isolated" and "cultured" the stem cell and then "adding" a form of vitamin A to "coax" them. Other examples of Move 4-2A are:

a. **Move 3-1**: Diabetics have been *treated* with stem-cell therapy for the first time, freeing them from the need to have regular insulin injections.

   Move 4-2A: According to a study published yesterday, researchers *gave* the patients powerful drugs to suppress their immune systems, followed by *transfusions* of stem cells drawn from their own blood. (H11/4/07-10)

b. **Move 3-1**: Scientists have *discovered* a strand of DNA that dramatically raises the risk of coronary heart disease and doubles the chances of younger people suffering a heart attack prematurely.

> **Move 4-2A**: Two groups of researchers, working independently of each other, *identified* the gene sequence after *comparing* the entire genomes of more than 40,000 people. (G3/5/07-3)

In example (a), the steps taken by the researchers to treat the diabetics include "gave" powerful drugs to the diabetic patients followed by "transfusion" of stem cell. In example (b), the researchers discovered a strand of DNA by "comparing" the genome of 40,000 people and then "identified" the gene sequence. The lexico-grammatical feature that is used to detail the research process is simple past tense because it refers to the activities that went on during the scientists' experiments.

Move 4-2 can also be identified as Step 2B (*Specifying the type and/or size of data collected*), for example:

a. American scientists investigated the impact of vitamin use on cancer in *295,344 men* enrolled in a national diet and health study. (H16/5/07-5)

b. The eating habits of *7352 individuals with an average age of 64.5* were studied by the US researchers investigating diet and COPD. (H17/4/07-7)

c. The Million Women Study, largely funded by Cancer Research UK, recruited *948,576 post-menopausal women*, representing a quarter of all women aged 50 to 64 in the UK. (H19/4/07-1)

Examples (a) and (b) specify the number of participants, "295,344" and "7352", and type of participants in the study, "men" and "individuals with an average age of 64.5". On the other hand in example (c), in addition to specifying the number and type of participants in the study "948,576 post-menopausal women", example (c) also describes the number of participants in relation to the larger population using the explicit statement "representing a quarter of all women aged 50 to 64 in the UK".

Move 4 is similar to van Dijk's (1985) and Bell's (1991) category of *Main Event*. When compared with Nwogu's (1991) popularised medical texts, the content of Move 4-1 (*Presenting the main and specific research findings*) is comparable to Move 5 in popularised medical texts (*Indicating consistent observation*), Move 4-2A (*Describing the research process*) to Move 7 (*Describing experimental procedure*) and Move 4-2B (*Specifying the type and/or size of data collected*) to Move 6 (*Describing data collection procedure*). Similar to Nwogu's Move 6 and 7, Move 4-2A and Move 4-2B correspond to information contained in the Method section of medical research articles. When compared with medical research articles, the content of Move 4-2A and Move 4-2B corresponds to the Method section of medical research articles. Move 4-2A (*Describing the research process*) to Nwogu's Move

5-2 (*Recounting experimental process*) and Move 4-2B (*Specifying the type and size of data collected*) to Nwogu's Move 4-1 (*Indicating source of data*) and Move 4-2 (*Indicating data size*). While the content of Move 4-2 in health and medical news reports corresponds with the Method section of medical research articles, the content of Move 4-1 corresponds with the Result section, specifically Nwogu's Move 7-1 (*Highlighting overall observation*) and Move 7-2 (*Indicating specific observation*).

5.2.5 Move 5: Indicating the significance of the event

Move 5 is cyclical and is presented near the beginning of the article because it can encourage readers to keep reading the article by indicating how the research reported is significant to them. Three steps are used to realise Move 5; Step 1 (*Referring to the intrinsic qualities of the research*), Step 2 (*Referring to the implication of the research*) and/or Step 3 (*Referring to the local relevance*). Step 2 can be presented after or together with the main research finding (Move 3-1 or Move 4-1). The obligatory step in Move 5 is Step 3.

Step 1 (*Referring to the intrinsic qualities of the research*) can be realised either implicitly or explicitly, for example:

a. *No way has yet been found* to turn rhesus positive blood into rhesus negative. (H2/4/07-1)

b. *There is no known cure* for either CF or DMD, and sufferers rarely live beyond their 30s, but now US scientists have announced that ….. (H23/4/07-3)

c. The *latest* breakthrough is the team's second in the space of a year, bringing hope for sufferers one step closer. (H9/4/07-9)

d. The findings will mark the *biggest* single leap in the understanding of how ….. (G14/4/07-8)

e. The study is the *first* to report a difference between the sexes on the regenerative capabilities of muscle stem cells. (H10/4/07-9)

The above examples show that lexico-grammatical features such as negative quantifiers "no way has yet been found" in example (a) and "there is no known cure" in example (b) are used to realise Move 5-1 implicitly. On the other hand, superlatives such as "latest" in example (c) and "biggest" in example (d) and the lexeme "first" in example (e) are used to realise Move 5-2 explicitly.

Step 2 (*Referring to the implication of the research*) can be presented in the lead paragraph (as part of Move 3) or anywhere near the beginning of the text. When the implication of the

research is presented in the lead paragraph, this step can be seen as an elaboration of the sub-deck, for example:

a. **Sub-deck**: Mutation in genes *could help* search for treatment

   Lead: Scientists from a Scottish university have made a major breakthrough *which could help* ease suffering for tens of thousands of people with debilitating skin complaints. (H9/4/07-9)

The above example shows that when the implication of the research is presented in the lead paragraph, they are presented as an embedded clause and is realised using pronouns to refer back to previous sentences and modality such as "could". Although the linguistic features used to indicate the implication of the research in the lead paragraph is similar to the linguistic features used in the sub-deck, the use of an embedded clause and apposition which is found in the lead paragraph is not found in the sub-deck. This difference can be attributed to the difference between the functions of the two moves. As the sub-deck functions to attract the readers' attention, the sentence used has to be concise. As such, it is not possible for the sub-deck to be realised using an embedded clause and apposition.

When the implication of the research is not presented in the lead paragraph, a wide range of lexical expressions are used to realise the implication of the research, for example:

a. Identifying a clear link between genes and weight gain *could have far-reaching implications for* health care for decades to come. (H13/4/07-1)

b. The results of ….. *could mark the start of a revolution in* tackling the autoimmune disease. (H11/4/07-10)

The above examples also show that modality such as "could" is used to indicate the implication of the research. Other modality used includes:

a. ….. researchers were able to alter the speed with which they learned to perform different tasks, suggesting it *might* be possible to develop drugs to improve memory (G6/4/07-19)

b. Scientists have developed a simple method of converting blood from one group to another, a breakthrough that *could* lead to an end to blood shortages in Scotland (H2/4/07-1)

Example (a) uses the modal verb "might" and example (b) uses "could". Modality is used to indicate to the readers that the implication reported is only a *possible* implication. The implication is only a possibility because it has not been scientifically proven.

In addition to modality, conditional forms can also be used to report a possible implication of the research:

a. *If* replicated in humans, their discovery *could* enhance the success of therapies in which stem cells are used to repair damaged organs and replace lost tissue. (H10/4/07-9)

b. The technique has yet to be tested on patients, but *if* successful *could* allow the blood transfusion service to boost supplies of O negative blood- the "universal donor". (H2/4/07-1)

Examples (a) and (b) show that the conditional form "if…..then" is used to indicate the possible implication of research that is not yet done. Therefore, while modality is used to predict the implication of the research reported, the conditional form is used to predict the implication of the research which is not yet completed.

Step 3 (*Referring to the local relevance*) is realised by stating the number and location of local people affected and/or the local source of information. The number of local people affected is signalled by referring to the location or the type of people affected, as can be seen in the following examples:

a. Ovarian cancer is the fourth most common female cancer in the UK. The latest figures show 600 women are diagnosed with the condition in *Scotland* every year. (H19/4/07-1)

b. Chronic obstructive pulmonary disease (COPD) is one of the most common lung conditions in the developed world, affecting one in 65 *Scots*. (H17/4/07-7)

c. There are 2.2 million people diagnosed with diabetes in the *UK*. (H11/4/07-10)

d. Adult obesity rates have nearly quadrupled in the *UK* over the last 25 years, and two-thirds of adults are overweight. (G13/4/07-4)

In example (a) and (b), as *The Herald* is a Scottish-based newspaper, the local relevance that is referred to is "Scotland" or "Scots". However, when no Scottish reference can be made, *The Herald* made a reference to the "UK" as shown in the example (c). For *The Guardian*, the local relevance is the "UK" as can be seen in example (d). The lexico-grammatical feature used to refer to local relevance is simple present tense. Simple present tense, which indicates a high level of certainty, is used to indicate that the reporting of local relevance is based on factual information.

In *The Herald*, besides the generic terms, "Scotland", "Scots" or "UK", the local relevance is indicated by stating the specific area in Scotland, for example:

a. Genetic samples, along with a number of physical measurements from 37,000 people, including 7000 in *Fife and Tayside*, were then examined to see ..... (H13/4/07-10)

b. Among 600 Scottish sufferers of cystic fibrosis who are hoping for a cure is Cara Doran, 28, from *Dumbarton*, who works as a patient adviser for the CF Trust. (H23/4/07-3)

Example (a) also shows that the same text can be seen as corresponding to two different moves. While the lexical items "Fife and Tayside" indicate the local relevance, the phrase "genetic samples.....from 37,000 people, including 7000 in Fife and Tayside" indicates the type of data "people" and the size of data collected "37,000" including "7000" in Fife and Tayside. This shows that the same text can be identified as both Move 5-3 (*Referring to the local relevance*) and Move 4-2B (*Specifying the type and size of data collected*).

Local relevance can also be indicated by explicitly stating the local source of information, for example:

a. Scientists from a *Scottish university* have made a major breakthrough which could help ease suffering for tens of thousands of people with debilitating skin complaints. ..... Researchers at *Dundee University* have discovered ..... (H9/4/07-9)

b. The number of deaths from severe heart attacks following hospital treatment has nearly halved in six years, *Scottish researchers* revealed last night. ..... The study is the result of work of a team at *Edinburgh University* began with hospitals in Scotland and a number of other countries in 1999. (H2/5/07-2)

Move 5 (*Indicating the significance of the event*) in health and medical news reports is comparable to Bell's (1991) category of *Evaluation* and van Dijk's category of *Consequences*. *Evaluation* is the means to establish the significance of the story. *Consequences* can provide a measure of the relevance and importance of events. When compared with Nwogu's (1991) popularised medical texts, the content of Move 5-3 (*Indicating the local relevance*) is comparable to Nwogu's Move 1-3 (*Presenting background information* by stressing the local angle) and Move 9-3 (*Stating research conclusions* by stressing the local angle). However, while the local angle is used in health and medical news reports to indicate the significance of the report, in popularised medical texts they are used to present background information and state the research conclusion. The function of Move 5 in health and medical news reports is comparable to Move 5 (*Indicating consistent observation*) in Nwogu's popularised medical texts. Nwogu argues that Move 5 is the first attempt by writers to report the importance of the research. When compared with medical research articles, the content of Move 5 corresponds to Nwogu's (1997) Move 10-3 (*Indicating significance of the outcome*).

5.2.6 Move 6: Presenting background information

Presentation of background information provides the readers with the context of the research reported. It contains information which journalists thought to be of relevance to the readers.

This move is cyclical. Three steps are used to realise this move: Step 1 (*Comparing the present research with past, previous and/or other related research*), Step 2 (*Explaining the technical terms and concepts used*) and/or Step 3 (*Indicating the funder of the research*). Step 1 can be presented near the beginning of the text or in the middle of the text. On the other hand, Step 2 is dispersed in different parts of the text and Step 3 is presented near the end of the text. Although none of the steps are obligatory, at least one of the steps has to occur.

In Step 1 (*Comparing the present research with past, previous and/or other related research*) is realised using an explicit reference to previous research, for example:

a. In *2002*, a major US study called the Women's Health Initiative was halted three years early after ….. Then in *2003*, came the bombshell findings from Million Women Study showing a link between HRT and breast cancer. (H19/4/07-1)

b. *Last year* the team discovered that ….. *Now* the latest research into breaking down ….. (H9/4/07-9)

c. *Previous* studies suggested stem-cell therapy might be ….. *Earlier this month*, scientists reported that a patient had suffered ….. (H11/4/07-10)

d. *Meanwhile*, Canadian scientists have linked restless leg syndrome (RLS) with an increased risk of heart disease. (G10/4/07-11)

Examples above show that although an explicit reference to previous research is used, different references are used when referring to past, previous and other related research. While past research is signalled by stating the year when the research was conducted, as in example (a) and (b), example (c) shows that previous research is signalled by the explicit lexeme "previous" and example (d) shows that other related research is signalled by the explicit lexeme "meanwhile". The above examples show that the linguistic features used to signal past research is different from those used to signal previous research and other related research. This is similar to van Dijk and Bell when they differentiate between *History* and *Previous Events*. They argue that while *Previous Events* refers to events that happened directly before the present event, *History* refers to events that stretch back to months and years.

Step 2 (*Explaining the technical terms and concepts used*), is realised by defining the term and concepts and/ or referring to a causal relationship. The following example shows that both definition and causation are used:

a. Chronic obstructive pulmonary disease (COPD) *is* one of the most common lung conditions in the developed world ….. It incorporates both bronchitis and emphysema and is among the most frequent *causes* of death for men from middle age onwards. (H17/4/07-7)

In a few instances, either the causation is referred to or the term is defined, as shown in the following examples:

a. Huntington's *is* one of several degenerative diseases marked by protein clumps in the brain. (H8/5/07-9)

b. The disease is *caused* by insulin-producing pancreatic beta cells being destroyed by the patient's own immune system. (H11/4/07-10)

Examples of Step 3 (*Indicating the funder of the research*) are as follows:

a. The research, which was *funded by* the Biotechnology and Biological Research Council (Bbsrc), was conducted on ….. (H1/5/07-12)

b. The Million Women Study, largely *funded by* Cancer Research UK, recruited 948,576 post-menopausal women, representing a quarter of all women aged 50 to 64 in the UK. (H19/4/07-1)

When compared with van Dijk's (1985) and Bell's (1991) category, Move 6-1 (*Comparing the present research with past, previous and/or other related research*) is comparable to van Dijk's (1985) and Bell's (1991) category of *Background* (*History* and *Previous Events*). While past research is equivalent to the *History* category and previous research is equivalent to the *Previous Events* category, there is no category that is equivalent to other related research. While Move 6-1 is comparable to van Dijk's and Bell's categories, there are no categories that can be compared to Move 6-2 and Move 6-3 because they are specific to health and medical news.

The content of Move 6 (*Presenting background information*) in health and medical news reports is comparable to Nwogu's (1991) Move 1 (*Presenting background information*) in popularised medical texts. However, while Nwogu argues that Move 1 in popularised medical texts (*Presenting background information*) functions as a lead as it provides background information to attract the readers' to read the text, the present study shows that background information is used to provide the reader with the context of the research.

When compared with medical research articles, the content of Move 6-1 (*Comparing the present research with past, previous and/or other related research*) is comparable to Nwogu's (1997) Move 2 (*Reviewing related research*) in the Introduction section of medical

research articles. However, while the function of reviewing past/previous/other related research in health and medical news reports is to present background information, Nwogu found that the function of reviewing past/previous/other related research in medical research articles is to show that the present research is part of a continuing research tradition.

5.2.7 Move 7: Indicating the source of information

This move indicates to the reader that the report is based on credible sources. It serves to claim authenticity and authority. Although journalists use a variety of sources, the source of information that is indicated in the news report is only the scientists and the journal where the research is published. This move is cyclical. Two steps are used to realise this move; Step 1 (*Referring to the scientists*) and Step 2 (*Referring to the journal*). Both steps are obligatory. The data used in the present study only includes news reports on research that are published in journal articles, there is a reference to the journal where the research is published. Similarly, there is also a reference to the scientists who conducted the research.

In Step 1, the scientist is referred to by stating their name, title and organisation, for example:

a. *Their leader*, Professor Valerie Beral, *director of Cancer Research UK's epidemiology unit at Oxford University*, said: "….." (H19/4/07-1)

b. *Team leader* Professor Henrik Clausen, from *University of Copenhagen*, whose study was published.....(H2/4/07-1)

The above examples show that when the article is attributed to the scientist who conducted the research, this move is signalled using an explicit lexical clue such as "their leader" in example (a) or "team leader" in example (b), the name of the researchers and the institution where the researcher is from.

In Step 2, the journal is referred to by stating the name of the journal, for example:

a. The study was *published* yesterday in the *Journal of Cell Biology*. (H10/4/07-9)

b. The findings are *published* in the *Journal of Public Health*. (H3/4/07-3)

c. Now the results of the project, ….., have been *published* in the *Journal of the American* Medical Association (JAMA). (H2/5/07-2)

The above examples show that reference to the journal is realised using an explicit lexical item "published" followed by the name of the journal which published the study. In addition to the name of the journal, the time of the journal publication can also be stated, for example:

a. The study was published *yesterday* in the Journal of Cell Biology. (H10/4/07-9)

b. A report in the journal Science *last night* revealed they found ..... (H13/4/07-1)

c. The findings were published *today* in an *early online edition* of the Lancet medical journal. (H19/4/07-1)

d. For the study, *just* published in research journal Sleep, health visitors led insomniacs through a five-hour course of …..(H29/5/07-3)

e. It is hoped the research, *to be published* in Nature magazine, will lead to more effective treatments and preventative measures in babies. (H9/4/07-9)

Step 1 and 2 can also co-occur, as shown in the following example:

> Team leader Professor Henrik Clausen, from University of Copenhagen, whose study was published in the journal Nature Biotechnology, said the breakthrough could improve blood supplies and transfusion medicine. (H2/4/07-1)

Move 7 (*Indicating the source of information*) is comparable to Bell's (1991) category of *Attribution*. However, van Dijk does not discuss any category that is comparable to Move 7. In contrast to Bell's argument that the source of information is categorised as *Attribution*, in health and medical news reports Move 2 (*Providing attribution*) is different from Move 7 (*Indicating the source of information*). This is because the function of Move 2 is different from Move 7. While the function of Move 2 is to credit the journalist who is writing the news report, Move 7 is used to claim authority and authenticity of the report. When compared with Nwogu's (1991) popularised medical texts and Nwogu's (1997) medical research articles, none of the moves identified by Nwogu are comparable to Move 7 identified in the present study.

5.2.8 Move 8: Showing balanced reporting

Move 8 can be presented near the end or at the end of the text. In showing that the journalist is presenting balanced reporting, the journalist includes the reaction of other scientists or other users. The reaction can be in the form of support or criticism of the research. Move 8 is cyclical. This move is realised in two steps; Step 1 (*Indicating the reaction of other scientists*) and/or Step 2 (*Indicating the reaction of other users*). Both steps are optional.

Step 1 (*Indicating the reaction of other scientists*) is realised using direct and indirect quotations as the following examples show:

a. *Dr John Stevenson, an HRT expert from London's Royal Brompton Hospital,* speaking to the British Menopause Society, *said* the findings were a "U-turn of dramatic proportions". (H10/4/07-7)

b. *Professor Peter Weissberg, medical director at the British Heart Foundation (BHF),* said: "This is a great example of a long-term investment in heart research is vital." (H2/5/07-2)

While example (a) shows the reaction of the other scientist in the form of criticism of the research, in example (b) the reaction is in the form of support for the research.

Step 2 (*Indicating the reaction of other users*) is also realised using similar linguistic features as Step 1, for example:

a. *A spokesperson from Chest, Heart & Stroke Scotland said*: "This study which shows an association between frequent consumption of cured meats and increased rates of COPD is very interesting *but more research will be needed* to find out if there is a direct causal link between them. (H17/4/07-7)

b. *Advocates of HRT have criticised* some of these findings. (H19/4/07-1)

The above examples show that similar to Step 1, direct and indirect quotations are used to realise Step 2. The reporting of the criticism by other scientists is signalled using the expression "but more research will be needed" in example (a) and the explicit lexeme "have criticised" in example (b). Similar to Step 1, in Step 2, the organisation can also be referred to by explicitly stating the name of the organisation "Chest, Heart & Stroke Scotland" in example (a) or by referring to the generic term "advocates of HRT" in example (b).

When compared with van Dijk's (1985) and Bell's (1991), Move 8 (*Showing balanced reporting*) is comparable to the category of *Verbal Reaction*. However, while the function of the verbal reaction in health and medical news reports is to indicate balanced reporting, van Dijk argues that the function of verbal reaction is to allow journalists to provide an objective evaluation. When compared with Nwogu's (1991) popularised medical texts, Move 8 is comparable to Nwogu's Move 8-3 (*Indicating comments and views*) in popularised medical texts. However, while comments and views are used in popularised medical texts to explain the research outcome, comments and views are used in health and medical news reports to show balanced reporting. Moreover, while the comments and views included in popularised medical texts are only of scientists, the comments and views included in health and medical news reports are not only of scientists but also of other users. When compared with medical research articles, none of the moves identified by Nwogu (1997) are comparable to Move 8.

I have attached in Appendix D a sample of how the move structure that I discussed in this chapter applies in a particular instance of a health and medical news report.

5.3 *Summary*

The purpose of this chapter is to support the position that health and medical news reports are first and foremost news stories. I have supported this position by showing that the structure of health and medical news are more similar to news texts than to research articles. The following figure summarises the comparison between health and medical news reports, news texts, popularised medical texts and medical research articles:

Health and medical news reports	**News texts**		**Popularised health and medical texts (Nwogu, 1991)**	**Health and medical research articles (Nwogu, 1997)**
	Van Dijk's (1985) news schema	**Bell's (1991) news stories**		
Move 1 Attracting the readers' attention Step 1 Headline and Step 2 Sub-deck Step 2A indicating the implication of the research or Step 2B indicating the current debate surrounding the research or Step 2C comparing present and past research or	X* (Headline)	X (Headline)		
Move 2 Providing attribution		X (Attribution)		
Move 3 Summarising the news report (the lead paragraph) Step 1 presenting the main research finding and/or Step 2 indicating the implication of the research finding	X (Lead)	X (Lead)	X (M1)	X (M9)
Move 4 Presenting the main event Step 1 presenting the main and specific research finding and Step 2 specifying the research method Step 2A describing the research process and/or Step 2B specifying the type and size of data collected	X (Main Event)	X (Main Event)	X (M5) X (M6) X (M7)	X (M7-1, M7-2) X (M5-2) X (M4-1, M4-2)

Move 5 Indicating the significance of the event Step 1 referring to intrinsic qualities of the research articles and/or Step 2 referring to the implication of the research and/or Step 3 referring to the local relevance	X (Consequences)	X (Consequences & Evaluation)	X (M5) X (M1-3, M9-3)	X (M10-3)
Move 6 Presenting background information Step 1 comparing the present research with past, present and/or other related research and/or Step 2 explaining the technical terms and concepts used and/or Step 3 indicating the funder of the research	X (Background)	X (Background)	X (1)	X (M2)
Move 7 Indicating the source of information Step 1 referring to the scientists and Step 2 referring to the journal		X (Attribution)		
Move 8 Showing balanced reporting Step 1 indicating the reaction of other scientists and/or Step 2 indicating the reaction of other users	X (Verbal Reaction)	X (Verbal Reaction)	X (M8-3)	

Figure 5-3 Comparison between health and medical news reports, news texts, popularised health and medical texts and health and medical research articles

* "X" indicates the moves/steps/categories in news texts, popularised medical texts and medical research articles which are comparable to health and medical news reports.

The genre of health and medical news reports are generally similar to the genre of news texts, apart for the structuring of the source of information. The similarities between health and medical news reports and news texts are in the categories and function of headline, attribution, lead, main event, background information and reactions. As in news texts, the structure of headline, attribution and lead in health and medical news reports are also stricter than the structure of other categories. The structure of headline, attribution and lead is stricter in a sense that they always occupy the same position in the text while other categories can be presented in different parts of the text. The difference between health and

medical news reports and news texts is in the structuring of the source of information. In news texts, the source of information is structured as part of attribution. As such, source of information is not a category that belongs to the same structural level as the category attribution. In health and medical news reports, on the other hand, attribution does not belong to the same structural level as source of information because they have different functions. Attribution is presented after the headline and before the lead paragraph while source of information can be presented anywhere in the text. The difference in the structuring of attribution and source of information between health and medical news reports and news texts can be attributed to the difference in the type of texts analysed. Analysis of the structure of news texts by van Dijk and Bell was based on international news agency reports, while analysis of health and medical news reports which I conducted were based on newspaper reports. News agencies are one of the sources for newspaper journalists. As the journalists' byline in news agencies refers to the journalists who write for news agencies, these journalists are the source of information. Journalists writing for news agencies are the source of information because they gather the news directly from where the event happens. On the other hand, as journalists writing for newspapers gather news from different sources, news agencies being one of them, they are writing about an event which is gathered by their sources instead of covering the news event when it happens.

The genre of health and medical news reports are different from popularised medical texts. Although some of the content of health and medical news reports are comparable to popularised medical texts, the function of the moves in health and medical news reports are different from popularised medical texts. The function of the lead paragraph in health and medical news reports is to summarise the news reports by presenting the main research finding, while the function of the lead paragraph in popularised medical texts is to attract the readers' attention by presenting background information. The function of presenting background information in health and medical news reports is to provide the context of the research. Although local angle is stressed in both health and medical news reports and popularised medical texts, they have different functions. The function of stressing the local angle in health and medical news reports is to indicate the significance of the report, in popularised medical texts local angle is used to present background information and state the research conclusion. The function of indicating comments and views in popularised medical texts is to explain the research outcome, while comments and views are used in health and medical news reports to show balanced reporting. Moreover, while popularised medical texts only include comments and views from scientists, health and medical news reports include not only comments and views from scientists but also from other users.

The structure of health and medical news reports is also different from medical research articles. Although the content of the moves in health and medical news reports correspond to the content of the moves in medical research articles, the function of the moves are different. The function of presenting the main research findings in health and medical news reports is to summarise the news report while the function of presenting the main research finding in medical research articles is to highlight overall research outcome. The function of reviewing past/previous/other related research in health and medical news reports is to present background information while the function of reviewing past/previous/other related research in medical research articles is to show that the present research is part of continuing research traditions.

The similarities between the genre of health and medical news reports and the genre of news texts and their differences from the genre of popularised medical texts and medical research articles can also be seen at a higher level i.e. section. While popularised medical texts is categorised into Initial, Medial and Final moves and medical research articles are categorised into Introduction, Method, Result and Discussion sections, news texts and health and medical news reports are not categorised into sections. This is because most of the moves in health and medical news reports are flexible, apart from Move 1 (*Attracting the readers' attention*), Move 2 (*Providing attribution*) and Move 3 (*Summarising the news report*). It is flexible in a sense that the moves can be presented anywhere in the text. Categorising the moves into sections is only possible when the moves always appear in the same section. Categorisation of the moves in popularised medical texts and in medical research articles into different sections indicates that the structure of popularised medical texts and medical research articles are more rigid than news texts and health and medical news reports.

In conclusion, this chapter has shown that the genre of health and medical news reports is more similar to the genre of news texts than to the genre of research articles. In this chapter I have shown that health and medical news are similar to news texts, in the next chapter (Chapter 6) I explore whether or not health and medical news are produced in the same way as other news items.

6. Health and medical news production process and the effectiveness of scientists' guidelines on the production process

6.1 Introduction

This chapter serves two purposes. The first is to show whether or not the production of health and medical news differ from the production of other news items. The second is to show whether or not the solutions proposed by the scientific community have any effect on the health and medical news production process.

In establishing whether or not the production of health and medical news differs from the production of other news items, I provide ethnographic evidence obtained from the observation of newsrooms and interviews with journalists at *The Herald* and *The Guardian*. This ethnographic evidence together with textual evidence in Chapter 5 (which shows that health and medical news reports are structurally more similar to news stories than to research articles) are used to support the position that health and medical news are first and foremost news stories.

In establishing the effect of the solutions proposed by the scientific community, I refer to the ethnographic data that I have collected from *The Herald* and *The Guardian* and check them against the precepts as listed in the Social Issues Research Centre (SIRC, 2001) guidelines which are issued in collaboration with the Royal Society and the Royal Institution of Great Britain. I also inspect newspaper texts for journalistic practices. The purpose of establishing the effect of the proposed solutions is to answer my second research question i.e. Does the discourse of 'distortion' have any effect on the health and medical news production process? Chapter 2 has shown that the solutions proposed by the scientific community to the concern for 'distortion' is the adoption of "critical medical journalism" (Levi, 2001) and adherence to guidelines such as those issued by the Social Issues Research Centre (SIRC, 2001). The effect of the discourse of 'distortion' is established by assessing whether or not *The Herald*'s and *The Guardian*'s journalists adopt the guidelines when reporting health and medical news. The purpose of focusing on the SIRC guidelines is because the present study is situated within the context of health and medical news reporting in two newspapers in the United Kingdom.

The chapter is organised into two sections. The first part of this chapter (Section 6.2) is used to show whether or not the health and medical news production process differs from other news items. The second part of this chapter (Section 6.3) is used to show the lack of efficacy of the SIRC guidelines.

6.2 The production process

The production process of health and medical news is divided into two periods; the 'creation' period and the 'production' period. In the 'creation' period, writers[9] source for news to report before starting with the writing process. In the 'production' period, sub-editors edit the article written by reporters and correspondents before sending the article for printing.

In showing that the production (including both the 'creation' and 'production' periods) of health and medical news does not differ from other news items I start by showing the general production process (see Section 6.2.1) before picking two health and medical news items and showing the process that they went through (see Section 6.2.2).

6.2.1 News production process

In *The Herald* and *The Guardian*, the news organisation is divided into the following departments; news, features, sports, business, leader/comment, picture, graphics, subs, magazine and digital. Each department is self-governing. The news department does not need to know what is happening in the sports department and vice versa. Each department has their own editor, sub-editors and writers. The Editor and deputy editor have an overview of what is happening in different departments. The description provided in this section is that of the news department. This is because the focus of this thesis is on the news production process (see Chapter 3 on data collection).

The news department is headed by the news editor, who is in-charge of news writers. As the following interviews with the Editor (E) and deputy editor (DE) show, the news editor is the first 'sounding board':

1 DE First of all the journalists have to pitch their ideas to the newsdesk.

[9] 'Writers' refers to the reporters and the correspondents. 'Correspondents' refers to writers who have a specialisation. Health and medical correspondents are referred to as 'health correspondent' or 'medical correspondent'. 'Reporters' refers to writers who cover general news. As such, they are referred to as 'general reporter'. The term 'journalist' is a generic term which refers to everyone who is working in the newsroom. Therefore the term journalists refer to the writers (reporters and correspondents), the editors and the sub-editors.

So the first port of call to [name of the health correspondent] she has to write the story which will go to [name of the news editor] or whoever in the newsdesk and say story x. They are the first I supposed

2 E Sounding board

3 DE Yeah that's a good story or not sure about that and they're the first indicator in how they see it fits in the day's news because the newsdesk would know what other events are happening either live or planned in terms of the schedule or the diary and they make the first judgment, I supposed, on whatever story health or whatever within the news schedule. (H14/5/07)

As the news editor knows what other events are happening, they can make the first judgement on whether a story will fit the *news schedule*[10]. The news schedule contains the list of stories that will appear in the next day's news pages, the name of the writers who are writing the stories and the page numbers where the stories will appear. The news schedule is updated after every news conference by the news editor and emailed to journalists in the news department. The news schedule is organised in terms of priority. The story which appears at the top of the news schedule is the story which will appear on the front page. The order of priority can change throughout the day. As the order of priority changes, the allocation of page number also changes.

When news writers find an 'interesting' topic from their source of information, they pitch their idea to the news editor. Alternatively, if the news editor finds an 'interesting' topic on the wires, he alerts the news writers to gather more information on the topic. Journalists use *wires*[11] and press releases as their main source of information:

> Basically we, every national newspaper anyway, subscribe to various services where they can get all the latest news stories that are around the UK by the Press Association, international will be the Associated Press AP or Reuters. So these are stories, the latest stories that are coming in today from wires twenty-four hour service [ ] Stories also come in we get press releases. [ ] (Assistant news editor, H14/5/07)

In deciding whether or not the stories received from wires and press releases worth pursuing, journalists will use their 'news judgement':

[10] Instead of using the term *news schedule*, *The Guardian* uses the term *news list*.

[11] Wires refer to stories and photographs sent electronically by the press and news agencies. Press agencies refer to big news agencies such as Press Association for the United Kingdom news and Associated Press and Reuters for international news. The newspaper pays a subscription fee to use the services provided by the press agency. They can use the articles word-for-word if they choose or they can take the stories and develop them. That is, using what the writers write and what the agencies supply. News agencies refer to local news agencies. Instead of paying a subscription fee, the newspaper pays for the article that they use.

> Two words news judgement. We are kinda, I kinda categorise what we do good at assessing what makes a good news story. [ ] I read the first three paragraph and I'm not entirely sure what this is about so if the story is not grabbing me within the first four and five paragraph then the chance is that it's not worth pursuing [ ] (Assistant news editor, H14/5/07)

News writers are in constant discussion with the news editor to decide whether a story is worth covering, how to approach the story, and whose reaction to get. Once a topic is agreed upon by both news writers and the news editor, news writers start sourcing for more information about the topic and start the writing process. In sourcing for more information, news writers' first point of contact is usually the press officer who issued the press release. Once the story is written, it is filed electronically to the sub-editors. Once the story is filed to the sub-editors, the news writers' job is finished. They will not see how the story has been edited until it appears in the next day's papers.

While news writers gather more information on the topic chosen, the news editor attends the 'news conference' to give the Editor[12] an update of what news will be in the next day's paper. In the news conference, the Editor provides the news editor with feedback on what he thinks of the topics, the angle taken to write the news report and the reactions to get. The Editor receives regular updates on the development of the news report in three news conferences. The news conferences are conducted at 10am, 12pm and 4pm, although there can be slight variations. The first news conference discusses what stories to cover, how to develop the stories and what kind of reaction to get. The second and third news conferences discuss how the stories progress throughout the day. At the third news conference, the Editor goes through the pagination, where there is discussion on which page the story will appear in and what pictures to put in. There are three different editions of the papers and usually the first edition ends up like the one discussed during the last news conference. However, the front page can still change between 9pm to 10pm if there is breaking news.

At each news conference, each head of department went through their schedule. This process is called the 'news editors' assessment'. The assessment is divided into five sections. The assessment started with the business editor going through the business schedule, which was followed by the sports editor, news editor and picture editor. After the business, sports, news, and picture editor finished with their schedule, they left the conference room. At the end of the second news conference, the Editor, deputy editor and managing director looked at the

[12] The Editor (with capital E) refers to the Editor-in-Chief. The Editor is in charge of overseeing the running of the newspaper.

Leader[13] page. At the end of the last news conference, the Editor together with sub-editors decided on placing, this is where the news is put on the page. After the last news conference, the sub-editors started to reassess the stories and placed them in the allocated pages with their accompanying pictures, graphics and/or case studies.

The 'production' team started with the editing process after the last news conference. The sub-editors start their work from 3pm to 2am. The 'production' team consists of the sub-editors (also known as subs), which are divided into 'layout', 'subbing' and 'revised' subs; each sub is in-charge of different editing processes. Each sub-editor is in-charge of two to five pages. The 'layout' sub is in-charge of placing the story and its accompanying graphics, pictures, and/or case study in the page, and they write the *kicker*[14] and *caption* [15]. When the story is short of words, it is sent back to the news editor. The news editor could either add the words in themselves or send it back to the news writer. The 'subbing' sub is in-charge of writing the headline, editing the words and grammar used and ensuring that the story fits the page allocated by the layout sub. The 'revised' sub is in-charge of re-checking the story to ensure that it fits *The Herald*'s or *The Guardian*'s house style and to make sure that the story has no legal consequences. After a story goes through the layout, subbing and revised subs, the night editor has a final look at the story before sending it for printing. None of the sub-editors or the news writers will see the story again until it appears in the next day's papers.

6.2.1 Health and medical news production process

In the previous section, I described the news production process in general at *The Herald* and *The Guardian*. In this section I describe the production process of a particular type of news, which is health and medical news. In Section 6.2.1.1, I describe who the health and medical news writers are, what is categorised as health and medical news, where and when do health and medical news writers source for information. This is to provide the situational context of the health and medical news production process at *The Herald* and *The Guardian*. In Section 6.2.1.2, I pick two health and medical news items and describe how they are produced i.e. the process that the health and medical news items went through.

[13]Leader page is a term that is used by *The Herald* to refer to an editorial column. It contains the editor's opinion on an issue. The editor will decide what subject he might want to take out and discuss what should be in the main column.
[14] Kicker refers to a small headline that is used to describe a picture.
[15] Caption refers to line(s) that is used to elaborate the kicker. It is usually preceded by a colon.

6.2.1.1 The who, what, where and when of health and medical news at *The Herald* and *The Guardian*

In *The Herald*, health and medical news are written by the health correspondent, the general reporter with a science degree, and other general reporters. In *The Guardian*, health and medical news were written by the health editor and health correspondent. In *The Herald* and *The Guardian*, the journalist writing about health and medicine was given the title 'health correspondent' instead of 'health and medical correspondent'.

In both *The Herald* and *The Guardian*, the qualifications and training of the health editor and health correspondents are in journalism, which is the same as other journalists. As their qualifications and training are in journalism instead of in their area of specialisation, they tend not to stay with their specialisation. The health correspondents at *The Herald* and *The Guardian* were previously education correspondents. One of them has since returned to her previous specialisation which is education news. In *The Guardian*, the health editor does not only report health and medical news but also foreign news.

Health and medical news is seen by journalists as news about the social aspect of health and medicine, as the interview which I conducted with the Editor (E) and deputy editor (DE) show:

1	E	Health is very much, we don't look at the science or health in terms of she looks like health issue she looks like story about, you know, not just about personal health and delivery of health care and the whole of health industry if you can call it health industry
2	DE	Health and medical research following science because we're trying to explain the science behind the research but [the name of the health and medical correspondent] is much more about policy and strategy and individual health and there's also [the name of the features writer]
		( )
3	E	Health and lifestyle whereas [the name of the general reporter who covers science] covers science, he'll cover the scientific health and medical research, not just medical research but all sorts of research, you know he covers all sorts. (H14/5/07)

The above exchanges also show that while the social aspect of health and medicine includes policy, strategy and individual health and lifestyle, the scientific aspect includes health and medical research. Moreover, while the social aspect is covered by the health correspondent, the scientific aspect is covered by the science correspondent. Although the interviews with the Editor show that health correspondents only cover the social aspect of health and medicine and the scientific aspect is covered by science correspondents, in the 'actual'

practices, I observed that health correspondents wrote about health and medical research published in scientific journals. I observed that the health correspondents received press releases from the *British Medical Journal* (*BMJ*) and *Lancet*. The newspaper texts that I used in textual data analysis in Chapter 5 also shows that health correspondents' names are bylined in articles which report on health and medical research. The role ascribed to health and medical news writers who not only write about health and medical news but also health and medical 'research' is an ambiguous one. This ambiguous position raises not just problems regarding ascribed roles of health and medical correspondents but the very nature of defining medicine as a science.

I observed that the health and medical news writers[16] regularly received press releases for new information. My interviews with the health and medical news writers show that press releases are used to decide whether or not they should pursue a story:

> I get the press release a few days in advance and they tell me which one is an interesting paper ( ) and I go to the journals and pick out a story that might be interesting and then maybe I try to get hold ask for the paper as well and then I log in to the website to get an advanced copy of the paper. (General reporter, H14/5/07)

> That's just like what I did this morning with those press releases from BMA and Lancet, with press release you just look on them and you have to say well it's all quite serious, well Scotland is, you know, it's easy if you have a major public interest or it's got to be about Scotland, all in pages. (Health correspondent, H26/4/07)

Press releases affect the decision on whether or not to report a particular story, as the following exchanges between the assistant news editor (ANE) and health editor (HE) show:

1	ANE	Are you doing the Parkinson story?
2	HE	Well I thought I thought we are doing the other one ( ). The Parkinson's one is an editorial really just talking about patients more than anything else
3	ANE	( )
4	HE	I don't know. Is she?
5	ANE	Yeah, I think that rather than Parkinson itself
6	HE	( )
7	ANE	Makes it more likely to take the drug she was saying
8	HE	Oh I didn't read the report I just look at the press release ( ). Oh I see what you're saying, that's right, okay [reading the report]. Quite a lot seven point two percent (G19/4/07)

[16] The term health and medical news writers is employed here, instead of health and medical correspondents, because health and medical news can be written not only by health and medical correspondents but also by general reporter.

The above exchange shows that the ANE was asking whether the HE was writing the story on Parkinson's disease. The HE said that she did not think that the story was worth reporting as it was an editorial by one doctor. The doctor was saying that people with Parkinson's disease can be pathological gamblers. As the story is an editorial by a doctor instead of research on the Parkinson's disease and pathological gamblers, the HE did not think that the story was worth reporting. However, the HE's decision was based on the press release which accompanied the 'actual' report. The report was actually about a research on Parkinson's disease and pathological gamblers and not an editorial. What these exchanges show is that the health and medical writers' decision on whether or not a story is worth pursuing is based on reading the press release instead of the 'actual' report.

Wires are also used as a source of information as the following exchanges between the health editor (HE) and health correspondent (HC) show:

1	HE	You are watching the wires ya? No it's a very good thing to do. It used to be our jobs checking the wires
2	HC	I kinda think ( ) the local wires agency which I really doesn't know what is what and sometimes the story crops up there
3	HE	I think sometimes another thing is that sometimes they [the newdesk] won't see the significance of the story in a way we would understand it from a health perspective. They don't really know. (G19/4/07)

In addition to press releases and wires, in deciding whether a story is worth pursuing, health and medical writers also look at what their readers are interested in. They do that by depending on journalistic "gut feeling":

> [ ] It's gut feeling. I tell you what it is, I think we have the sort of, I think we think we are similar people to our readers on the whole although we are going to have arguments about it nonetheless we have real interest in issues. So if we think it's really interesting we think they are going to as well. [ ] (Health editor (1), 14/5/07)

However, when the stories that the health and medical news writers are interested in is not what they think the readers are interested in, they seem to distance themselves from their readers by referring to the readers as 'the people' instead of 'we':

> I guess it's very hard getting into papers any health in developing world issue. It's hard because people really want to read about themselves you know their immediate environment and the further away from you the news is the more differences. (Health editor, G14/5/07)

When the stories that they are interested in do not have direct relevance to their readers, for example stories about the health conditions in another country, the health and medical news writers will find ways to relate the story to the local context:

> It may turn into a story, it's quite interesting because it's from a Health Secretary and he's chairing this and it's about cancer in Africa, I'm interested anyway 'cos I'm interested health in developing world. But what would make that a story would be is that there's a push to get Britain involved in cancer in developing world because it's not issue in health to a degree and we're not doing anything about it at all, you know we are very into malaria and AIDS. (Health editor, G14/5/07)

For *The Guardian*, the local context is Britain while for *The Herald* the local context is Scotland:

> It's just, well, with all the stuff that comes in, that's not exclusive. You have to, you know everyone get that, you got to make decision with that on the spot and that's just like what I did this morning with those press releases from BMA and Lancet, with press release you just look on them and you have to say well it's all quite serious, well Scotland is, you know, it's easy if you have a major public interest or it's got to be about Scotland, all in pages. (Health correspondent, H26/4/07)

> I wrote stories with personal relevance to Scotland because The Herald is a Scottish papers. So if there is any discovery by Scottish scientist in Scotland that's number one and then if Edinburgh university scientist gets mentioned. One of the story that I cover is ( ) and I saw the paper in Nature and I thought that was an interesting story but The Herald probably wouldn't cover that because it's from an international scientist. So I wonder if there's any way I can make that relevant. I notice that one of the scientists from the paper in Nature was because scientists had improved ( ) and one of the scientists who made that improved was from Edinburgh university so I was able to go to my editor and say Scottish scientists are potentially saving lives, which is a great plus story. So I first chose quite an interesting story and investigate scientists who try to save lives and see how that's science story, an unusual science and to fit it into The Herald, I give a Scottish thing to it. (General reporter (1), H14/5/07)

6.2.1.2 How is health and medical news produced?

In this section I provide a description of the process that two health and medical news items went through at *The Herald*. The two items that I observed were stories on breastfeeding and vertical work stations.

The first conference started at 10am. This conference was attended by the deputy editor, news editor and picture editor. The conference is generally held in the conference room and lasted for about one hour. However, in this first conference, it was chaired by the deputy editor's office and lasted for 30 minutes. In this conference, the news editor briefly described what would be in the news list. The deputy editor provided feedback on whether or not the story was worth pursuing and how to proceed with the story. However, there was no discussion about health and medical news.

At about 10.30am, the assistant news editor saw stories on breastfeeding from the press release and on vertical work stations from the wires. He informed the news editor, who also thought that the two stories were worth pursuing and asked the health correspondent to look for more information on the breastfeeding story. The story on vertical work stations was covered by the general reporter who covers science. The news editor put the two stories in the news schedule. These two stories were then assessed at the second news conference.

The second news conference started at 11am, instead of the usual 12pm because the Editor was attending a meeting at 12pm. This conference was attended by the heads of the main departments, which include the Editor, deputy editor, managing director, news editor, business editor, sports editor and picture editor. Usually the features editor will be there but he could not attend the news conference that morning. The following exchanges between the news editor (NE), editor (E) and deputy editor (DE) show how the stories on breastfeeding and vertical work stations were assessed:

1	NE	There's a new breastfeeding figure coming out, that it's on the decline which is ( ). [name of the health correspondent] is saying that there has been a struggle over the years trying to get women to breastfeed but certainly declines but the one percentage point year on year, they are talking about the new mums so we're trying to get case study, somebody who has breastfeed and somebody who hasn't or give up and there is some stats to go with that
2	E	Again did we not carry something like that before?
3	NE	Yeah but does often mean very much?
4	E	( )
5	NE	Alright. I'll get it checked and ( ) I'll find out. [...]
		[going through other news stories]
6	NE	Next is straight from the wires which is it's from a *British Journal of Sports Medicine* they actually devise a kinda desk saying you'd loose sixty pounds of fat a year
7	DE	You'll get a varicose vein though
8		( )
9	NE	( ) a really good talker. They seem to be describing it in quite some details
10	DE	It's a good talker. (H14/5/07)

As the above exchanges show, the discussion was left open. There is no definite decision on whether or not *The Herald* would carry the stories on breastfeeding and vertical work

stations. Although no decision is made regarding whether or not *The Herald* would carry the two stories, the news writers have started writing the story.

The last news conference started at 4pm and was attended by the same people who attended the second news conference, with the addition of the sub-editors. They were the Editor, deputy editor, news editor, picture editor, sports editor, deputy chief sub, night editor and deputy night editor. The conference started with the business editor going through the business schedule. This was followed by the sports editor, news editor and picture editor. At this last news conference, there was follow-up assessment between the news editor (NE), editor (E) and deputy editor (DE) on the breastfeeding and the vertical work station stories:

1	NE	[...] The vertical work station which is quite a laugh. It's by American researcher which is now being looked at it's in the *British Journal of Sports*, it's official journal anyway. Basically they designed a vertical desk which has a treadmill on it and they say you can lose sixty pound a year walking in this treadmill
2	NE	And the desk will have ( )
3	E	( )
4	NE	( ) a very good idea, keeps the light going I don't know if there's a graphic on it. I'll just put that down and ( ) so I said to [name of the reporter] if we need the graphic [...] [The picture editor showed the picture of vertical work station]
5	E	This is the picture of the vertical work station?
6	NE	Still a good talker but nobody's going to take it seriously. It's a stupid story
7	DE	Where is it from?
8	NE	It's the *British Journal of Sport Medicine* or something like that. I think it's from a study from some university in States
9	E	Are we getting a case study on the breastfeeding?
10	NE	Ya. ( ) breastfeeding has stop but there's talk, we'll see
11	E	You're talking about the percentage the reduction is varies
12	NE	It's quite a geographic split, I mean, the other story about taking people off the street ( ) is actually in decline ( ) there's fifty percent national target ( ) some places is creeping up, has gone down in other place to hundred percent so it's obviously a point of concern but the overall annual decline, the overall is quite small

13	DE	Is it a big decline?
14	NE	No, no they're not
		[talking about different topics]
15	E	I think the vertical work station can be a kicker
16	DE	It's not
17	E	It's not, it's not going anywhere so we'll pick it up when we can. (H14/5/07)

Although lines 12 and 14 show the overall decline in breastfeeding was small, the Editor did not show any rejection in running the breastfeeding story. On the other hand, in terms of the vertical work station story, in lines 15 and 17 the Editor decided that he would only publish the story when there was space available. If the story was to be run, it would only be run as a kicker. This example shows that even at the last news conference there was no decision made on whether or not a story will be published. According to the Editor, the strength of a story "has to be weighed against the rest of the news agenda [...]. The story got knocked out because of some of the bigger agenda." When I observed the 'production' team, only the breastfeeding story was edited. This means that the story on the vertical work station was dropped.

Once the breastfeeding story reached the sub-editors, it was first filed in 'for placing'. The placing team is also known as the layout subs. As the Editor already chose the picture to accompany the breastfeeding story at the last news conference, the layout subs only needed to choose the quality of the picture from different variations of the same image. I observed that the layout subs also briefly read the story and edited it by deleting sentences when they were too long and changing some of the words which they thought were 'inappropriate'. After the story and its accompanying picture were placed in the allocated page, the layout subs filed the story in 'for subbing'. The subbing team read the story a few times before writing the headline and sub-deck[17]. This was to ensure that the headline and sub-deck matched the story. In subbing, the breastfeeding story was edited by checking the spelling, cutting, rephrasing and changing some of the words and sentences, including those in quotes. Once the subbing was done, the story was filed in 'for revised'. In the revised subs, the breastfeeding story was only briefly read. After revised, the story was filed in 'for subbed' for the night editor to have a final look at it before sending it for printing.

[17] Other term for sub-deck is *standfirst*.

Section 6.2 has shown that the production of health and medical news does not differ from other news items. I have shown that, firstly, health correspondents' qualifications and training are the same as other journalists, which is in journalism. Secondly, the source of information for health and medical news is the same as other news, which are wires and press releases. Thirdly, health and medical news is part of the news department. Health and medical news appears in the news schedule, is weighed against the rest of the news agenda, it is represented by the news editor in news conferences and goes through the same editing process as other news items.

6.3 Scientists' guidelines and the production process

This section explores whether or not the precepts listed in the SIRC (2001) guidelines are present in journalistic practices. I show this by providing ethnographic and textual evidence of their presence/absence.

6.3.1 Credibility of sources

According to the SIRC guidelines, journalists should explore whether the research findings have been published in a peer-reviewed journal. They should also explore the researchers' professional qualifications and track record in the field, the reputation of the institution or organisation where they are based, the affiliations or interests of the researchers and consult other scientists regarding the credentials of the researchers.

In the newspaper text, there is evidence that the research reported has been published in the journals by explicitly stating the name of the journal, as can be seen in the following examples:

a. Last month, experts writing in the *British Medical Journal* questioned whether ….. (H23/5/07-1)

b. The study, carried out with researchers at Trinity College Dublin, is published in the journal *Nature Genetics*. (G9/4/07-10)

Whilst the journal's name is explicitly stated, there is no indication whether the journal is a peer-reviewed journal or not. Based on the newspaper texts analysed in this study, *The Herald* and *The Guardian* journalists report studies that appear in the following journals: *American Psychologist*, *American Journal of Respiratory and Critical Care Medicine*, *Archives of Facial Plastic Surgery*, *Archives of Paediatric and Adolescent Medicine*, *Clinical Endocrinology*, *European Heart Journal*, *Human Reproduction*, *Journal of American Medical Association*, *Journal of Sports Medicine*, *Journal Cell*, *Journal Cell*

Biology, *Journal of Antimicrobial Chemotherapy*, *Journal of the National Cancer Institute*, *Lancet*, *Lancet Neurology*, *Nature*, *Nature Biotechnology*, *Nature Chemical Biology*, *New England Journal of Medicine*, *Proceedings of the National Academy of Sciences*, *PLoS Medicine*, *Reproduction: Gamete Biology*, and *Science*. My exploration of the journals mentioned above shows that those journals are all peer-reviewed. This shows that journalists at *The Herald* and *The Guardian* orient to reporting research that is based on peer-reviewed journals, even though they do not indicate in the newspaper text that the journal is peer-reviewed.

There is also evidence of the researchers' professional qualifications and track record:

a. Professor Madjid, assistant professor of medicine at the University of Texas in Houston, said..... (G18/4/07-12)

b. Prof Porteous is one of a large consortium of UK doctors and scientists preparing to..... (H23/4/07-3)

c. This study is the result of work a team at Edinburgh University began with hospitals in Scotland and a number of other countries in 1999. (H2/5/07-2)

d. The latest breakthrough is the team's second in the space of a year, bringing hope for sufferers one step closer. (H9/4/07-9)

The evidence of the researchers' professional qualifications can be seen in the use of the term "Professor" in examples (a) and (b) to refer to the researcher. However, when referring to the track record, journalists do not only refer to the researcher's track record, as in example (b), but also to the team's track record, as in examples (c) and (d).

The name of the institution or organisation where the researchers are from is also explicitly stated, for example:

a. Professor Colin Espie, director of the Glasgow Sleep Centre at *Glasgow University*, said: "....." (H29/5/07-3)

b. Professor McLean and his team from *Dundee University's College of Medicine, Dentistry and Nursing*, worked in collaboration with Alan Irvine from Dublin. (H9/4/07-9)

In terms of assessing the credibility of sources, *The Herald*'s and *The Guardian*'s journalists adopt the SIRC guidelines. Although journalists were only asked in the guidelines to assess the researchers' credentials, the journalists went further by not only assessing the researchers' credentials but also reporting it in the news report. The purpose of reporting the

researchers' credentials is to claim authenticity and authority of the news report (see Chapter 5 Section 5.2.7 on the move *Indicating source of information*).

6.3.2 Procedures and methods

According to the SIRC guidelines, as unpublished studies, conference papers or hand-outs from press briefings have not been peer-reviewed, journalists should exercise a review process by asking questions regarding sample size and research methods. As specialist knowledge is usually required to identify the flaws in sample size and research methods, journalists should consult other scientists in relevant fields. The guidelines suggest that the following questions should be asked by journalists: Were the research methods appropriate? What do other professionals in the field think of the methods?

The question on the appropriateness of the research methods is not probed by journalists. Although the journalists did not assess the appropriateness of the research methods, there is evidence that they report the research methods by reporting the research procedures, for example:

a. A team led by .....,..... – began by *taking* bone marrow from male volunteers. From these samples they *isolated* ....., which in previous experiments had been grown into..... This time, using a form of vitamin A, the scientists *coaxed*..... - the first stage in the genesis of sperm. (H13/4/07-10)

b. The two molecules in the treatment *work by* complementing each other. The lystostaphin *chops up* the cell wall of MRSA, allowing better access for the bullfrog molecule, which *kills* the infection. (H1/5/07-12)

Although journalists sought the opinion of other professionals in the field, the type of opinion sought is in terms of the research results instead of the research methods, as will be shown in Section 6.3.9 on expert contact. Nevertheless, there was an instance in *The Guardian* when a doctor criticised the research method of the study reported in an article that was already published in the newspaper:

A doctor phoned *The Guardian*'s health editor and criticised the news report written by the health editor due to the doctor's disagreement with the research method used in the study reported, although this is quite a rare occasion. The phone call came from a doctor who was taking issue with the fact that the health editor called the Hormone Replacement Therapy (HRT) study "authoritative". The doctor did not think that it was an authoritative study. He said that the study was crash science as it was an epidemiological study and not based on a randomised controlled trial. The following is the health editor's response to the doctor:

> [...] I'm actually doing a further piece on it and I've just been talking with a gynaecologist from the Royal College, he's saying exactly that. So to a degree I'm on the issue. [...] Well indeed it's not a randomised controlled trial it's an epidemiological study. […], perhaps I get this entirely wrong but I mean you got a million women, those who are taking HRT surely the control for them is the hundred women. Surely you can't call the a million women study if it's not. Well that you know. Yeah well I also think it's been given an authority anyway ( ). Why then the publication in the *Lancet* presented the way it is doing? Yes I know but that's a very different sort of thing, here you talking about what here is not the first paper either on a million women study, there has been a number now. They, they must think. Yes. What would you say to [name of the professor who is the leader of the study] then I mean she's pretty well respected isn't she? Well she's an epidemiologist isn't she? So this is her bread and butter. [...], you need to lobby the *Lancet* and you need to lobby the Oxford University unit don't you? […] Except you have a difficulty in one person here trying to take a balance against a rather major institution on the other hand. Anyway what you're saying is rather interesting and I'm trying to get to the bottom on why there is such a controversy around HRT and so everything you are saying is useful. [...] That's very kind of you. Thanks for the call. (Health editor, G19/4//07)

After the phone call the health editor said that if she knew that the debate was still going on, she might have called the study "controversial" instead of "authoritative". This example shows that even after the phone call, the health editor's orientation is towards the description of the study i.e. whether to describe the study as controversial or authoritative, instead of the research method of the study reported.

6.3.3 Findings and conclusions

According to the SIRC guidelines, as a 'breakthrough' rarely occurs, journalists should ask whether the finding is really a 'breakthrough'. Most studies contribute to only minor progress from existing knowledge; 'radical' studies should be handled with caution. When the findings are inconsistent with previous knowledge, this should be stated at the beginning of the news stories. Journalists should then seek the opinion of other scientists to explain why the interpretation of the findings might be considered premature or even unfounded.

In contrast to the guidelines, the use of the term 'breakthrough' is found in the newspaper texts:

a. Donor blood breakthrough claim. (H2/4/07-1)

b. Scientific breakthrough in how to treat epilepsy. (H8/5/07-9)

c. Scientists in sperm cell breakthrough. (H13/4/07-11)

In the examples above, the term "breakthrough" is used in the headline even when the studies are inconclusive. The reason for using the term 'breakthrough' in the headline is

because the purpose of a newspaper headline is to attract the readers' attention (see Chapter 5 for analysis on the use of headline in health and medical news reports). While the term "breakthrough" is used in the headline, later on in the texts, journalists hedge the reporting by stating that the study "has yet to be tested on patients" in example (a) and that the study is only a "possible breakthrough" in example (b). This shows that the use of the term "breakthrough" by journalists is not to indicate that the study is really a 'breakthrough' but only to attract the readers' to read the news reports.

Journalists do state the inconsistency of the new findings from previous knowledge in the beginning of the news reports, as the following shows:

a. HRT *may actually reduce, rather than increase*, the risk of heart disease in women who use it to prevent osteoporosis, say US researchers. (H10/4/07-7)

The inconsistency of the finding is stated in the second paragraph of the news report. In the same news report, the reporter also reports the opinion of other scientists:

a. Dr John Stevenson, an HRT expert from London's Royal Brompton Hospital, speaking to the British Menopause Society, said the findings were a "U-turn of dramatic proportions". He said: "We are astonished that a study which made such a claim for the dangers of HRT is now showing just the opposite. It is an affront to science, adding insult to injury to the thousands of women who abandoned HRT as a result." (H10/4/07-7)

However, what is reported is the scientist's astonishment over the findings, instead of his opinion on why the interpretation of the finding is considered unfounded. In another example, although the finding of the study is not inconsistent with previous knowledge, the reporter also includes other scientist's opinion:

a. Harry Moore, from the Centre for Stem Cell Biology at Sheffield University, said: "This finding is of interest but we really need to be very cautious about the interpretation. Nearly all the investigations claiming that adult stem cells can change into another cell type (so called trans-differentiation) have not been substantiated when rigorously tested. We are still many years away from developing any therapies for infertility using such techniques. These stem cell manipulations can lead to permanent genetic changes which could make them unsafe to use especially as a potential sperm or egg." (H13/4/07-10)

In this example, the reporter reports the scientist's opinion on why the interpretation of the finding is considered premature.

6.3.4 The significance of findings

According to the SIRC guidelines, in assessing the significance of findings journalists should ask the following questions: Are the findings preliminary or inconclusive? Do the findings differ markedly from previous studies? Do these findings appear to contradict mainstream scientific opinion? Are these findings based on small or unrepresentative samples? Do these conclusions generalise to humans from animal studies? Have the researchers only found a statistical correlation? The guidelines further add that the use of the term "link" in the media can create "misleading impressions". Journalists are also advised to avoid using the expression "x *causes* y" in the headline in studies that have unexplained correlation. An expression which indicates a cause and effect relationship should be avoided unless appropriate evidence is shown.

Journalists' orientation to reporting that the study is preliminary or inconclusive can be evidenced in the following examples:

a. The gel was tested on four men and four women in a *pilot study* during which each received..... (G22/5/07-15b)

b. Working out exactly how the anti-thrombotic drugs affect users *will need more research*. (G1/5/07-4)

c. *Phase 2 clinical trials are now under way* in patients with both DMD and CF, with results expected by the end of the year. (H23/4/07-3)

d. The team *has not identified* how diabetes might cause the fragile DNA within sperm to break apart, (G3/5/07-8)

In example (a), the inconclusiveness of the study is indicated by stating that the finding is based on a "pilot study". In example (b), the inconclusiveness of the study is indicated by stating that there is a need for further research, in example (c) by stating that the next clinical trial is already happening and in example (d) by stating what the researchers have not done.

In terms of the journalists' orientation to assessing whether the findings from the study reported differ markedly from previous studies and whether it contradicts mainstream scientific opinion, Section 6.3.3 on findings and conclusions shows that they do. Journalists report the contradiction in the findings from the study reported and previous knowledge. Moreover, they also obtain the opinion of other scientists in related fields.

In terms of journalists' orientation to stating that the study reported is based on small samples, the following examples show that they do:

a. The result of the *small trial* in which *15* newly diagnosed young patients with type 1 diabetes were treated with their own stem cells could mark..... (H11/4/07-10)

b. The gel was tested on *four* men and *four* women in a *pilot study* during which each received..... (G22/5/07-15b)

The examples above show that the explicit lexical item "small trial" in example (a), the term "pilot study" in example (b) and the number of participants in the study are used to indicate that the study is based on small samples.

Journalists' orientation to assessing whether the findings from animal studies generalise to humans can be seen in the following examples:

a. Researchers have for the first time created immature *human sperm* cells from stem cells in bone marrow. ..... The study follows previous work by the same research group in which *mouse sperm* produced from stem cells in the laboratory was used to fertilise eggs which later grew into live animals. (G13/4/07-11)

b. *If replicated in humans*, their discovery could enhance the success of therapies in which stem cells are used to repair damaged organs and replace lost tissues. (H10/4/07-9)

c. The research with mice sperm produced from stem cells, though, shows how much the technique would need to be refined *before it could be applied to humans*. (G13/4/07-11)

However, in contrast to the guidelines, journalists do use the term "link" as the following examples show:

a. ..... after the study in the New England Journal of Medicine (NEJM) claimed there was a *link* between the diabetes Type 2 drugs rosiglitazone (Avandia)..... (H23/5/07-1)

b. The *link* with cured meat, which also includes salami and ham, may help explain why they succumb. (H17/4/07-7)

Similar to the use of the term "link", there is also evidence of the use of expressions which imply a cause and effect relationship by journalists as the following examples show:

a. 1000 ovarian cancer victims may have died *because* they took HRT. (H19/4/07-1)

b. Diabetes may *cause* surge in male infertility, scientists warn. (G3/5/07-8)

Despite the use of an expression which implies a cause and effect relationship, there is also evidence that journalists differentiate between a statistical correlation and a cause and effect relationship:

a. Regularly eating cured meat, including sausages and bacon, can almost *double the chance of* developing a chronic lung disease, according to new research. ..... A spokesperson from Chest, Heart & Stroke Scotland said: "This study which shows an association between frequent consumption of cured meats and increased rates of COPD is very interesting but *more research will be needed to find out if there is a direct causal link between them*." (H17/4/07-7)

The above example shows that while the study only found a statistical correlation, a cause and effect relationship needs to be investigated further. The need for further research to determine the cause and effect relationship is expressed in the form of others' reactions.

6.3.5 Communicating risk

According to the SIRC guidelines, journalists should be careful when citing risks and alleged cures. Readers should be allowed to judge for themselves the significance of the risks and cures. The guidelines use the following example as risk interpretation: a 30% increase in the risk of contracting a disease may not have significant implication for public health if the disease is rare and affecting only 1 in 100,000 of the population. This is because the risk of contracting that particular disease will only affect three in a million. The guidelines added that to allow readers to make their own judgement, novel risks should be compared with risks that the readers are familiar with, for example comparing the reported risk with "being struck by lightning, crossing the road, taking a bath or flying a hang-glider". The guidelines further added that scientists' reluctance to declare anything as "safe" should not be regarded by journalists as a sign of vagueness. Instead, journalists should adopt a commonsense approach whereby when risk is not demonstrated, the situation should be considered as safe. The guidelines listed the following questions to be asked by journalists: Has the risk been expressed in absolute as well as relative terms? Can the risk be compared with anything else? Have the researchers been asked "how safe is it" instead of "is it safe"?

The newspaper texts provide evidence of journalists' orientation to communicating risk:

a. Two of the genes identified, FGFR2 and TNRC9, are thought to increase the risk of breast cancer by about 20% in women who carry one faulty copy of a gene and by between 40% and 60% in those who carry two faulty copies. The lifetime risk for women with two faulty copies in either of these two genes would rise from one in 11 to around one in six or seven. The

other two genes increase risk by 10% if there is one fault. A maximum 10% of breast cancers have genetic elements, and the genes scientists know about so far account for 25% of these. The genes identified today account for only a small number of breast cancers – *up to 179 of the 44,000 diagnosed* every year. (G28/5/07-1)

b. Researchers at Dundee University have discovered 15 mutations of the gene which is responsible for the condition, and identified which ones are more prevalent in British and Irish people. Those with one mutation have a 60% chance of developing eczema and those with two are almost 100% likely to have the condition. It is thought the filaggrin gene will be found to be a major factor in skin disorders around the world. Eczema is suffered by *20% of UK children* and studies have shown similar percentage affected in other countries. (H9/4/07-10)

While example (a) stated the number of people diagnosed with breast cancers every year, example (b) shows that the number of people affected is reported in percentages. In example (b), as the total number of UK children is not explicitly stated, it would be difficult for readers to determine the number of children who suffered eczema. This could therefore make it more difficult for them to judge the significance of the risk. These two textual examples show that the number of people affected by a particular condition can be used to determine the significance of the risk. As the following account shows, journalists do refer to the number of people affected when deciding whether a story will be news:

The Guardian's health correspondent was interested in covering a story on Creutzfeldt - Jakob Disease (CJD). She thought it would be a *splash*[18] story because the press release showed that CJD was affecting a lot of people. When she went to ask the opinion of another reporter who used to cover CJD stories, he agreed with the health correspondent and thought that the story was worth covering. Another story that the health correspondent thought was interesting was Venous Thromboembolism (VTE). Similar to CJD, she thought the VTE story was interesting because VTE was affecting 25,000 people, which she considered a lot of people. She then brought these two stories to the news editor. The news editor wanted to know whether the CJD story was an end story or a scare story. He said that if there was no confirmation, he suggested leaving the story open. On the VTE story, he agreed with the health correspondent that 25,000 deaths was a lot. As this meant that everyone had to go for screening, he thought that it was a good story.

[18] A story that appears on the front page of the newspaper

Although there is evidence of the journalists' orientation to communicating risk, there is no orientation to comparing the risk reported with the risk that readers are familiar with. There is also no orientation to asking the researcher how safe the condition is.

6.3.6 Anticipating the impact

According to the SIRC guidelines, journalists should not raise false hopes. They should always report the limitations of the research by giving realistic estimates of the availability of a new drug or treatment and, if appropriate, state at which stage of the disease the drug is effective. When they are in doubt, the guidelines recommend that journalists should consider the impact of their report on the person affected by the disease. In anticipating the impact, journalists should ask the following questions: Will the report cause undue anxiety or optimism among audiences or readers? Have important caveats been prominently included?

Health and medical news writers see themselves as similar to their readers:

> It's gut feeling. I tell you what it is, I think we have the sort of, I think we think we are similar people to our readers on the whole although we are going to have arguments about it nonetheless we have real interest in issues. So if we think it's really interesting we think they are going to as well. (Health editor, G14/5/07)

> Often I think if I'm interested in it and probably other people are interested in and then I go to my editor and say have you ever heard of Fragile X syndrome, you know it's the most common inherited condition and maybe other people will be interested too ( ) why is that interesting? Because it's unusual and everyone has allergy and everyone think that they are allergic although not allergic at all so immediately especially the readers of *The Herald* is slightly more affluent ( ) usually people who have time to worry about allergy. So when you hear a story like this, it's a great story because people go oh no I never do that and immediately that was my reaction when I read it, whoa that's gross. If I think it's gross and so will other people. (General reporter (1), 14/5/07)

Public interest is seen as the "biggest barometer" to decide what news is:

> So, so I think, you see public interest seems like a broad thing but I guess it's almost the biggest barometer really. (Health correspondent, H26/4/07)

The public interest is referred to as something that everyone is talking about, including journalists themselves; something that people are already arguing about and something that is unusual:

> So the cervical cancer smear thing, every women over the age of 20 who go for the cervical cancer test thing so I guess that's just one type of story or the big issue that everyone is talking about. So you kinda have water cooler story, you know, people talk about water cooler the next day. So for example I rang up my newsdesk this morning about that obesity thing. I rang [name of the news editor] and I'm saying I can't believe the doctors

> don't approve it and he replied actually I understand that, actually how are they supposed to control what people eat. So already we are talking about it and well this must be a story because we are already arguing about it. [...] But obviously, I guess things that are unusual. Yeah, affect a lot of people like cervical cancer thing or something to do with pension or affects a lot of people and obviously unusual. So obviously a water cooler is unusual and there's a public interest. (Health correspondent, H26/4/07)

Journalists also go for stories that can affect a change in policy. The following shows an exchange between *The Guardian*'s health editor (HE) and health correspondent (HC) on why they think that the Creutzfeldt - Jakob Disease (CJD) story is stronger than the Parkinson's story:

1	HE	Cos the Parkinson's one, let's see this. Are the *BMJ* on Parkinson's?
2	HC	Yeah
3	HE	It's an editorial only by one doctor. He is saying that this is an issue but the only new thing about this is, I think, this is the *BMJ* press release and various things there, it's this one. It's the sort of like oh my goodness I didn't know people with Parkinson's can be a pathological gambler. That sort of strength of the story and in a way it's ( ), it doesn't tell you anything important. Whereas the CJD thing it's an actual situation to, which they have done in surgery already
4	HC	For refilling of teeth
5	HE	So that's something that affects more people because everybody in the country goes to dentist
6	HC	Three million
7	HE	Not just for filling but that much evidence involved ( ) and more of a change in policy (G19/4/07)

The exchange above shows that in addition to affecting a lot of people (line 5); journalists also go for stories that affect a change in policy (line 7).

Therefore, although journalists go for stories that affect the readers, they do not assess whether the report will cause undue anxiety or optimism among readers.

The newspaper texts provide evidence of journalists' orientation to reporting important caveats:

a. Matt Hunt, science information manager at Diabetes UK, said his organisation did not believe the findings were cause for alarm. He said: "Glitazones are not presently recommended for people who have had, or who are at high risk of having heart failure." (H23/5/07-1)

b. There are also fears that testing will fuel the fledgling commercial market for genetic testing and that people will not receive the counselling required to react to a positive result for an illness. (G14/4/07-8)

Although important caveats are reported, they only appear at the end of the report. As such, they are not prominently located.

6.3.7 The role of specialist correspondents and editors

According to the SIRC guidelines, editors have an obligation to separate factual coverage from coverage which fits the Editors' own agenda, such as coverage on controversial issues and campaigns on behalf of their readers. They should give "sufficient prominence" to reports by science and health and medical correspondents. This is to enable balanced reporting and enable readers to distinguish facts from opinions. The guidelines suggest that the Editors should ask: What do health and medical correspondents think of the report?

In *The Herald* and *The Guardian*, the majority of health and medical news is written by health and medical correspondents. As such, the health and medical correspondents' opinion of the report is sought. However, health and medical news is not given "sufficient prominence". Unlike business and sports which have their own department with their own editors, sub-editors and writers, health and medical news is part of the news department. Therefore in news conferences, unlike business and sports which have their own business schedule and sports schedule, health and medical news is part of the news schedule.

In the newsroom there was an informal and constant discussion between the health and medical correspondents and the news editor to determine whether or not the story is worth pursuing, how to write the story, whose comment to get and the deadline for the story. However, as the following exchanges between *The Herald*'s health correspondent (HC) and news editor (NE) show, the news editor is the decision maker:

1	HC	I've got quite a decent story that I can get it to turn around by Saturday and I'll get ( ) to work on the case study. I mean it's alright to do those few things today, I mean it involves speaking to the experts in the area ( ) but should be really good. It's got to do with sudden death in teenagers so ( ).There is this teenager, I think it's a Scottish rugby player who died
2	NE	Yup
3	HC	Well the family has started a campaign ( ) but it seems that it's really big high number in Scotland
4	NE	( )
5	HC	Is that right? Then it should be quite a good package
6	NE	It will be good for Friday
7	HC	By Friday ya, and Thursday I'm out all day so it'll be too late. We are talking about top cardiologist, sports doctor, I try to ring them but ( ) must get hold of them so
8	NE	Okay no no that's fine. (H14/5/07)

The extract above shows that when the HC found a story which she thought was interesting, she went to the news editor to obtain his 'approval' before writing the story. While the NE agreed with the topic, he wanted the story to come in earlier and the HC accepted the deadline. On the other hand, when the news editor saw something interesting in the wires, he would inform the health and medical correspondents. The health and medical correspondents will then research the story and report what they found to the news editor. The news editor "shapes" the story:

> [...] Like the cystic fibrosis, he says I think you should find the Scottish researcher and ( ) he's technically he's kinda constructing the article for me. So he kinda tells me what he wants and then I write the story and ( ) so by the time he got it he says ya that's good and he sends it to the sub. So he doesn't really change it but he shapes it so that's quite an important first stage and then sometimes sometimes the way I would've written could be different so I have to keep it in mine when I write it, I do I have to. His job is to decide what the readers want what the readers doesn't want, he decides, who reads the paper and what they care about and so he has the first shaping of the article (General reporter (1), H14/5/07)

Although the health and medical correspondents were in constant discussion with the news editor to decide whether a story is worth pursing, they were not involved in deciding whether or not to publish the story. The health and medical correspondents did not attend any of the news conferences, where the decision to publish a story is made. In *The Herald,* the news conferences were only attended by the heads of department. In *The Guardian,* on the other hand, although anyone can attend the 10am news conference the health editor and health correspondent chose not to go because they felt that the conference was more on editorial matters and they could not contribute. The lack of power to influence the editorial decisions is also felt by the health and medical correspondent:

> You have, you have to be realistic on how much control you have. Of course, you get annoyed, see that story on page two about the, yeah, obviously you want it in a different page, but better story than that, but you know, I, well ( ) I always hate page two and ( ). So page three is a much better page. All left hand pages really, I mean it gets ( ). Page two is the worst because it's kinda sloppy I guess. Yeah, I'm told ( ) about page two, they, they say that page two is the second most important but I think that's rubbish (Health correspondent, H26/4/07)

Therefore, although health and medical correspondents' opinion was sought, there is no "sufficient prominence" given to health and medical news. This can be attributed to health and medical correspondents' lack of power in the editorial decision making process and the fact that health and medical news items are first and foremost news stories (see Section 6.2).

6.3.8 The role of sub-editors

According to the SIRC guidelines, sub-editors should use modal verbs such as "may", "could", "claims", "possible" and "potential" to avoid misleading reports about risks and benefits. Terms such as "cause" and "cure" should be avoided unless there is "scientific evidence". The guidelines suggest that when editing health and medical news, sub-editors should ask whether the headline and caption are a fair reflection of the report.

The newspaper texts show that modal verbs such as those listed in the guidelines are used by sub-editors in the headline:

a. Gene find *may* bring better eczema help, say scientists. (G9/4/07-10)

b. Star Trek-type scanner *could* spot cancer. (G22/5/07-15)

c. Donor blood breakthrough *claim*. (H2/4/07-1)

Although the headlines in health and medical news reports analysed in this study do not use the terms "cause" and "cure", the use of "why" questions can give readers the impression that the study is exploring a cause and effect relationship:

a. *Why* dieters have fat chance of losing weight. (G11/4/07-8)

b. *Why* women's stem cells are 'better at curing diseases'. (H10/4/07-9)

6.3.9 Experts contact

According to the SIRC guidelines, while specialist correspondents have established contacts with the scientific community, non-specialist reporters should use the directories of expert contacts provided by press offices of institutions such as the Royal Society and the Royal Institution. These expert contacts would be able to provide opinion on a range of issues. This precept refers to obtaining other professionals' views of the research findings, as opposed to research methods. This precept is considered to be an important factor in health and medical news reporting. As *The Herald*'s health correspondent put it:

> I don't think I can't think I ever have a page lead without a person's quote in there because that's probably not what I'm saying, you know, I'm writing about other people's opinion so you pretty much have to quote them. You get suspicious if there is no quote in the story at the back, I do anyway. (Health correspondent, H27/4/07)

The following shows an example of whose views were sought by *The Herald*'s health correspondent before writing an article:

The Herald's health correspondent was writing a story about breastfeeding. She started by looking at the wires and previous stories she had written. She checked on how the story was relevant to Scotland. She also looked at the statistics which were published every year and phoned a few people to get reactions on the findings. She tried to phone the Scottish Executive, National Health Services (NHS), and the study leader because she thought that they were most likely to respond. However, none of them were available when she phoned. She tried to phone the study leader again but someone else from the organisation spoke to her. As the study leader is a statistician, she said that it is quite typical for statisticians not to comment on their publication. However, when they do comment, they only comment on the numbers. She wanted the study leader to comment on why the statistics are moving to one direction and not another. She was interested in his comment because he is not only the head of the statistical programme but also a doctor. Aside from the study leader's comment, she also wanted to clear up the confusion with the statistics. Failing to get the study leader to comment on why the breastfeeding rate had gone down, she thought it would be good to get other organisations to comment on it. Therefore she decided to phone an organisation who had promoted a breastfeeding campaign the previous year.

The example above shows that journalists do orient to obtaining other professionals' views of the research findings, although as a last resort in this case. However, in newspaper texts, there is evidence of the journalists' orientation to obtaining other professionals' views:

a. Dr Douglas Wilcox, senior lecturer and honorary consultant in medical genetics at Glasgow University, said: "This is an incredibly exciting new drug, which has the potential to add decades to patients' lives." (H23/4/07-3)

b. Nilesh Samani, professor of cardiology at Leicester University, said the findings would help greatly to understand heart disease, but a person's familial history of heart disease was still the best predictor of their risk. "It's a bit early to say a test is useful," he said. (G3/5/07-3)

The examples above show that other professional's views of the research findings can be reported in terms of support, in example (a), or scepticism, in example (b), of the research findings. However, the view that is obtained is not only those of other professionals in the field but also the view of organisations which are affected by the research, for example:

a. Liz Baker, science information officer at *Cancer Research UK*, said: "It's still not entirely clear what factors can affect a man's risk of developing prostate cancer. And there is conflicting evidence on the pros and cons of vitamin supplements. ....." (H16/5/07-5)

b. Judy More, spokeswoman for the *British Dietetic Association*, said that the results of the study were nor surprising. "When people are on a diet, people feel as if they're denying themselves things so when they come off it they think, oh thank God I can go back to eating." (G11/4/07-8)

6.4 Summary

The purpose of the first part of this chapter (Section 6.2) was to explore whether or not the production of health and medical news differs from other news items. I have shown that health and medical news is produced the same way as other news items by showing that, firstly, the qualifications and training of health correspondents is in journalism, which is the same as other journalists. Secondly, the source of information for health and medical news are wires and press releases, which is also the same as other news. Thirdly, health and medical news is part of the news department; they appear in the news schedule, weighed against the rest of the news agenda, represented by the news editor in news conferences and went through the same editing processes as other news items. By showing that the production of health and medical news does not differ from other news items (Section 6.2) and that health and medical news are structurally similar to news texts (Chapter 5), I have provided not only ethnographic evidence but also linguistic evidence that health and medical news are first and foremost news stories.

The purpose of the second part of this chapter was to explore the effectiveness of the SIRC (2001) guidelines. This is to answer the second research question: Does the discourse of 'distortion' have any effect on the health and medical news production process? I have answered this question by referring to my ethnographic data collected from *The Herald* and *The Guardian*. I also referred to the newspaper texts. I have shown that generally the guidelines are present in journalistic practices in *The Herald* and *The Guardian*. However, the presence of the majority of the SIRC guidelines in journalistic practices in *The Herald* and *The Guardian* does not mean that the journalists adopt the SIRC guidelines. In contrast, I suggest that the presence of the SIRC guidelines in journalistic practices is because the guidelines only describe current journalistic practices. When I asked the journalists whether they adopt any guidelines when reporting health and medical news they said "no":

> No, nothing like that. It's gut feeling. [ ] (Health editor, G14/5/07)

> No. I went to, I did a postgraduate course to learn how to be a journalist and I've been a reporter for 10 years but no. [ ] (Health correspondent, H26/4/07)

In Chapter 5 and 6 I have established that health and medical news reports are first and foremost news stories. I have provided not only linguistic evidence but also ethnographic evidence to support this position. On this basis alone one could have thought that the discourse of 'distortion' is a consequence of the scientific community's misunderstanding of the nature of health and medical news reports. The question is therefore are scientists really ignorant of media discourse and how it works? I answer this question in the next chapter (Chapter 7) by looking at a type of media discourse which scientists also contribute, namely press releases.

7. Press releases versus news reports: An overview and analysis of the structure and lexico-grammatical features

7.1 *Introduction*

In Chapters 5 and 6 I have established that health and medical news reports are first and foremost news stories. In other words, science and media are two different institutions with two different genres of communication. In this chapter, I explore the scientific community's awareness of these genre differences by comparing the genre of health and medical press releases, which is written with the help of the scientists themselves, and the genre of health and medical news reports. The need to look at health and medical press releases was further motivated by ethnographic analysis of journalistic practices in Chapter 6 which shows that journalists writing about health and medical research depend heavily on press releases.

This chapter provides an overview and analysis of the genre of press releases. Section 7.2 provides an *overview* of the structure and lexico-grammatical features of press releases. An overview of the genre of press releases shows that the focus of previous studies is mostly on press releases issued by industry i.e. they are issued for business journalists. The overview also shows that the move structure identified by previous studies is inadequate when applied to press releases issued for health and medical journalists. Section 7.3 provides an *analysis* of the structural and lexico-grammatical features of health and medical press releases and compares them with the structure and lexico-grammatical features of health and medical news reports that I have discussed in Chapter 5. However, a comparative analysis of health and medical press releases and business press releases will not be explored as it is not one of the objectives of this study.

7.2 *Overview of the structure and lexico-grammar of press releases*

In terms of the structure of press releases, in Section 7.2.1 I review studies by Erjavec (2004, 2005), McLaren and Gurâu (2005) and Catenaccio (2008). In terms of the lexico-grammatical features of press releases, in Section 7.2.2 I review studies by Jacob (1999), McLaren and Gurâu (2005) and Pander Maat (2007).

7.2.1 Move structure of press releases

Erjavec (2004, 2005) shows that, similar to van Dijk's (1985) and Bell's (1991) structure of news stories, the structure of press releases is also comprised of a headline, lead and story. The key characteristic of the headline is the positive evaluation of the organisation who issues the press release in terms of its products or services (Erjavec, 2005:169). The headline is a short statement consisting of one or two sentences. The lead, instead of reporting the events, discusses the promotional activities and characteristics of the subjects discussed. Erjavec further argues that the body of press releases are similar to news reports. It consists of comments, source's observations of the organisation, its products and services, positive evaluation and expectation. Comments with positive evaluation are more dominant in press releases than in news reports (Erjavec, 2005:171). By analysing the textual features of press releases using van Dijk's (1985) and Bell's (1991) schematic structure analysis, the structure of press releases mirrors the structure of news reports (Catenaccio, 2008). However, this is not the case when the structure of press releases are identified using Swales' (1981, 2000) move structure analysis, as shown by McLaren and Gurâu (2005) and Catenaccio (2008).

McLaren and Gurâu's (2005) analysis of press releases shows the move structure of press releases to be as follows:

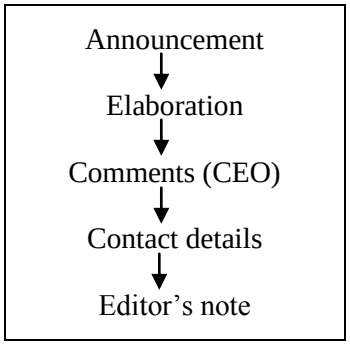
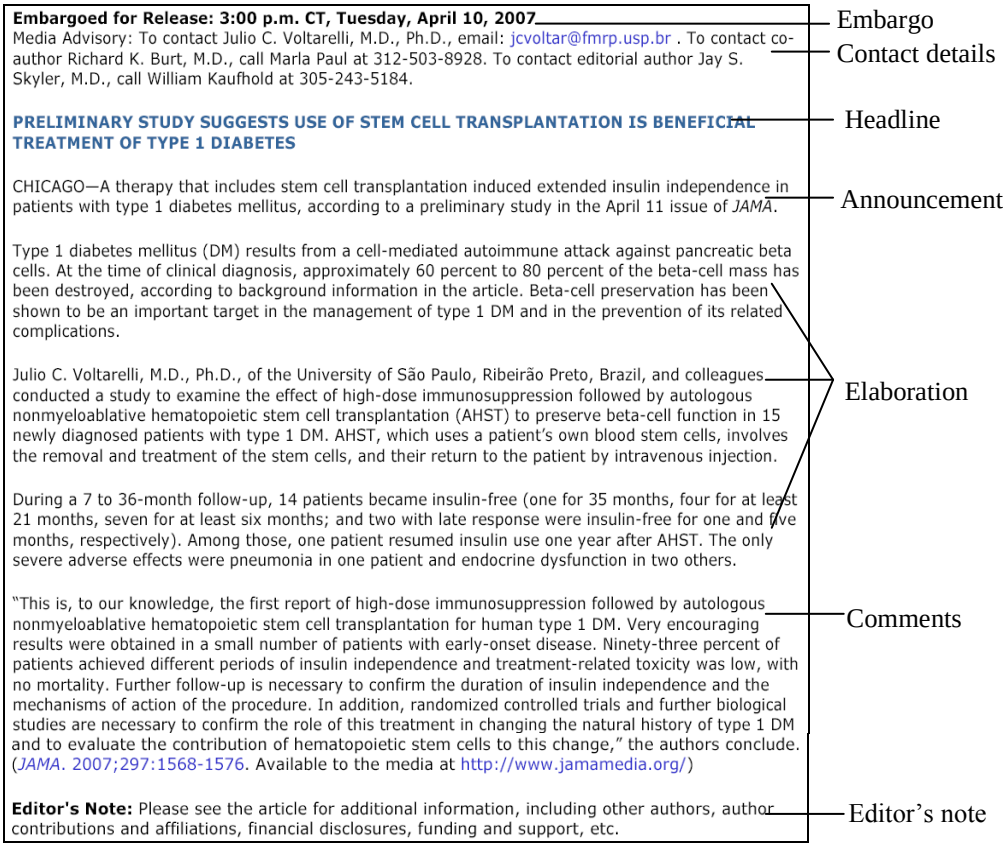


Figure 7-1 McLaren and Gurâu's (2005:16) move structure of press releases

The fist move, *Announcement*, refers to the move which functions to present the information that the company wishes to disseminate. This is followed by *Elaboration*, which refers to the move which elaborates on the first move. The third move, *Comments*, refers to the move which presents comments from the company's Chief Executive Officer (CEO) or other important figure. The fourth move, *Contact details*, refers to the move which presents the contact details of the company who issued the press release and information on how to obtain further information. The last move, *Editor's note*, appears as an additional section and is therefore appended. The move *Editor's note* provides further information about a specific

subject mentioned in the main text. It contains information that the company thinks journalists require when writing a news report, such as information about the company that issued the press release or the definition of the technical terms used. As such, this move is primarily for journalists. While the first four moves are obligatory, the last move (*Editor's note*) is optional. Although McLaren and Gurâu adopt Swales' (1981, 2000) approach to move structure analysis, their moves are labelled using van Dijk's (1985) and Bell's (1991) categories rather than Swales' moves/steps. The following shows how McLaren and Gurâu's (2005) move structure can be applied to a health and medical press release:



Example 7-1 McLaren and Gurâu's (2005) move structure in a health and medical press release issued by a journal

The above example shows that some of the moves identified by McLaren and Gurâu (2005) are also found in health and medical press releases i.e. the *Contact details*, *Announcement*, *Elaboration*, *Comments* and *Editor's note*. However, McLaren and Gurâu's move structure analysis does not discuss the function of *Headline* in press releases. In addition to the absence of headline in their analysis, *Embargo* is also absent in McLaren and Gurâu's press releases.

McLaren and Gurâu's (2005) limitation is addressed in Catenaccio's (2008) move structure. Similar to McLaren and Gurâu, Catenaccio also adopts Swales' approach to move structure analysis to identify the genre of press releases. However, unlike McLaren and Gurâu, Catenaccio differentiates between core features and peripheral features. Core features refer to the information elements of the press release (Catenaccio, 2008:17). Peripheral features refer to Goffman's (1974) "bracketing" function i.e. they are used as "ritual openings and closings, establishing and concluding certain kinds of participations" (Jacobs, 1999:20 in Catenaccio, 2008:17). They are the 'dispensable' elements of the press release which can be dropped and therefore weaken the promotional intent of the press release. When the peripheral features are dropped, press releases can become news reports. Therefore, identification of the generic structure must take into account not only the core but also peripheral features as peripheral features may trigger genre-specific responses (Catenaccio, 2008:17). Catenaccio argues that the similarities between press releases and news reports are only in terms of their core features and not peripheral features. When peripheral features are taken into consideration, the move structure of press releases is only partly similar to the move structure of news reports. Examples of the peripheral features of press releases include the "Press/News release" caption, company logo, contact information, embargo and company description (Catenaccio, 2008:16). The following figure shows a summary of Catenaccio's (2008) move structure in business press releases:

1 Press/News release caption (frame)
2 Headline
3 [Summary of main points]
4 ["For immediate release" formula]
5 Lead: Announcing newsworthy information
- Launching a new product/ services
- Announcing results and other company-internal information
- Describing other types of company's activity

6 Justifying the product or service or simply the newsworthiness of the information
- Indicating the need for the product/ service
- Referring to the advantages for potential beneficiaries
- Qualifying the result as positive

7 Detailing product/service/company/other event which is the object of the release
8 Explicit promotional component: Attributed to company official, standard user
- Emphasising positive results
- Indicating reliability of company/ product
- Independently endorsing company results
- Independent expert opinion

9 Boilerplate description(s)/ establishing credentials
10 Contact details
11 Company logo

Figure 7-2 Catenaccio's (2008:24) move structure of press releases

According to Catenaccio, the peripheral features that are always present in press releases are Move 1 (*Press/News release caption*), Move 10 (*Contact details*) and Move 11 (*Company logo*). Move 4 ("*For immediate release" formula*) is often absent. The core features that are always present are Move 2 (*Headline*), Move 5 (*Lead*), Move 6 (*Justifying the newsworthiness*) and some form of positive evaluation (whether in the body of the text as Move 6 or in the quote in Move 8). Catenaccio (2008:24) argues that the move structure of press releases is more similar to advertisements than to news articles. The similarities between press releases and news reports are in terms of Move 2 (*Headline*), Move 5 (*Lead*) and only some parts of the body of the text.

Catenaccio (2008:24) argues that most parts of the body of press releases are more similar to the move structure of advertisements identified by Bhatia (2004). According to Bhatia (2004:65), the move structure in advertisements is as follows:

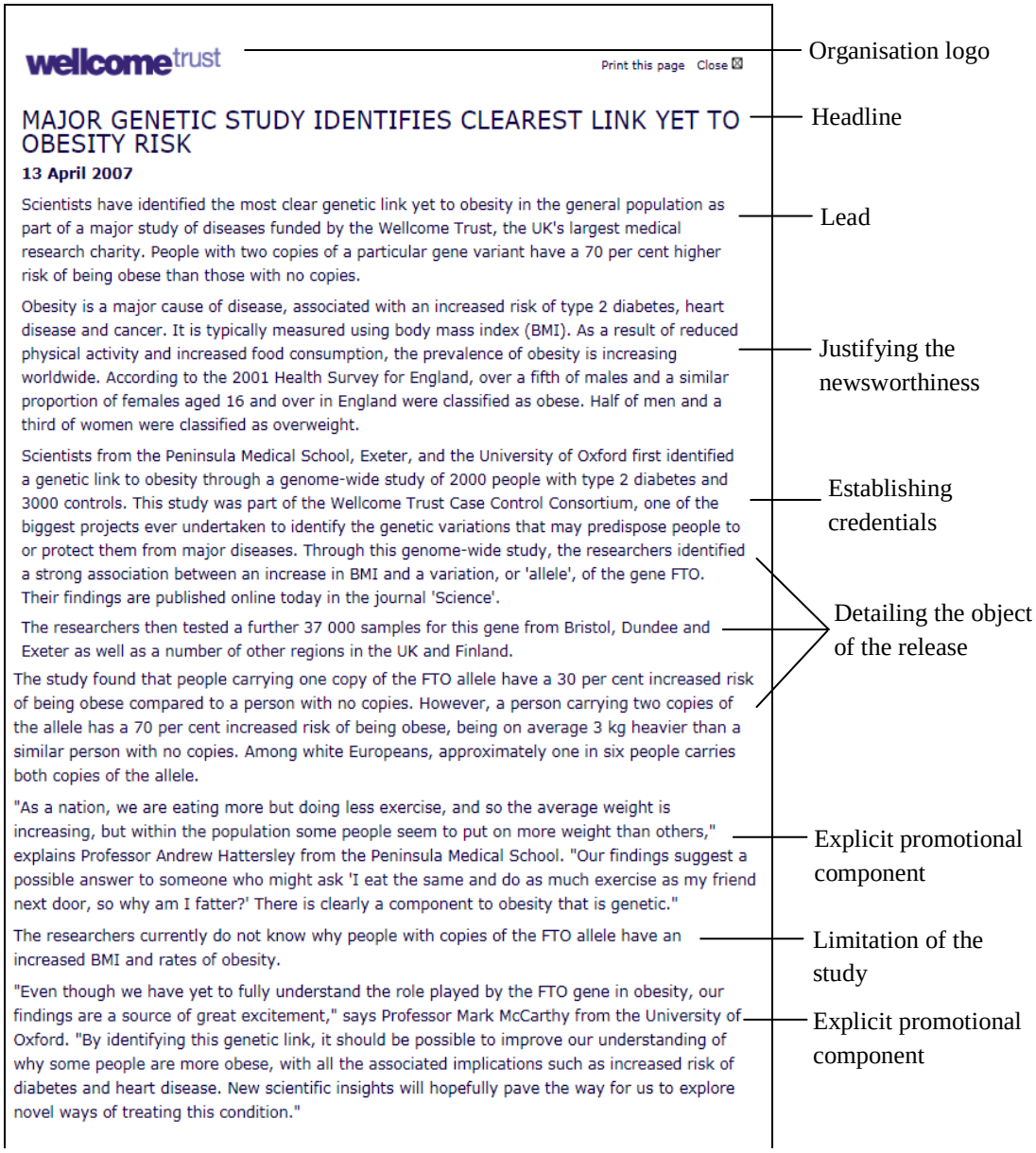
1. Headline (for reader attraction)
2. Targeting the market
3. Justifying the product or service
   - by indicating the importance or need of the product or services and/or
   - by establishing a niche
4. Detailing the product or service
   - by identifying the product or service
   - by describing the product or service
   - by indicating the value of the product or service
5. Establishing credentials
6. Celebrity or typical user endorsement
7. Offering incentives
8. Using pressure tactics
9. Soliciting response

Figure 7-3 Bhatia's (2004:65) move structure in advertisements

Catenaccio (2008:25) shows that the similarities in the move structure of advertisements and press releases are in justifying the value of the product or services and identification of customer needs (Move 3 in advertisements and Move 6 in press releases), detailing of products or services (Move 4 in advertisements and Move 7 in press releases), establishing credentials (Move 5 in advertisements and Move 9 in press releases), endorsements (Move 6 in advertisements and Move 8 in press releases) and positive evaluation (Move 4 and 6 in advertisements and Move 6 and 8 in press releases). Positive evaluation which is promotional is usually reported using quotes. A quote is where the promotional statement can be openly made because they are attributed and enables journalists to avoid responsibility (Jacobs, 1999 in Catenaccio, 2008:23). The difference between advertisements

and press releases is in the use of pressure tactics. Advertisements use pressure tactics (Move 8 in advertisements) by soliciting responses explicitly, while press releases only solicit responses implicitly by indicating contact details (Move 10 in press releases). The response elicited in press releases is of journalists rather than end users.

The following shows an example of how Catenaccio's (2008) move structure can be applied to a health and medical press release:



The findings were welcomed by Dr Mark Walport, Director of the Wellcome Trust.

"This is an exciting piece of work that illustrates why it was so important to sequence the human genome," says Dr Walport. "Obesity is one of the most challenging problems for public health in the UK. The discovery of a gene that influences the development of obesity in the general population provides a new tool for understanding how some people appear to gain weight more easily than others. This discovery, along with further results expected from the Wellcome Trust Case Control Consortium later this year, will open up a wealth of new avenues to understand and treat common diseases."

The FTO gene was first discovered whilst studying the DNA of a cohort of patients with type 2 diabetes. The risk of developing type 2 diabetes increases significantly for obese people. Through its effect on BMI, having one copy of the FTO allele increases the risk of developing type 2 diabetes by 25%, having two by 50%.

"We welcome this result, which holds promise for tackling rising levels of obesity and the associated risk of developing type 2 diabetes," says Professor Simon Howell, Chair of Diabetes UK, which funded the original collection of samples from people with diabetes. "The discovery has been possible not only because of exemplary team work of scientists from a large number of institutions but also because of the cooperation of the 5000 diabetes patients and 37 000 people without diabetes who gave blood samples for the study."

Contact
Craig Brierley
Media Officer
Wellcome Trust
T
E c.brierley@wellcome.ac.uk

Notes for editors

1. Frayling T et a. A common variant in the FTO gene region is associated with body mass index in the general population and predisposes to adult and childhood obesity. Science 2007.

2. The Wellcome Trust is the largest charity in the UK. It funds innovative biomedical research, in the UK and internationally, spending around £500 million each year to support the brightest scientists with the best ideas. The Wellcome Trust supports public debate about biomedical research and its impact on health and wellbeing.

3. The Wellcome Trust Case Control Consortium (WTCCC) is a collaboration of 24 leading human geneticists at a number of institutes throughout the UK, who are analysing over 19 000 DNA samples from patients suffering with different diseases to identify common genetic variations for each condition. It is searching for the genetic signposts for tuberculosis, coronary heart disease, type 1 diabetes, type 2 diabetes, rheumatoid arthritis, Crohn's disease, bipolar disorder and hypertension. As a second project the WTCCC is also analysing 15 000 polymorphic markers that alter protein sequence to look for genetic variations relating to another four diseases - breast cancer, autoimmune thyroid disease, multiple sclerosis and ankylosing spondylitis.

4. The Peninsula College of Medicine and Dentistry is the overarching entity for the Peninsula Medical School and the Peninsula Dental School. It is a joint entity of the Universities of Exeter and Plymouth. The first cohort of medial students joined in 2002. The first cohort of dental students will begin studies in September of this year. As well as teaching the doctors and dentists of tomorrow, the Peninsula College of Medicine and Dentistry undertakes a wide range of nationally and internationally recognised research in areas such as diabetes, cancer, heart disease, pulmonary disease, chronic fatigue syndrome/ME, MS, complementary therapies, genetics, vascular cell biology, childhood obesity and endocrinology.

5. Oxford University's Medical Sciences Division is one of the largest biomedical research centres in Europe. It represents almost one-third of Oxford University's income and expenditure, and two-thirds of its external research income. Oxford's world-renowned global health programme is a leader in the fight against infectious diseases (such as malaria, HIV/AIDS, tuberculosis and avian flu) and other prevalent diseases (such as cancer, stroke, heart disease and diabetes). Key to its success is a long-standing network of dedicated Wellcome Trust-funded research units in Asia (Thailand, Laos and Vietnam) and Kenya, and work at the MRC Unit in The Gambia. Long-term studies of patients around the world are supported by basic science at Oxford and have led to many exciting developments, including potential vaccines for tuberculosis, malaria and HIV, which are in clinical trials.

6. Diabetes UK is the charity for people with diabetes, their family friends and carers. Its mission is to improve the lives of people with the condition and work towards a future without diabetes by funding research, campaigning and helping people live with the condition. For more information, call Sarah Milsom in the press office on 020 7424 1164. People can call the Diabetes UK Careline on 0845 120 2960 for further support and information about diabetes.

Explicit promotional component

Background information

Explicit promotional component

Contact details

Editor's note (Establishing credentials)

Example 7-2 Catenaccio's (2008) move structure in a health and medical press release published by a funding body

The above example shows that although Catenaccio's move structure can be applied to health and medical press releases, there are some moves in health and medical press releases which cannot be identified using Catenaccio's move structure. Similar to Catenaccio's business press releases, the health and medical press release shown above also contains Catenaccio's Move 2 (*Headline*), Move 5 (*Lead*), Move 6 (*Justifying the newsworthiness*), Move 7 (*Detailing the object of the release*), Move 8 (*Explicit promotional component*), Move 9 (*Establishing credentials*), Move 10 (*Contact details*) and Move 11 (*Organisation logo*). The moves which are absent are Move 1 (*Press/News release caption*), Move 3 (*Summary of main points*) and Move 4 ("*For immediate release" formula*). As Moves 3 and 4 are optional, the absence of these two moves in the health and medical press release in the above example is not significant. The significant difference between Catenaccio's business press releases and the health and medical press releases in the above examples is the absence of Catenaccio's Move 1 (*Press/News release caption*) in the health and medical press release and the presence of the moves *Limitation of the study* and *Background information* in the health and medical press release.

This section has shown that McLaren and Gurâu's (2005) and Catenaccio's (2008) move structure of press releases is inadequate when applied to health and medical press releases. Thus in Section 7.3 I identify the move structure of health and medical press releases. However, I will not account for the differences between the health and medical press releases discussed in that section and McLaren and Gurâu's and Catenaccio's press releases as the present study is not intended to be a comparison between business press releases and health and medical press releases.

7.2.2 Lexico-grammatical features of press releases

Jacobs' (1999:305) study on press releases shows that press releases exhibit features which allow to be retold by journalists "as accurately as possible, preferably even verbatim". As such, press releases are typically written using features which are similar to news reports, for example the use of headline, lead paragraph and features such as self-reference, self-quotation, and explicit semi-performatives. In self-referencing, the press officer is switching between the organisation's perspective and the journalists' perspective. Evidence of this is shown in the use of third-person self-reference, for example "the company" instead of "we". Jacobs argues that self-reference helps to structure the form and content of press releases while self-quotation allows the press release to appear objective. The difference between self-quotation and explicit semi-performative is that in explicit semi-performative there is no

direct speech and no quotation marks, the linguistic action verbs used are never "say" or "continue", no use of past tense, and the subject is usually the organisation who issues the press release (Jacobs, 1999:246).

Features such as self-reference, self-quotation and explicit semi-performatives found by Jacob's (1999) are also found by McLaren and Gurâu (2005). However, McLaren and Gurâu found that these features are more common in certain parts of the press release than in others. For example, the moves *Announcement* and *Elaboration* are more information-oriented and tend to include more technical details. As such, they use features such as third person self-reference, past tense, passive, categorical assertions and modal verbs to indicate a high level of certainty such as "will". The move *Comments*, on the other hand, is more evaluative and subjective. As such, this move uses features such as positive self-assessment, self-praise and hedging. Hedging is used to balance between the need to make positive claims about the product and the need to acknowledge the risk involved. Hedging is therefore used to minimise the writer's commitment to the claims.

While Jacob (1999) and McLaren and Gurâu's (2005) identify features in press releases which can be used verbatim by journalists, there are features in press releases which are appropriated by journalists when writing the news reports. A study by Pander Maat (2007) shows that promotional language, which is a common feature of corporate press releases, is often toned-downed by economic journalists. Pander Maat (2007:68) argues that there are two requirements for an element to be counted as promotional; it needs to "intensify a statement in a direction favourable to the sender" and "they can be left out without affecting the grammaticality and the interpretation of the sentence or they can easily be replaced by a weaker element". He identifies 13 kinds of promotional elements that are grouped under 4 categories; premodifiers, connectives, adjectives and adverbs. Premodifiers include amplifying prefixes which indicate "extreme degrees of positively evaluated properties", for example "ultramodern" and "brand new", and nominal premodifiers indicating exceptional quality, for example "No. 1....." and "top class....." Connectives are considered to be promotional when they emphasise the length of the list, for example "moreover" and "besides". The subcategory of adjectives is intensifying adjectives, evaluative adjectives, property specifying adjectives, intensifying quantifiers, and comparative and superlative degrees. Intensifying adjectives intensify the interpretation of nouns, for example "important", "large" and "strong". Evaluative adjectives refer to positive evaluations without specifying the property which gives rise to the evaluations, for example "good", "special" and "excellent". Property specifying adjectives evoke a positive attitude in general, for

example “reliable”, “clear” and “efficient”. Intensifying quantifiers include; quantifiers which precede plural noun phrases such as “all”, “various” and “many”, elements indicating quantities which are beyond some expectations such as “extra” and intensifying elements referring to proportions such as “entire” and “complete”. Comparative and superlative degrees are considered to be promotional if they could be replaced by a weaker alternative, for example “two most important” can be replaced with “two important”. The subcategory of adverbs is intensifying adverbs, time adjuncts, place, intensifiers of numerals, mitigators of numerals, and modal intensifiers. Examples of intensifying adverbs include “considerably”, “strongly” and “more and more”. Examples of time adjuncts include “already”, “always” and “constantly”. Examples of place include “internationally” and “throughout the world”. Intensifiers of numerals refer to positively evaluated qualities, for example “almost” and “more than”. Mitigators of numerals refer to negatively evaluated qualities, for example “only” and “less than”. Examples of modal intensifiers include “of course” and “simply”. Pander Matt’s (2007:90) analysis shows that economic journalists generally eliminate the promotional language used in press releases, with the possible exception of intensifiers of numerals. The conclusion drawn from the analysis is that economic journalists use press releases with “apparent professional distrust” (Pander Maat, 2007:91). Although economic journalists use the information in press releases extensively, they toned-down certain statements that are used in press releases as they considered promotional language to be characteristic of press releases.

The review in this section has shown that although Catenaccio (2008) and McLaren and Gurâu (2005) have identified the genre of press releases using Swales’ (1981, 2000) approach to move structure analysis, their focus is on press releases issued for business journalists. Similarly, previous studies on the lexico-grammatical features of press releases such as that by Pander Maat (2007) , McLaren and Gurâu’s (2005) and Jacob (1999) also focus on press releases issued for business journalists. In the next section I analyse the genre of press releases which are issued for health and medical journalists.

7.3 *Health and medical press releases: Structural and lexico-grammatical analysis*

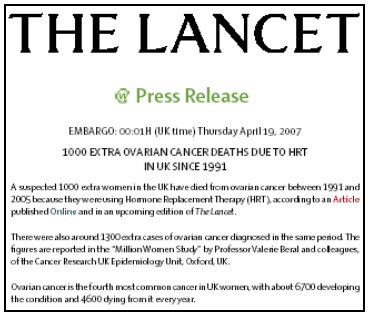
I identify the genre of health and medical press releases using the same approach to the one used to identify the genre of health and medical news reports. Adopting Swales’ (1981, 2000) approach to move structure analysis I identify the moves/steps and linguistic features used to realise each move/step. The linguistic features identified include features at the

lexico-grammatical level. The lexico-grammatical features are identified using the Systemic Functional Linguistic (SFL) approach. Similar to Swales, I also identify whether the move/step is cyclical or non-cyclical and obligatory or optional. Following Catenaccio (2008), I identify the move structure in both core and peripheral features of press releases. In addition to identifying the move structure and lexico-grammatical features of health and medical press releases, I also compare them with the move structure and lexico-grammatical features of health and medical newspaper reports that I have discussed in Chapter 5. The purpose of the comparison is to explore whether or not scientists are aware of media discourse when communicating health and medical information to journalists.

7.3.1 Move structure in the peripheral features

7.3.1.1 Move 1: Presenting the organisation's logo

Move 1 is non-cyclical and obligatory. The organisation's logo is presented at the top of the page and in a large bold font. When the press release is published by journals, the organisation's logo is the journal's name, for example:



THE LANCET

Press Release

EMBARGO: 00:01H (UK time) Thursday April 19, 2007

1000 EXTRA OVARIAN CANCER DEATHS DUE TO HRT IN UK SINCE 1991

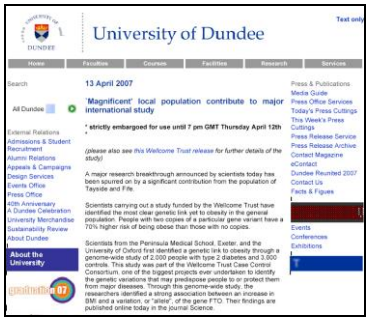
A suspected 1000 extra women in the UK have died from ovarian cancer between 1991 and 2005 because they were using Hormone Replacement Therapy (HRT), according to an Article published Online and in an upcoming edition of *The Lancet*.

There were also around 1300 extra cases of ovarian cancer diagnosed in the same period. The figures are reported in the "Million Women Study" by Professor Valerie Beral and colleagues, of the Cancer Research UK Epidemiology Unit, Oxford, UK.

Ovarian cancer is the fourth most common cancer in UK women, with about 6700 developing the condition and 4600 dying from it every year.

Example 7-3 Journal's press release

When the press release is published by universities, the organisation's logo is the university's name:



University of Dundee

13 April 2007

'Magnificent' local population contribute to major international study

* strictly embargoed for use until 7 pm GMT Thursday April 12th *

(please also see this Wellcome Trust release for further details of the study)

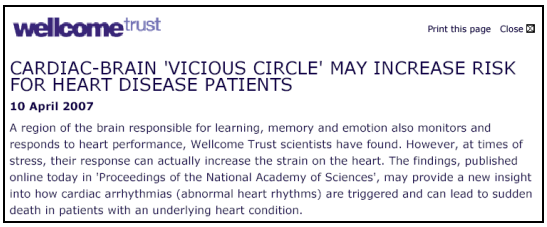
A major research breakthrough announced by scientists today has been spurred on by a significant contribution from the population of Tayside and Fife.

Scientists carrying out a study funded by the Wellcome Trust have identified the most clear genetic link yet to obesity in the general population. People with two copies of a particular gene variant have a 70% higher risk of being obese than those with no copies.

Scientists from the Peninsula Medical School, Exeter, and the University of Oxford first identified a genetic link to obesity through a genome-wide study of 2,000 people with type 2 diabetes and 3,000 controls. This study was part of the Wellcome Trust Case Control Consortium, one of the biggest projects ever undertaken to identify the genetic variations that may predispose people to or protect them from major diseases. Through this genome-wide study, the researchers identified a strong association between an increase in BMI and a variation, or "allele", of the gene FTO. Their findings are published online today in the journal Science.

Example 7-4 University's press release

When the press release is published by a funding body, it is the name of the funding body which is presented as the organisation's logo: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CARDIAC-BRAIN 'VICIOUS CIRCLE' MAY INCREASE RISK FOR HEART DISEASE PATIENTS

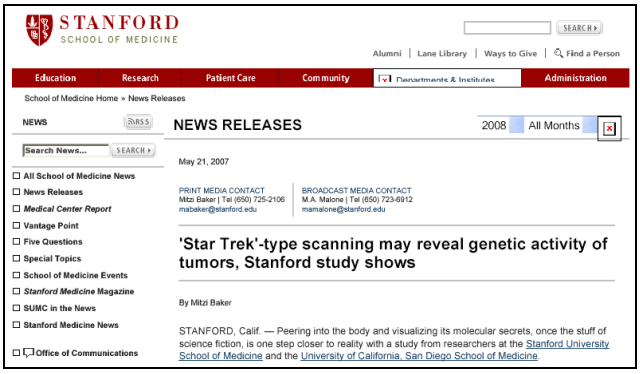
10 April 2007

A region of the brain responsible for learning, memory and emotion also monitors and responds to heart performance, Wellcome Trust scientists have found. However, at times of stress, their response can actually increase the strain on the heart. The findings, published online today in 'Proceedings of the National Academy of Sciences', may provide a new insight into how cardiac arrhythmias (abnormal heart rhythms) are triggered and can lead to sudden death in patients with an underlying heart condition.

Example 7-5 Funding body's press release

7.3.1.2 Move 2: Captioning the press release

Move 2 is non-cyclical and optional. Similar to Catenaccio's (2008) business press releases, health and medical press releases are also framed using "Press/ News release" captions, for example: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PRINT MEDIA CONTACT
Mitzi Baker | Tel (650) 725-2106
mabaker@stanford.edu

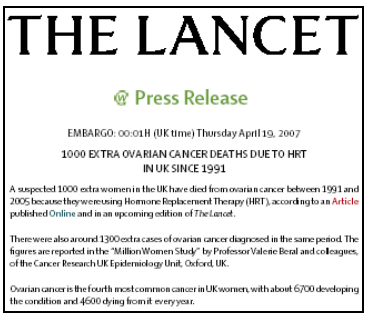
BROADCAST MEDIA CONTACT
M.A. Malone | Tel (650) 723-6912
mamalone@stanford.edu

'Star Trek'-type scanning may reveal genetic activity of tumors, Stanford study shows

By Mitzi Baker

STANFORD, Calif. — Peering into the body and visualizing its molecular secrets, once the stuff of science fiction, is one step closer to reality with a study from researchers at the Stanford University School of Medicine and the University of California, San Diego School of Medicine.

Example 7-6 The caption "News Releases"


THE LANCET

Press Release

EMBARGO: 00:01H (UK time) Thursday April 19, 2007

1000 EXTRA OVARIAN CANCER DEATHS DUE TO HRT IN UK SINCE 1991

A suspected 1000 extra women in the UK have died from ovarian cancer between 1991 and 2005 because they were using Hormone Replacement Therapy (HRT), according to an Article published Online and in an upcoming edition of *The Lancet*.

There were also around 1300 extra cases of ovarian cancer diagnosed in the same period. The figures are reported in the "Million Women Study" by Professor Valerie Beral and colleagues, of the Cancer Research UK Epidemiology Unit, Oxford, UK.

Ovarian cancer is the fourth most common cancer in UK women, with about 6700 developing the condition and 4600 dying from it every year.

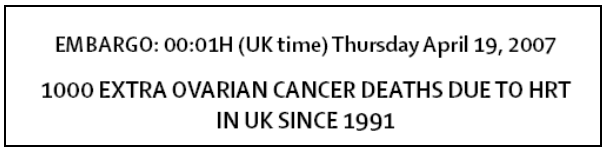
Example 7-7 The caption "Press release"

When the press release is sent to journalists through electronic mail (email), the caption "Press/News release" can be absent. Instead, the captioning of the press release appears in the email under the heading "Subject" as "Press release", for example:

a. From: [The press officer's email address]
   To: [The journalist's email address]
   Date: Wednesday, April 25, 2007 2:27pm
   Subject: BMJ *Press release* – EMBARGOED until 00:001 on 27/4/07 UK Time
b. From: [The press officer's email address]
   Date: 17/04/07 16:59
   To: [The journalist's email address]
   Subject: THE LANCET: Early online *press release*

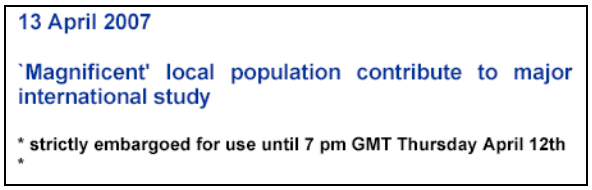
7.3.1.3 Move 3: Indicating embargo

Move 3 is non-cyclical move. This move can be presented either before or after the headline, for example:


EMBARGO: 00:01H (UK time) Thursday April 19, 2007

1000 EXTRA OVARIAN CANCER DEATHS DUE TO HRT IN UK SINCE 1991

Example 7-8 The move *Indicating embargo* before the headline


13 April 2007

`Magnificent' local population contribute to major international study

* strictly embargoed for use until 7 pm GMT Thursday April 12th *

Example 7-9 The move *Indicating embargo* after the headline

The publication of press releases can be restricted by indicating an embargo i.e. a time restriction placed on the publication of the information in the press release. It includes information on the time and date that the information in the press releases must be held back from publication before it is allowed to be made available to the public. This move is obligatory in press releases published by journals and optional for those published by universities and funding bodies.

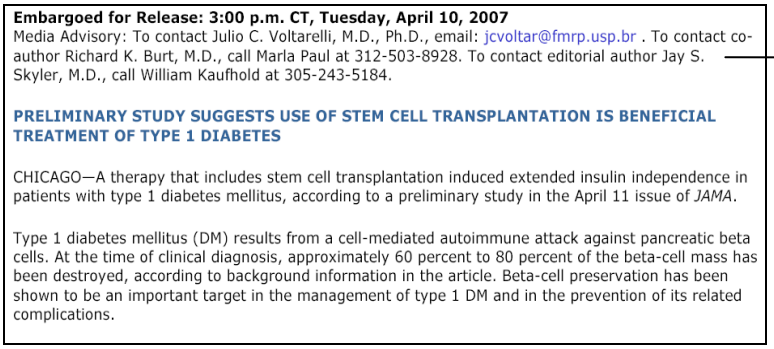
The following shows other examples of indicating an embargo:

a. EMBARGO: 00:01H(UK time) Thursday April 19, 2007 (journal's press release)
b. Embargoed for Release: 3:00pm. CT, Tuesday, April 10, 2007 (journal's news release)
c. Strictly embargoed for use until 7 pm GMT Thursday April 12th (university's press release)

The above examples show that the embargo is indicated using explicit lexical items such as "embargo" in example (a), "embargoed for release" in example (b) and "strictly embargoed for use until" in example (c).

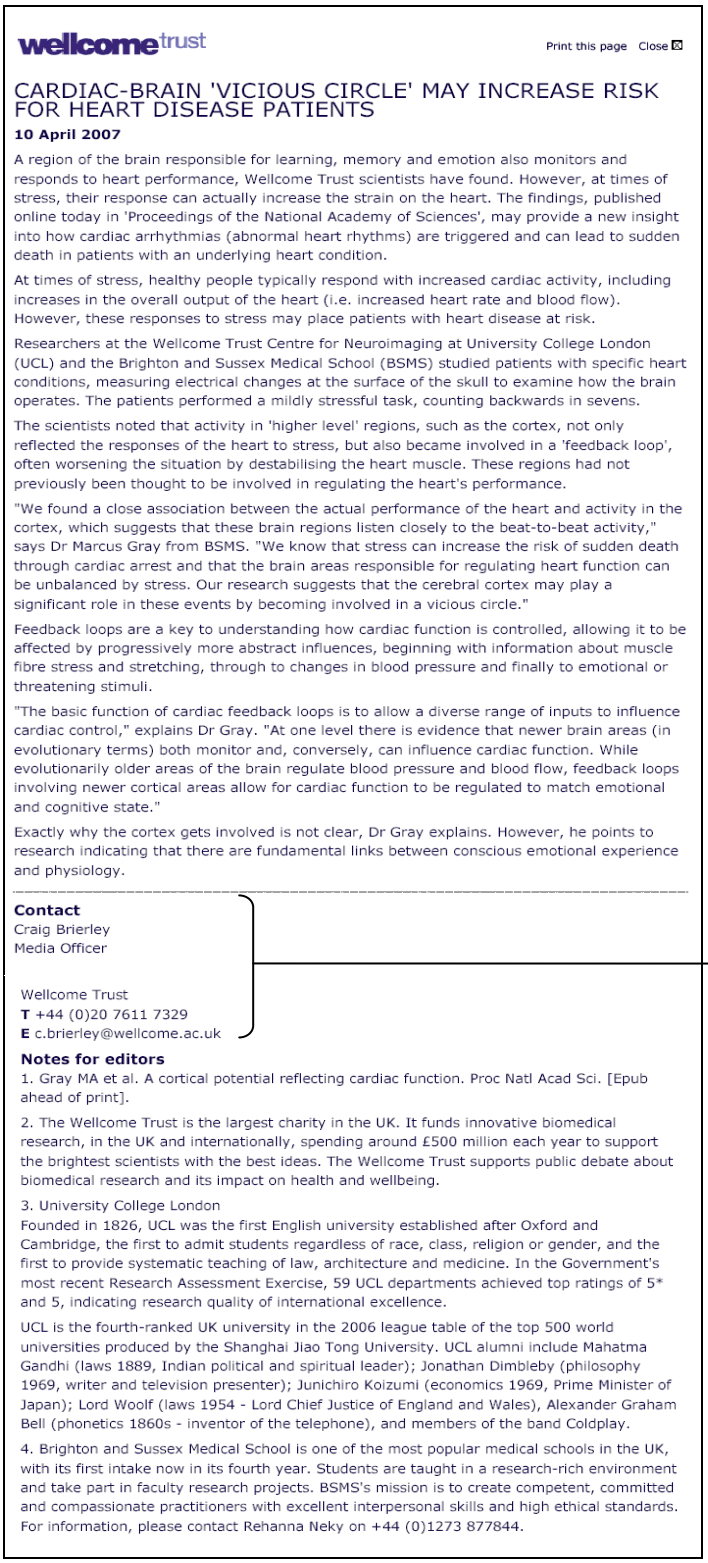
7.3.1.4 Move 4: Indicating the contact information

Move 4 is non-cyclical and obligatory. This move can be presented either near the top or the bottom of the page, as the following figures show:



Example 7-10 The move *Indicating the contact information* presented near the top of the page

The following figure shows an example of when Move 4 is presented near the end of the page:



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CARDIAC-BRAIN 'VICIOUS CIRCLE' MAY INCREASE RISK FOR HEART DISEASE PATIENTS

10 April 2007

A region of the brain responsible for learning, memory and emotion also monitors and responds to heart performance, Wellcome Trust scientists have found. However, at times of stress, their response can actually increase the strain on the heart. The findings, published online today in 'Proceedings of the National Academy of Sciences', may provide a new insight into how cardiac arrhythmias (abnormal heart rhythms) are triggered and can lead to sudden death in patients with an underlying heart condition.

At times of stress, healthy people typically respond with increased cardiac activity, including increases in the overall output of the heart (i.e. increased heart rate and blood flow). However, these responses to stress may place patients with heart disease at risk.

Researchers at the Wellcome Trust Centre for Neuroimaging at University College London (UCL) and the Brighton and Sussex Medical School (BSMS) studied patients with specific heart conditions, measuring electrical changes at the surface of the skull to examine how the brain operates. The patients performed a mildly stressful task, counting backwards in sevens.

The scientists noted that activity in 'higher level' regions, such as the cortex, not only reflected the responses of the heart to stress, but also became involved in a 'feedback loop', often worsening the situation by destabilising the heart muscle. These regions had not previously been thought to be involved in regulating the heart's performance.

"We found a close association between the actual performance of the heart and activity in the cortex, which suggests that these brain regions listen closely to the beat-to-beat activity," says Dr Marcus Gray from BSMS. "We know that stress can increase the risk of sudden death through cardiac arrest and that the brain areas responsible for regulating heart function can be unbalanced by stress. Our research suggests that the cerebral cortex may play a significant role in these events by becoming involved in a vicious circle."

Feedback loops are a key to understanding how cardiac function is controlled, allowing it to be affected by progressively more abstract influences, beginning with information about muscle fibre stress and stretching, through to changes in blood pressure and finally to emotional or threatening stimuli.

"The basic function of cardiac feedback loops is to allow a diverse range of inputs to influence cardiac control," explains Dr Gray. "At one level there is evidence that newer brain areas (in evolutionary terms) both monitor and, conversely, can influence cardiac function. While evolutionarily older areas of the brain regulate blood pressure and blood flow, feedback loops involving newer cortical areas allow for cardiac function to be regulated to match emotional and cognitive state."

Exactly why the cortex gets involved is not clear, Dr Gray explains. However, he points to research indicating that there are fundamental links between conscious emotional experience and physiology.

Contact
Craig Brierley
Media Officer

Wellcome Trust
T +44 (0)20 7611 7329
E c.brierley@wellcome.ac.uk

Notes for editors

1. Gray MA et al. A cortical potential reflecting cardiac function. Proc Natl Acad Sci. [Epub ahead of print].

2. The Wellcome Trust is the largest charity in the UK. It funds innovative biomedical research, in the UK and internationally, spending around £500 million each year to support the brightest scientists with the best ideas. The Wellcome Trust supports public debate about biomedical research and its impact on health and wellbeing.

3. University College London
Founded in 1826, UCL was the first English university established after Oxford and Cambridge, the first to admit students regardless of race, class, religion or gender, and the first to provide systematic teaching of law, architecture and medicine. In the Government's most recent Research Assessment Exercise, 59 UCL departments achieved top ratings of 5* and 5, indicating research quality of international excellence.

UCL is the fourth-ranked UK university in the 2006 league table of the top 500 world universities produced by the Shanghai Jiao Tong University. UCL alumni include Mahatma Gandhi (laws 1889, Indian political and spiritual leader); Jonathan Dimbleby (philosophy 1969, writer and television presenter); Junichiro Koizumi (economics 1969, Prime Minister of Japan); Lord Woolf (laws 1954 - Lord Chief Justice of England and Wales), Alexander Graham Bell (phonetics 1860s - inventor of the telephone), and members of the band Coldplay.

4. Brighton and Sussex Medical School is one of the most popular medical schools in the UK, with its first intake now in its fourth year. Students are taught in a research-rich environment and take part in faculty research projects. BSMS's mission is to create competent, committed and compassionate practitioners with excellent interpersonal skills and high ethical standards. For information, please contact Rehanna Neky on +44 (0)1273 877844.

Example 7-11 The move *Indicating the contact information* presented near the bottom of the page

In Example 7-10, Move 4 is presented near the top of the page, specifically after the embargo and before the headline. On the other hand, in Example 7-11, Move 4 is presented near the bottom of the page, before "Notes for editors".

The following shows other ways of indicating the contact information:

a. For More Information: Contact the [journal's name], Media Relations Department at [telephone number] or [email address]. (H11/4/07-10, journal's press release)

b. For further information, contact [name], Communications Office, [telephone number]. (G3/5/07-8, university's press release)

c. For media enquiries please contact [name] in the press office on [telephone number], or out of hours duty press officer on [telephone number]. (G18/5/07-6, funding body's press release)

d. Contact:
[Name]
Media Officer
[Organisation's name]
[Telephone number]
[Email address]. (G13/4/07-4, funding body's press release)

As the above examples show, the contact information is indicated using explicit lexemes such as "for more information" in example (a), "for further information" in example (b), "for media enquiries" in example (c) and "contact" in example (d).

7.3.1.5 Move 5: Establishing credentials

This move can be presented either as core or peripheral features. Credentials are established in the peripheral features when the press release is issued by funding bodies and journals. When the press release is issued by universities, credentials are established in the core features. When credentials are established as peripheral features, the move is non-cyclical and optional (see Section 7.3.2.3 for the move *Establishing credentials* in the core features). This move is explicitly labelled as "Editor's Note" or "Notes to Editor" and printed in bold, as the following example shows:

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CARDIAC-BRAIN 'VICIOUS CIRCLE' MAY INCREASE RISK FOR HEART DISEASE PATIENTS

10 April 2007

A region of the brain responsible for learning, memory and emotion also monitors and responds to heart performance, Wellcome Trust scientists have found. However, at times of stress, their response can actually increase the strain on the heart. The findings, published online today in 'Proceedings of the National Academy of Sciences', may provide a new insight into how cardiac arrhythmias (abnormal heart rhythms) are triggered and can lead to sudden death in patients with an underlying heart condition.

At times of stress, healthy people typically respond with increased cardiac activity, including increases in the overall output of the heart (i.e. increased heart rate and blood flow). However, these responses to stress may place patients with heart disease at risk.

Researchers at the Wellcome Trust Centre for Neuroimaging at University College London (UCL) and the Brighton and Sussex Medical School (BSMS) studied patients with specific heart conditions, measuring electrical changes at the surface of the skull to examine how the brain operates. The patients performed a mildly stressful task, counting backwards in sevens.

The scientists noted that activity in 'higher level' regions, such as the cortex, not only reflected the responses of the heart to stress, but also became involved in a 'feedback loop', often worsening the situation by destabilising the heart muscle. These regions had not previously been thought to be involved in regulating the heart's performance.

"We found a close association between the actual performance of the heart and activity in the cortex, which suggests that these brain regions listen closely to the beat-to-beat activity," says Dr Marcus Gray from BSMS. "We know that stress can increase the risk of sudden death through cardiac arrest and that the brain areas responsible for regulating heart function can be unbalanced by stress. Our research suggests that the cerebral cortex may play a significant role in these events by becoming involved in a vicious circle."

Feedback loops are a key to understanding how cardiac function is controlled, allowing it to be affected by progressively more abstract influences, beginning with information about muscle fibre stress and stretching, through to changes in blood pressure and finally to emotional or threatening stimuli.

"The basic function of cardiac feedback loops is to allow a diverse range of inputs to influence cardiac control," explains Dr Gray. "At one level there is evidence that newer brain areas (in evolutionary terms) both monitor and, conversely, can influence cardiac function. While evolutionarily older areas of the brain regulate blood pressure and blood flow, feedback loops involving newer cortical areas allow for cardiac function to be regulated to match emotional and cognitive state."

Exactly why the cortex gets involved is not clear, Dr Gray explains. However, he points to research indicating that there are fundamental links between conscious emotional experience and physiology.

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2. The Wellcome Trust is the largest charity in the UK. It funds innovative biomedical research, in the UK and internationally, spending around £500 million each year to support the brightest scientists with the best ideas. The Wellcome Trust supports public debate about biomedical research and its impact on health and wellbeing.

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4. Brighton and Sussex Medical School is one of the most popular medical schools in the UK, with its first intake now in its fourth year. Students are taught in a research-rich environment and take part in faculty research projects. BSMS's mission is to create competent, committed and compassionate practitioners with excellent interpersonal skills and high ethical standards. For information, please contact Rehanna Neky on +44 (0)1273 877844.

Move 5 (*Establishing credentials*)

Example 7-12 The move *Establishing credentials* when presented as peripheral features

As the above examples show, credentials are established by explicitly stating the author's name, title of the journal article, name of the journal which publishes the research and by providing a description of the funding bodies, university and other organisations mentioned in the press release. The following shows other ways of establishing credentials:

a. Frayling T et al. A common variant in the FTO gene region is associated with body mass index in the general population and predisposes to adult and childhood obesity. **Science 2007**. (H13/4/07, funding body's press release)

b. "A genome-wide association study identifies multiple novel breast cancer susceptibility loci" **Douglas F Easton et al. 2007. Nature.** (G28/5/07-1, funding body's press release)

However, the above examples are only applicable in press releases published by funding bodies. In journals' press releases, there is no description of the journal which publishes the study. It contains the name of the funding bodies and the article to look for additional information, as the following examples show:

a. Please see the editorial for additional information, including financial disclosures, funding and support, etc. (H11/4/07-10, journal's press release)

b. This study was supported by grants from the National Institute of Mental Health and the National Institute on Drug Abuse. Please see the article for additional information, including other authors, author contributions and affiliations, financial disclosures, funding and support, etc. For more information, contact *JAMA*/*Archives* media relations at [telephone number] or e-mail [email address]. (G8/5/07, journal's press release)

While in press releases published by funding bodies and journals credentials are established in peripheral features, in universities' press releases credentials are established as core features and presented as the last paragraph of the press release, as the following example shows:

While the researchers analyzed 31 dieting studies, they have not evaluated specific diets.

Medicare raised the issue of whether obesity is an illness, deleting the words "Obesity is not considered an illness" from its coverage regulations in 2004. The move may open the door for Medicare to consider funding treatments for obesity, Mann noted.

"Diets are not effective in treating obesity," said Mann. "We are recommending that Medicare should not fund weight-loss programs as a treatment for obesity. The benefits of dieting are too small and the potential harm is too large for dieting to be recommended as a safe, effective treatment for obesity."

From 1980 to 2000, the percentage of Americans who were obese more than doubled, from 15 percent to 31 percent of the population, Mann noted.

A social psychologist, Mann, taught a UCLA graduate seminar on the psychology of eating four years ago. She and her students continued the research when the course ended. Mann's co-authors are Erika Westling, Ann-Marie Lew, Barbra Samuels and Jason Chatman.

"We asked what evidence is there that dieting works in the long term, and found that the evidence shows the opposite" Tomiyama said.

The research was partially supported by the National Institute of Mental Health.

In future research, Mann is interested in studying whether a combination of diet and exercise is more effective than exercise alone.

UCLA is California's largest university, with an enrollment of nearly 37,000 undergraduate and graduate students. The UCLA College of Letters and Science and the university's 11 professional schools feature renowned faculty and offer more than 300 degree programs and majors. UCLA is a national and international leader in the breadth and quality of its academic, research, health care, cultural, continuing education and athletic programs. Four alumni and five faculty have been awarded the Nobel Prize.

-UCLA-

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Move 5 (*Establishing credentials*)

Example 7-13 The move *Establishing credentials* is presented as part of the main body of a press release

Other examples of establishing credentials in university press releases:

a. The St. Andrew's research has been patented and is published by the British Society for Antimicrobial Chemotherapy. The research was funded by the BBSRC. (H1/5/07-12, university's press release)

b. Other Stanford contributors to the research are..... Additional contributions came from researchers at..... The work was funded by..... (G22/5/07-15, university's press release)

As the above examples show, the university press releases contain a reference to the funding bodies and other scientists who contributed to the research and a description of the university. However, unlike press releases published by journals and funding bodies, university press releases only make a reference and not a description of the funding bodies. The description provided is only that of the university that publishes the press release.

7.3.2 Move structure in the core features

The following figure summarises the moves and steps in health and medical press releases:

***Move 1 Attracting the readers' attention (Headline)**

***Move 2 Summarising the press release**

***Move 3 Establishing credentials**
Step 1 Establishing the organisations' credentials and
Step 2 Establishing the scientists' credentials.

Move 4 Indicating the significance of the event
*Step 1 referring to intrinsic qualities of the research articles and/or
Step 2 referring to the implication of the research and/or
Step 3 referring to the local relevance

***Move 5 Presenting the main event**
Step 1Presenting the main and specific research finding and
Step 2 Specifying the research method
Step 2A Describing the research process and/or
Step 2B Specifying the type and/or size of data collected

Move 6 Presenting background information
Step 1 Comparing the present research with past research and/or
Step 2 Explaining the technical terms and concepts used
Step 3 Indicating the funder of the research

Move 7 Promoting the research
Step 1 Indicating the reaction of other scientists or
Step 2 Indicating the reaction of officials from the funding body

*Indicates obligatory move/step

Figure 7-4 Move structure in health and medical press releases

7.3.2.1 Move 1: Attracting the readers' attention (Headline)

Move 1 is non-cyclical and obligatory. Move 1 is marked by bold printing and has a font size which is bigger than the rest of the article. The function of the headline in press releases is similar to news reports, which is to attract the reader's attention. However, while the reader of news reports is the public, the readers of press releases are journalists. The difference in the types of audience sought can contribute to the difference in how Move 1 is realised in press releases and news reports. Move 1 in news reports can be realised as two steps; Step 1 (*Headline*) and/or Step 2 (*Sub-deck*). On the other hand, in press releases, Move 1 is only realised as *Headline*. The sub-deck, which elaborates on the headline, is absent in press releases.

Headlines in press releases are not as short and concise as the headlines in news reports, for example:

Press releases	News reports
a. Scientists 'home in' on new breast cancer genes in groundbreaking study. (G28/5/07-1, funding body's press release)	New breast cancer genes identified. (G28/5/07-1)
b. Preliminary study suggests use of stem cell transplantation is beneficial treatment of type 1 diabetes. (H11/4/07-10, journal's press release)	Stem-cell therapy frees diabetics from needle. (H11/4/07-10)

Example 7-14 Move 1 in press releases and news reports

In addition to the length of the sentence, example (b) above the difference between the use of "suggests" in the press release and "frees" in the news report indicates that the headline in the news report is more positive and assertive than the press release.

The following example also shows that the difference between the use of "clearest link yet" in the press release and "confirms DNA link" in the news report also suggests that the headline in the news report is more positive than the press release:

Press release	News report
a. Major genetic study identifies *clearest link yet* to obesity risk (H13/4/07, funding body's press release)	It's in the genes: Breakthrough *confirms DNA link* with obesity. (H13/4/07)

Example 7-15 Move 1 in a press release and news report

The following shows examples of the similarity in the lexico-grammatical features used to realise Move 1 in the press releases and news reports:

Press releases	News reports
a. Dundee University scientists make further medical *breakthrough*. (H9/4/07-9, university's press release)	*Breakthrough* hope for eczema. (H9/4/07-9)
b. Scientists 'home in' on *new* breast cancer genes in *groundbreaking* study. (G28/5/07-1, funding body's press release)	*New* breast cancer genes identified: *Most significant* advance in decade (G28/5/07-1)

c. Queen's research shows diabetes damages sperm and *may* affect fertility. (G3/5/07-8, university's press release)	Diabetes *may* cause surge in male infertility, scientists warn. (G3/5/07-8)
d. *Cardiac-brain* 'vicious circle' *may* increase risk for heart disease patients. (G10/4/07-11, funding body's press release)	*Brain's* reaction to stress *may* harm heart. (G10/4/07-11)

Example 7-16 The move *Attracting the readers' attention* in press releases and news reports

The examples above show that both the press releases and the news reports use lexico-grammatical features such as intensifying adjectives and modality. However, when adopting the lexico-grammatical features used in press releases, the news reports can either use the same term as the one used in the press release, for example "breakthrough" in example (a), "new" in example (b) and "may" in example (c) and (d); change the term, for example "groundbreaking" is changed to "most significant" in example (b); or simplify the term, for example "cardiac-brain" into "brain" in example (d).

Similar to news reports, the headline in press releases is also attributed, for example:

Press release	**News report**
a. *Queen's* research shows diabetes damages sperm and may affect fertility. (G3/5/07-8, university's press release)	Diabetes may cause surge in male infertility, *scientists* warn. (G3/5/07-8)

Example 7-17 Attributing the headline to scientists in press release and news report

However, as the above examples show, while the headline in the press release is attributed to the university by explicitly stating the university's name, the headline in the news report is attributed using a generic term "scientists". Attribution of the university is only found in university press releases.

When the press release is published by journals or funding bodies, only the generic term "scientists" or "study" is used, for example:

a. *Scientists* 'home in' on new breast cancer genes in groundbreaking study. (G28/5/07-1, funding body's press release)

b. Preliminary *study* suggests use of stem cell transplantation is beneficial treatment of type 1 diabetes. (H11/4/07-10, journal's press release)

c. *Study* suggests use of antithrombotics means more intracerebral haemorrhagic stroke deaths in over 75. (G1/4/07-4, journal's press release)

This shows that while attribution is used in news reports to claim authority of the report, attribution is used not only to claim authority of the report but also to promote the university where the scientists are from (self-advertising), especially for press releases issued by universities.

7.3.2.2 Move 2: Summarising the press release (lead paragraph)

Move 2 is similar to Move 3 (*Summarising the news report*) in news reports. This move refers to what is known as the lead paragraph. Move 2 is realised by presenting the main research finding. Move 2 is obligatory and non-cyclical.

In press releases, the main research finding is realised using similar reporting speech as those used in news reports:

Press releases	**News reports**
a. A suspected 1000 women in the UK have died from ovarian cancer between 1991 and 2005 because they were using Hormone Replacement Therapy (HRT), *according to* an article published online in an upcoming edition of *The Lancet*. (H19/4/07-1, journal's press release)	A thousand British women may have died from ovarian cancer since 1991 because they took hormone replacement therapy (HRT), *researchers said today.* (H19/4/07-1)
b. A region of the brain responsible for learning, memory and emotion also monitors and responds to heart performance, Wellcome Trust *scientists have found*. (G10/4/07-11, funding body's press release)	*Scientists have found* that a part of the brain responsible for higher functions such as learning and memory can also destabilise the heart during times of stress. (G10/4/07-11)
c. Increasing the amount of SUMO, a small protein in the brain, could be a way of treating diseases such as epilepsy and schizophrenia, *reveal scientists at* the University of Bristol, UK. (H8/5/07-9, university's press release)	*Scientists have discovered* a possible breakthrough in the way they treat conditions such as epilepsy and schizophrenia. (H8/5/07-9)

Example 7-18 The move *Presenting the main research finding* in press releases and news reports

As the above examples show, reporting speech used to summarise the press release include; "according to....." in example (a), ".....scientists have found" in example (b) and "reveal scientists at....." in example (c). Similarly, the news reports use reporting speech such as "researchers said today" in example (a) and "scientists have found" in examples (b) and (c).

The lexico-grammatical feature used to qualify the main research finding in press releases is also similar to that used in news reports, for example:

Press release	News reports
a. Scientists have identified the *most clear* genetic link *yet* to obesity in the general population as part of..... (G13/4/07-4, funding body's press release)	***The Herald***: *Clear* evidence that DNA affects whether you are fat or thin was published last night following *groundbreaking* research involving thousands of Scots. (H13/4/07) ***The Guardian***: Scientists have discovered the *first clear* genetic link to obesity that is carried by.... (G13/4/07-4).

Example 7-19 The move *Presenting the main research finding* in press releases and news reports

The above example shows that both press releases and news reports use the term "clear" to describe the research finding. However, while the press release describes the finding as "the most clear...yet", the news reports use "clear" and "the first clear". This shows that although the same term might be used in both press releases and news reports, subtle differences are also present. Therefore, while both press releases and news reports have a lead paragraph and that the lead paragraph is presented using reported speech, the terms used by the press releases to describe the research findings might be altered by the news reports.

7.3.2.3 Move 3: Establishing credentials

The following examples of the comparison between the lead paragraph in press releases and news reports show that the function of the lead paragraph in press releases is not only to summarise the press release but also to establish credentials:

Press releases	News reports
a. A suspected 1000 women in the UK have died from ovarian cancer between....., according to an article published online in an	A thousand British women may have died from ovarian cancer since....., *researchers* said today. (H19/4/07-1)

	upcoming edition of *The Lancet*. (H19/4/07-1, journal's press release)	
b.	A region of the brain responsible for ....., *Wellcome Trust scientists* have found. (G10/4/07-11, funding body's press release)	*Scientists* have found that a part of the brain responsible for..... (G10/4/07-11)
c.	Increasing the amount of SUMO, a small protein in the brain, could be a way of....., reveal *scientists at the University of Bristol, UK*. (H8/5/07-9, university's press release)	*Scientists* have found a possible breakthrough in..... (H8/5/07-9)

Example 7-20 Move 3 in press releases and news reports

The lead paragraph in the press releases and the news reports in the example above shows that while the press release explicitly states the name of the journal or the organisation where the scientists are from, for example "according to.....of The Lancet" in example (a), "Wellcome Trust scientists" in example (b) and "scientists at the University of Bristol, UK" in example (c), the news reports use the generic terms "researchers" in example (a) and "scientists" in examples (b) and (c). The explicit inclusion of the name of the journal, university and funding bodies in the lead paragraph indicates that in press releases, credentials can also be established in the lead paragraph. This shows that the lead paragraph in press releases has a dual function; to summarise the press release and to establish credentials. However, as they are of different functions, I categorised them as different moves.

The credentials established in press releases are those of the organisations that published the press release and the scientists' who conducted the research. Two steps are used to establish credentials; (1) *Establishing the organisations' credentials* and (2) *Establishing the scientists' credentials*. While the organisations' credentials appear in the lead paragraph, the scientists' credentials appear *after* the lead paragraph but near the beginning of the text. Move 3 is cyclical because it can be presented as both Step 1 and Step 2. Both steps are obligatory steps.

Step 1 (*Establishing the organisations' credentials*) is realised by referring to the name of the journal, university and/or funding body, for example:

a. A suspected 1000 extra women in the UK have died from.....according to an article published online and in an upcoming edition of *The Lancet*. (H19/4/07-1, journal's press release)

b. A therapy that includes stem cell transplantation induced insulin independence in patients with type 1 diabetes mellitus, according to a preliminary study in the April 11 issue of *JAMA*. (H11/4/07-10, journal's press release)

In the above examples, the name of the journal is explicitly stated as "The Lancet" in example (a) and "JAMA" in example (b). The decision on whether it is the journal, university or funding body which is referred to in the lead paragraph is dependent on who published the press release. When the press release is published by the journal, the journal's name appears in the lead paragraph. When the press release is published by the university or funding body, it is the university's name or the name of the funding bodies rather than the journal's name which appears in the lead paragraph:

a. An *Oxford University* study has suggested that.....(H1/5/07-12, university's press release)

b. Scientists at the *University of Dundee* have taken a step closer to.....(H9/4/07-9, university's press release)

c. A region of the brain responsible for learning, memory and emotion also monitors and responds to heart performance, *Wellcome Trust* scientists have found. (G10/4/07-11, funding body's press release)

The funding bodies can also be referred to using the explicit lexical item "funded by":

a. Scientists have identified the most clear genetic link yet to obesity in the general population as part of a major study of disease *funded by* the Wellcome Trust, the UK's largest medical research charity. (G13/4/07-4, funding body's press release)

When the press release is published by the university or funding body, both the journal's name and the university's name or the name of the funding body may be referred to at the same time:

a. Increasing the amount of SUMO, a small protein in the brain, could be a way of....., reveal scientists at the *University of Bristol, UK*. Their findings are published online today in *Nature*. (H8/5/07-9, university's press release)

b. *Cancer Research UK* scientists have isolated five regions of the genome containing genes which can increase a woman's risk of developing breast cancer, reveals a major international study published online in *Nature* today (Sunday). (G28/5/07-1, funding body's press release)

When the press release is published by the university, as in example (a), it is the university's name "University of Bristol, UK" and the name of the journal "Nature" which appear in the lead paragraph. When the press release is published by the funding body, as in example (b), it is the name of the funding body "Cancer Research UK" and the journal's name "Nature" which appear in the lead paragraph.

While journals and universities are referred to by stating the name of the journal or the name of the university, funding bodies can be referred to not only by stating the name of the funding body but also by providing a brief description of the funding body:

a. Scientists have identified the most clear genetic link yet to obesity in the general population as part of a major study of disease funded by the Wellcome Trust, the UK's largest medical research charity. (G13/4/07-4, funding body's press release)

In example (a) above, the Wellcome Trust is described as "the UK's largest medical research charity". However, the description of the organisation only occurs in the press release issued by the funding bodies.

Step 2 (*Establishing the scientists' credentials*) is realised by referring to the scientists, for example:

a. *Professor Irwin McLean and his team from the College of Medicine, Dentistry and Nursing at the University of Dundee,* together with..... (H9/4/07-9, university's press release)

b. The figures are reported in the "Million Women Study" by *Professor Valerie Beral* and colleagues, of the *Cancer Research UK Epidemiology Unit, Oxford University, UK.* (H19/4/07-1, university's press release)

The scientists are referred to by stating the name of the scientist "Irwin McLean" in example (a) and Valerie Beral in example (b); the title of the scientist "Professor" in both examples; the research unit where the scientists are based "College of Medicine, Dentistry and Nursing" in example (a) and "Cancer Research UK Epidemiology Unit" in example (b) and the university where the scientists are from "University of Dundee" in example (a) and "Oxford University, UK" in example (b). Credentials can be reinforced by referring to the scientists' past achievements:

a. The team made a major breakthrough last year when they reported that..... (H9/4/07-9, university's press release)

b. At the time the project started in 2001, the medical school was ground-zero for studies of DNA microarrays..... Microarrays have proven to be extremely useful for identifying..... (H22/5/07, university's press release)

7.3.2.4 Move 4: Indicating the significance of the event

This move is realised using three steps; Step 1 (*Referring to the intrinsic qualities of the research*), Step 2 (*Referring to the implication of the research*) and/or Step 3 (*Referring to the local relevance*). The obligatory step in Move 4 is Step 1. Move 4 is cyclical.

Step 1 (*Referring to the intrinsic qualities of the research*) is realised using lexico-grammatical features such as superlatives:

a. Mann and her co-authors conducted *the most comprehensive and rigorous* analysis of diet studies, analysing 31 long-term studies. (G11/4/07-8, university's press release)

b. In *the first* study to compare the quality of DNA in sperm from diabetic and non-diabetic men, researchers at..... (G3/5/07-8, university's press release)

The intrinsic qualities of the research are also presented in news reports, although the news report does not necessarily use the same lexico-grammatical features as the press release, as the following example shows:

Press release	**News report**
a. Scientists have identified the *most* clear genetic link yet to obesity in the general population as part of a major study of diseases funded by the Wellcome Trust, the UK's largest medical research charity. (G13/4/07-4, funding body's press release)	Scientists have discovered the *first* clear genetic link to obesity that is carried by significant numbers of people, according to a study yesterday. (G13/4/07-4)

Example 7-21 The move *Referring to the intrinsic qualities* of the research in press release and news report

Step 2 (*Referring to the implication of the research*) is realised using various lexical expressions, for example:

a. Such information *could lead to* diagnosing and treating patients individually, based on the unique characteristics of their disease. (G22/5/07-15, university's press release)

b. The discovery that SUMO proteins can regulate the way brain cells communicate *may provide insight into* the causes of, and treatments for, brain diseases that are characterised by too much synaptic activity. This discovery also provides new potential

targets for drug development that *could one day be* used to treat a range of such disorders. (H8/5/07-9, university's press release)

The lexico-grammatical feature that is used to indicate the implication of the research is modality such as "could" and "may". As the following example shows, the use of modality is also found in news reports:

Press release	**News report**
a. Sperm from diabetic men have greater level of DNA damage which *may* affect their fertility, research has found. (G3/5/07-8, university's press release)	Rising levels of diabetes *may* lead to a surge in male infertility, according to scientists who have discovered that men with the condition are more likely to have damaged sperm cells. (G3/5/07-8)

Example 7-22 The move *Referring to the implication of the research* in press release and news report

Step 3 (*Referring to the local relevance*) is realised by referring to the local population affected by the research, for example:

a. MRSA is a major cause of hospital infection in the *UK* and is responsible for approximately 2000 deaths every year. (H1/5/07-12, university's press release)

b. According to the 2001 Health Survey for England, over a fifth of males and a similar proportion of females aged 16 and over in *England* were classified as obese. (G13/4/07-4, funding body's press release)

c. Ovarian cancer is the fourth most common female cancer in the *UK*. The latest figures show 600 women are diagnosed with the condition in *Scotland* every year. (H19/4/07-1)

d. From 1980 to 2000, the percentage of *Americans* who were obese more than doubled, from 15 percent to 31 percent of the population, Mann noted. (G11/4/07-8, university's press release)

e. In 2004, more than 11 million *U.S.* adults were estimated to suffer from COPD, which results from..... (H17/4/07, journal's press release)

The local relevance in press releases is dependent on where the press releases are published. For press releases published in the United Kingdom, such as those in examples (a), (b) and (c), the local angle is referred to as the "UK", "England" and "Scotland". For press releases published in the United States of America, such as those in examples (d) and (e), the local angle is referred to as "Americans" and "U.S". The local relevance in news reports is also dependent on where the newspapers are published, for example:

Press release	News report
a. Ovarian cancer is the fourth most common cancer in *UK* women, with about 6700 developing the condition and 4600 dying from it every year. (H19/4/07-1, journal's press release)	Ovarian cancer is the fourth most common female cancer in the *UK*. The latest figures show 600 women are diagnosed with the condition in *Scotland* every year. (H19/4/07-1)

Example 7-23 The move *Referring to the local relevance* in press release and news report

The above example shows that while the press release only use the "UK" as the local angle, *The Herald*, as a Scottish-based newspaper, uses both "UK" and "Scotland" as the local relevance. The above example also shows that simple present tense is used to refer to the local relevance. Simple present tense, which indicates a high level of certainty, is used because what is reported as local relevance is based on factual information.

7.3.2.5 Move 5: Presenting the main event

Two steps are used to present the main report; Step 1(*Presenting the main and specific research finding)* and Step 2 (*Specifying the research method*). Both Step 1 and 2 are obligatory steps. In Step 2, the research method can be specified as Step 2A (*Describing the research process*) and/or Step 2B (*Specifying the type and/or size of data collected*). Move 5 in a press release is similar to Move 4 (*Presenting the main event*) in news reports. Move 5 is cyclical.

Step 1(*Presenting the main and specific research finding*) is realised using similar linguistic features as those used in news reports:

Press releases	News reports
a. *They found that*..... For every 1000 women using HRT, 2.6 developed ovarian cancer over five years, compared to 2.2 per 1000 women who did not use HRT. (H19/4/07-1, journal's press release)	*Statistics showed that* for every 1000 women on HRT, 2.6 developed ovarian cancer over five years, compared with 2.2 per 1000 women not using HRT. (H19/4/07-1)
b. *The study found* that..... However, a person carrying two copies of the allele has a 70 per cent increased risk of being obese, being an average 3kg heavier than a similar person	*The researchers*, funded by Wellcome Trust, *discovered* people carrying one 'fat' FTO had a 30% higher risk of being obese than those with none. People with two copies had a 70% higher risk of

	with no copies. (H13/4/07-1, funding body's press release)	being obese and were, on average, 3kg heavier than a similar person with none. (H13/4/07-1)
c.	*They have found*, so far, 15 different mutations within the gene..... (H9/4/07-9, university's press release)	*Researchers* at Dundee University *have discovered* 15 mutations of the gene which is responsible for ….. (H9/4/07-9)

Example 7-24 Linguistic features used to realise the move *Presenting the main and specific research finding* in press releases and news reports

The following examples show that the lexico-grammatical features used to present the main and specific research finding in press releases are similar to those used in news reports:

	Press releases	**News reports**
a.	Although certain rodent studies suggest that inhalation of nitrogen dioxide *may* contribute to emphysema, no other human studies to date have examined..... (17/4/07-7, journal's press release)	Scientists believe such Scottish breakfast staples *may* harm the lungs in the same was as serious chest condition emphysema. (H17/4/07-7)
b.	..... if you have a mutation in your gene, you have a 60 per cent chance of having eczema. If you have two mutations in your gene, you have an *almost* 100 per cent chance of having eczema. (H9/4/07-9, university's press release)	Those with one mutation have a 60% chance of developing eczema and those with two are *almost* 100% likely to have the condition. (H9/4/07-9)
c.	Two of the genetic regions they identified contain genes that are thought to increase breast cancer risk by *about* 20 per cent in women who carry one faulty copy of a gene and..... (G28/5/07-1, funding body's press release)	Two of the genes identified, FGFR2 and TNRC9, are thought to increase the risk of breast cancer by *about* 20% in women who carry one faulty copy of a gene and..... (G28/5/07-1)

Example 7-25 Lexico-grammatical features used to realise the move *Presenting the main and specific research finding* in press releases and news reports

The above examples show that lexico-grammatical features such as modality and adverbs which indicate approximation which are used in press releases are also used in news reports.

Step 2A (*Describing the research process*) is realised using linguistic features which are more detailed and specific than news reports:

Press releases	News reports
a. AHST, which uses a patient's own blood stem cells, involves the removal and treatment of the stem cells, and their return to the patient by *intravenous injection*. (H11/4/07-10, journal's press release)	According to a study published yesterday, researchers gave patients powerful drugs to suppress their immune systems, followed by *transfusions* of stem cells drawn from their own blood. (H11/4/07-10)
b. The researchers used a three-step approach. *First they studied* more than 200,000 'tags' – distinct blocks of DNA that act as 'signposts' for genes – in 800 patients and healthy people. *Then they narrowed* the search to 11,000 tags, *but studied* more women (8,000 in total). They chose these tags because they were more common among the breast cancer patients than among the healthy group in the first stage of the study. *Finally they selected* just 30 of the most common tags among the breast cancer patients and *looked at them more closely* in an extremely large number of women – over 40,000. (G28/5/07-1, funding body's press release)	*They identified* 11,000 "tags", or blocks of DNA which point to genes, which were more common in women with breast cancer and studied them in 8,000 more women. *In the final process*, which involved 40,000 women, *they narrowed* the search down to five tags which were significantly more common among women with breast cancer than those without. (G28/5/07-1)

Example 7-26 The move *Describing the research process* in press releases and news reports

The above examples show that while both the press releases and the news reports specify the research method by describing the research process, the description is more detailed and specific in the press releases than in the news reports. In news reports the description of the research process is summarised and simplified. In example (a), while the news report describes the research process as "transfusions", it is described in the press release as "intravenous injection". In example (b), while the press release describes the research process in terms of a three-step approach, only two steps are described in the news report.

Similar to Step 2A, in Step 2B (*Specifying the type and/or size of data collected*), the type and size of data collected is specified in press releases, which is similar to news reports:

Press releases	News reports
a. The researchers assessed data from 948,576 postmenopausal women..... (H19/4/07-1, journal's press release)	.....recruited 948,576 post-menopausal women,..... (H19/4/07-1)
b. ....., analysing 31 long-term studies. ..... We decided to dig up and analyse every study and followed people on diets for two to five years. (G11/4/07-8, university's press release)	..... analysed 31 long-term studies that had followed people for between two and five years on a range of diets. (G11/4/07-8)
c. The researchers then tested a further 37,000 samples for this gene….. Almost 7000 of these samples were provided by the general public in Tayside and Fife… (H13/4/07-1, university's press release)	Genetic samples, along with a number of physical measurements from 37,000 people, including 7000 in Fife and Tayside, were then examined to see..... (H13/4/07-1)

Example 7-27 The move *Specifying the type and/or size of data collected* in press releases and news reports

7.3.2.6 Move 6: Presenting background information

This move is realised in two steps: Step 1 (*Comparing the present research with past research*), Step 2 (*Explaining the technical terms and concepts used*) and/or Step 3 (*Indicating the funder of the research*). All the three steps are optional. Move 6 is cyclical.

Step 1 (*Comparing the present research with past research*) is realised using the similar lexico-grammatical features as those used in news reports:

Press releases	News reports
a. The team made a major breakthrough *last year* when..... Their continued work has *now* shown that..... (H9/4/07-9, university's press release)	*Last year* the team discovered that ….. *Now* the latest research into breaking down ….. (H9/4/07-9)

Example 7-28 The move *Comparing the present research with past research* in press releases and news reports

The above examples show the present research is compared with past research using explicit references to time such as "last year" and "now" in example (a) and the lexeme "first" in example (b).

Step 2 (*Explaining the technical terms and concepts used*) is found in both press releases and news reports, as the following example shows:

Press release	News report
a. Ranalexin *is* an antimicrobial peptide – natural molecules that are produced by all living creatures as a defence against disease-causing pathogens. (H1/5/07-12, university's press release)	"Ranalexin *is* an antimicrobial peptide – natural molecules that are produced by all living creatures as a defence against disease-causing pathogens." (H1/5/07-12)

Example 7-29 The move *Explaining the technical terms and concepts* used in press releases and news reports

In example (b) the technical term is defined using the verb "is". The definition presented in the news report is quoted verbatim from the press release.

Step 3 (*Indicating the funder of the research*) is realised using similar linguistic feature as news reports:

Press release	News report
a. The research, which was *funded by* the Biotechnology and Biological Research Council (Bbsrc), was conducted on ….. (H1/5/07-12, university's press release)	The research was *funded by* the BBSRC. (H1/5/07-12)

Example 7-30 The move *Indicating the funder of the research* in press release and news report

In the press release, in addition to the term "funded by", another term used is "supported by":

a. This study was *supported by* grants from the National Institute of Mental Health and the National Institute on Drug Abuse. (G8/5/07, journal's press release)

7.3.2.7 Move 7 Promoting the research

The research is promoted by reporting the reaction of users. Although news reports also report the reactions of users, the purpose of reporting user's reaction in press releases is different from news reports. While the reporting of reaction in news reports functions to show balanced reporting, the reporting of reactions in press releases functions to promote the research. As they are of different functions, the type of reaction in press releases is also different from news reports. In press releases, the type of reaction reported is positive

evaluation of the research. In contrast, the type of reaction in news reports can be in the form of support or criticism of the research.

This move is absent in press releases published by universities. The reaction in the university press release is the reaction of the scientists who conducted the study instead of the reaction of other scientists or officials. Two steps are used to promote the research: Step 1 (*Indicating the reaction of other scientists*) or Step 2 (*Indicating the reaction of officials from the funding body*). Both Step 1 and 2 are optional steps. Move 7 is cyclical.

Step 1 (*Indicating the reaction of other scientists*) is present in press releases published by journals, for example:

a. In accompanying Comment, Dr Steven Narod, of the Women's College Research Institute, University of Toronto, Canada, said: "Use of hormone replacement has declined dramatically in the UK and elsewhere since the report of the Women's Health Initiative, and is thought to be responsible for a recent reduction in breast cancer rates recorded in the USA. With these new data on ovarian cancer, we expect the use of HRT to fall further. We hope that the number of women dying of ovarian cancer will decline as well." (H19/4/07-1, journal's press release)

The evaluation of the research is reported using direct quotation and signaled using the explicit lexical item "Comment". Positive evaluation of the research is expressed by indicating the implication of the research. However, before positive evaluation of the research is given, the credentials of the scientists who reacted to the research are established by stating the name of the scientists and the department and university where the scientists are from. The function of positive evaluation in press releases is similar to their function in advertisements, which is to promote the research reported.

Step 2 (*Indicating the reaction of officials from the funding body*) is present in press releases published by funding bodies. This step is realised using similar linguistic features to Step 1, for example:

a. Scientists have identified.....as part of a major study of disease funded by the Wellcome Trust, the UK's largest medical research charity. The findings were welcomed by Dr Mark Walport, Director of the Wellcome Trust. "This is an *exciting* piece of work that illustrates why it was *so important* to sequence the human genome," says Dr Walport. (G13/4/07-4, funding body's press release)

b. Harpal Kumar, Cancer Research UK's chief executive, said: "This is an *outstanding* discovery. Thanks to the international collaboration of more than 15 research teams ..." (G28/5/07-1, funding body's press release)

Similar to journal press releases, the credentials of the person who reacts to the research is established before positive evaluation is given. However, in press releases published by funding bodies, positive evaluation of the research is more explicit. As the above examples show, in press releases published by funding bodies, positive evaluation is signalled using lexico-grammatical features such as the superlative "so important" in example (a) and intensifying adjectives "exciting" in example (a) and "outstanding" in example (b).

7.4 *Summary*

This chapter provides an overview and analysis of the structure and lexico-grammatical features of press releases. Section 7.2 has reviewed the structure of press releases (Catenaccio, 2008; McLaren & Gurâu, 2005; Erjavec, 2004, 2005) and lexico-grammatical features of press releases (Pander Matt, 2007; McLaren & Gurâu, 2005; Jacob, 1999). While Erjavec (2004, 2005) identifies the structure of press releases using van Dijk's (1985) and Bell's (1991) approach to schematic structure analysis, Catenaccio (2008) and McLaren and Gurâu (2005) use Swales' (1981, 2000) approach to move structure analysis. The difference in the approaches used shows that while Erjavec's structure of press releases mirrors the structure of news reports, Catenaccio's and McLaren and Gurâu's structure of press releases only partly resemble the structure of news reports. Catenaccio shows that the move structure of business press releases is more similar to the move structure of advertisements identified by Bhatia (2004) than to news reports. She argues that the similarities between the structure of business press releases and news reports such as that identified by Erjavec (2004, 2005) is because the focus of analysis is on the core features of press releases. She further argues that the identification of peripheral features crucially contributes to the identification of press releases as a press release. In terms of the lexico-grammatical features of press releases, Jacob (1999) shows that there are similarities in the features used in press releases and news reports. The features found by Jacob (1999) are also found by McLaren and Gurâu (2005). However, McLaren and Gurâu found that some features are more common in some parts of the press releases than in others. Pander Matt (2007), on the other hand, shows that features such as promotional language which is commonly used in press releases are toned-down by business journalists when writing the news articles. The overview has shown that the focus of previous studies is on press releases issued for business journalists, which is inadequate when applied to press releases issued for health and medical journalists.

Section 7.3 has discussed the genre of health and medical press releases and compared them with the genre of health and medical news reports that I have discussed in Chapter 5. The

following figure summarises the move structure of health and medical press releases and health and medical news reports:

Move structure in health and medical press releases	**Move structure in health and medical news reports**
***Move 1: Attracting the readers' attention (Headline)**	**Move 1: Attracting the readers' attention** *Step 1 Headline and Step 2 Sub-deck Step 2A indicating the implication of the research or Step 2B indicating the controversy surrounding the research or Step 2C comparing present research with past research or Step 2D specifying the main research finding
***Move 2: Summarising the press release (lead paragraph)**	***Move 2: Providing attribution**
***Move 3: Establishing credentials** Step 1 Establishing the organisations' credentials and Step 2 Establishing the scientists' credentials.	**Move 3: Summarising the news report (lead paragraph)**
Move 4: Indicating the significance of the event *Step 1 referring to intrinsic qualities of the research articles and/or Step 2 referring to the implication of the research and/or Step 3 referring to the local relevance	***Move 4: Presenting the main event** Step 1 presenting the main and specific research finding and Step 2 specifying the research method Step 2A describing the research process and/or Step 2B specifying the type and size of data collected
***Move 5: Presenting the main event** Step 1Presenting the main and specific research finding and Step 2 Specifying the research method Step 2A Describing the research process and/or Step 2B Specifying the type and/or size of data collected	**Move 5: Indicating the significance of the event** *Step 1 referring to intrinsic qualities of the research articles and/or Step 2 referring to the implication of the research and/or Step 3 referring to the local relevance
Move 6: Presenting background information Step 1 Comparing the present research with past research and/or Step 2 Explaining the technical terms and concepts used and/or Step 3 indicating the funder of the research	**Move 6: Presenting background information** *Step 1 comparing the present research with past, present and/or other related research and/or Step 2 explaining the technical terms and concepts used and/or Step 3 indicating the funder of the research

Move 7: Promoting the research Step 1 Indicating the reaction of other scientists or Step 2 Indicating the reaction of other users	***Move 7: Indicating the source of information** Step 1 referring to the scientists and Step 2 referring to the journal
	Move 8: Showing balanced reporting *Step 1 indicating the reaction of other scientists and/or Step 2 indicating the reaction of other users

Figure 7-5 Structural comparison between health and medical press releases and health and medical news reports

*Indicates obligatory move/step

The above figure shows that the majority of the moves in health and medical press releases are similar to the moves in health and medical news reports, apart from the following moves; *Providing attribution* (Move 2 in news reports), *Showing balanced reporting* (Move 8 in news reports) and *Indicating the source of information* (Move 7 in news reports), *Establishing credentials* (Move 3 in press releases) and *Promoting the research* (Move 7 in press releases). These differences show that unlike Catenaccio (2008) who argued that the core features of press releases are similar to news reports, this chapter showed that there are some moves in the core features of press releases which are different from news reports. The moves *Establishing credentials* and *Promoting the research* are only present in press releases. Similar to the peripheral features, these two moves contain a promotional element. The promotional element of the moves is the credentials of the institution/organisation that issued the press release and positive evaluation of the research. No negative evaluation is presented. In contrast, in news reports, only the name of the journal that issued the press release and the institution/organisation where the scientists are based is mentioned. Moreover, in news reports, both positive and negative evaluations are presented.

The following figure summarises the lexico-grammatical features (LG) in health and medical press releases and news reports:

Health and medical press releases	**Health and medical news reports**
Move 1: Attracting the readers' attention LG: simple present tense, intensifying adjective and modality	**Move 1: Attracting the readers' attention** LG: simple present tense, intensifying adjective, modality and comparative adjective

Move 2: Summarising the press release LG: intensifying adjective	**Move 3: Summarising the news report** LG: intensifying adjective
Move 5: Presenting the main event LG: modality and hedging	**Move 4: Presenting the main event** LG: modality and hedging
Move 4: Indicating the significance of the event LG: superlative, modality and simple present tense	**Move 5: Indicating the significance of the event** LG: superlative, modality and simple present tense
Move 6: Presenting background information LG: negative quantifier	**Move 6: Presenting background information** LG: lexical negation, negative quantifier, superlative

Figure 7-6 Lexico-grammatical comparison between health and medical press releases and health and medical news reports

The above figure shows that the majority of the lexico-grammatical features which are found in health and medical news reports are also found in health and medical press releases. The differences are in the absence of the following lexico-grammatical features in health and medical press releases; comparative adjective in Move 1 (*Attracting the readers' attention*). Comparative adjectives are absent in press releases. This lexico-grammatical feature is used in news reports to realise the sub-deck. Sub-decks are not present in press releases. In news reports, a sub-deck is used to elaborate on the information written in the headline, it is realised in news reports by comparing the present research with past research.

The purpose of this chapter was to explore whether or not the scientific community aware of media discourse and how it works. This chapter has shown that the two genres, health and medical press releases and health and medical news reports, have important similarities and differences. While the core features of health and medical press releases are structurally and lexico-grammatically similar to health and medical news reports, the peripheral features are different. However, even where there are similarities in the core features, subtle differences also exist.

Based on the evidence from comparison between health and medical press releases and health and medical news reports, the conclusion to be drawn is that scientists are aware that

the media does not work exactly like the scientific community. The media texts, specifically health and medical news reports, are different from scientific texts. If the scientific community are aware of the textual diversity between science and media, the question is then why does the scientific community adopt the discourse of 'distortion'? Although it is beyond the scope of Genre Analysis and this thesis to answer this question, in Chapter 8 I offer a possible line of interpretation.

8. Conclusion

This section concludes the study by summarising the aims, methods and findings, indicating the limitations and implications of the study and possible future research.

8.1 *Summary of aims, methods and findings*

This study was motivated by the scientific community's concern for 'distortion' when the media communicate health and medical information to the public. Despite the solutions offered by the community who voiced the concern for 'distortion' in the first place, the problem still exists.

I have shown that science and media are two different genres of communication. I have shown that health and medical news are first and foremost news stories. I have provided two types of evidence to support this position; one linguistic and the other ethnographic. Adopting the English for Specific Purposes (ESP) approach to genre analysis by Swales (1981, 2000), I have shown that health and medical news reports are structurally more similar to news stories than to research articles. Both health and medical news reports and news stories have the structure of headline, attribution, lead, main event, background information and reactions. Adopting Cottle's (1998) stages to a participant observation study of the media, I have shown that the production of health and medical news does not differ from other news items. Health and medical correspondents' qualifications and training are the same as other journalists, the source of information for health and medical news is the same as other news and health and medical news is part of the news department. I have also shown that the reason the guidelines issued to deal with the concern are redundant is because the guidelines were only describing current journalistic practices. On the basis of these analyses alone, it shows that the discourse of 'distortion' can be seen as a consequence of the scientific community's ignorance of media discourse when communicating health and medical information to journalists.

However, further analysis of a type of media discourse which scientists themselves contribute, namely press releases, has shown that health and medical press releases are structurally and lexico-grammatically similar to health and medical news reports. The similarities between health and medical press releases and health and medical news reports are mostly in the core features. When press releases are appropriated for news reports, the peripheral features are usually dropped. However, it should be noted that although most of the structure and lexico-grammar in the core features of health and medical press releases are

similar to health and medical news reports, subtle differences are also found. In terms of the structure, the difference between press releases and news reports is in the moves *Establishing credentials* and *Promoting the research* which are present in press releases but absent in news reports and simplification in *Describing the research process*. The absence of these two moves in health and medical news reports is because they are promotional elements, which are only typical in press releases. In terms of lexico-grammatical features, the difference is in terms of the use of comparative adjectives in the sub-deck. The absence of this move in health and medical press releases is because there is no sub-deck.

As scientists are aware of the textual diversity between scientific discourse and media discourse, the interpretation that the discourse of 'distortion' is a consequence of the scientific community's lack of awareness of health and medical news reports would be invalidated. If scientists are aware of the genre differences between science and media, why does the scientific community continue with the discourse of 'distortion', which assumes their unawareness of textual diversity?

It is beyond the scope of Genre Analysis to interpret why the scientific community still entertain the discourse of 'distortion'. This is because Genre Analysis is only a descriptive analysis. Genre Analysis can only show that there are genre differences between science and media; it cannot explain for the differences. In the next section, I show how Critical Discourse Analysis can be used to provide a possible line of explanation.

8.2 *Interpretation of the findings*

In this section I approach the question posed at the end of previous section by adopting a version of Critical Discourse Analysis (CDA) by Chouliaraki and Fairclough (2005). CDA is seen as a form of Bhaskar's (1986) "explanatory critique" (Chouliaraki & Fairclough, 2005:60). I start by focusing upon a social problem which has a semiotic aspect. This is then followed by identifying the obstacles to tackling the problem and then considering the function of the problem in a practice.

8.2.1 Concern for 'distortion' as a social problem with a semiotic aspect

In Chapter 3, I briefly mentioned that the concern for 'distortion' can be explained in terms of both cognitive and need-based explanatory critique. Bhaskar (1986:178 in Collier, 1994:181) argues that cognitive explanatory critique can be extended to accommodate "specific forms of false consciousness and indeed more generally of defective or unfulfilling being". This implies that explanatory critique does not only reveal the beliefs and their

falsehood but also human needs and their frustrations (Collier, 1994:182). Whilst the emancipatory project in cognitive explanatory critique is to bring into view "beliefs, their falsehood and their causal relations with the social structure", in need-based explanatory critique the project is to reveal "human needs, their frustration, and the relation of those needs and that frustration to the social structure" (Collier, 1994:182). Thus there is a similarity between cognitive explanatory critique and need-based explanatory critique, with the false belief replaced by frustrated need (Collier, 1994:183).

However, Chouliaraki and Fairclough (2005:33) argue that the assumption that there is privileged access to 'the truth' in cognitive explanatory critique is "contentious". They further argue that the solution is not achieved by giving up the very possibility of truth claims but by differentiating "between 'truth' as a matter of privileged access [...], and truth as arrived through reasoned enquiry in the public sphere of open participant debate (Norris, 1994:12 in Chouliaraki & Fairclough, 2005:33). Similarly, the assumption that there are general human needs that everyone could agree upon is also problematic (Chouliaraki & Fairclough, 2005:34). Although there are needs which are considered universal such as basic needs (for example food and water), there are also needs which are culturally specific and democratically determined (Sayer, 1997). Needs which are democratically determined refer to needs that are decided by the public in an open and equal dialogue rather than by privileged groups or individuals.

In the case of the scientific community's concern for 'distortion', the concern is derived by the scientific community and not arrived through public debate. The need for 'undistorted' health and medical communication came about as a result of the concern expressed by the scientific community, which is the privileged group. As such, the belief that there is a need for 'undistorted' health and medical communication in the media is false because it is determined by a group of privileged individuals instead of the 'public' in an open dialogue.

8.2.2 Social and discursive practices of the concern for 'distortion'

In identifying the obstacles to tackling the concern for 'distortion', I provide an overall view of the practices where the concern for 'distortion' is located within by conceptualising the producer and audience of the concern for 'distortion'.

8.2.2.1 Conceptualising the producer

Scientists and journalists occupy different social roles. The roles of scientists and journalists can be explained using Goffman's (1981) notions of "animator", "author" and "principal".

These notions refer to the "production format of an utterance" (Goffman, 1981:145). These terms are used by Goffman to refer to the notion of "speaker", as opposed to "hearer". The notions of "speaker" and "hearer" are re-examined by Goffman to explore the concept of "footing", which implies "a change in alignment we take up to ourselves and the others present as expressed in the way we manage the production or reception of an utterance" (Goffman, 1981:128).

The animator is the "sounding box from which utterances come" (Goffman, 1981:226). They are not social roles *per se*, only "functional nodes in a communication system", an analytical one (Goffman, 1981:144). The author is "someone who has selected the sentiments that are expressed and the words in which they are encoded" (Goffman, 1981:144). The principal is "someone whose position is established by the words that are spoken, someone whose beliefs have been told, someone who is committed to what the words say" (Goffman, 1981:144). In this case, it deals with the social role that a person occupies, a special capacity as a member of a group, some "socially based source of self-identification" (Goffman, 1981:145). The same individual can alter the social roles they are in. However, Goffman argues that the implied roles have their institutionalised exceptions; someone can speak *for* someone else and *in* someone else's words. In other words, the "principal's" words can be those written by someone else for them.

With the popularisation of medical knowledge, journalists are seen as a major channel for scientists to communicate their research to the public (Social Issues Research Centre & Amsterdam Schools of Communication Research, 2006). There is an agreement between how the scientists see themselves and how they are seen by journalists, i.e. as "principals". The role of scientists as the "principals" can be seen when journalists refer to scientists as their source of information using direct and indirect quotation in the newspaper texts:

a. Their leader, Professor Valerie Beral, director of Cancer Research UK's epidemiology unit at Oxford University, said: "….." (H19/4/07-1)

b. ..... , according to a study by researchers at the University of Pittsburgh. (H10/4/07-9)

However, the "principals" can also be scientists from another university or someone speaking on behalf of an organisation:

a. Nilesh Samani, professor of cardiology at Leicester University, said ..... (G3/5/07-3)

b. Liz Barker, science information officer at Cancer Research UK, said: "....." (H16/5/07-5)

While scientists are the "principals", journalists are functioning as "animators" because they are only reporting what is provided by their source:

> I don't think I can't think I ever have a page lead without a person's quote in there because that's probably not what I'm saying, you know, I'm writing about other people's opinion so you pretty much have to quote them. You get suspicious if there is no quote in the story at the back, I do anyway. [...] For example [name of a newspaper] do quite a lot. Say there may be like a flu outbreak and the [name of a newspaper] top line saying this is the worst flu outbreak ever known and then three quarter down the story they'll quote from the expert that I speak to and he'll say, you know, flu is a bit up last week but we are not too worried about this yet. I'll get suspicious and, well you know, your top line isn't really supported by the expert. (Health correspondent, H27/4/07)

However, journalists are not only "animators" but also "authors". Journalists are "authors" in the sense that they choose what information to be put in the text and how to put together different information provided by different sources. An indication of journalists as "authors" can be seen in what appears in the by-line in the newspaper text, which is the name of the news writer. However, by only stating the name of the news writer in the by-line, there is no indication that the production of newspaper texts is very much a group effort. Health and medical news reports are the result of negotiations between the sources, health and medical news writers, editors and sub-editors. Thus, the health and medical news writer is only one of the "authors".

The contradiction between how scientists view what journalists' roles are (as "animators") and what journalists' roles 'actually' are (as "authors") contributes to why scientists feel entitled to tell the journalist what to do and to complain about what journalists do. However, if journalists are seen by scientists as "animators", they are only reporting what is provided by the "principals" (the scientists). The scientists' words are conveyed to the journalists through press releases which are written by press officers and sometimes with the help of the scientists themselves. As press officers write the press release, similar to journalists, press officers also occupy the role of "authors". However, the discourse of 'distortion' is only used by scientists to criticise media reports of health and medical research and not press releases. This study has shown that health and medical news reports are structurally and lexico-grammatically similar to press releases (see Chapter 7). If what appears in news reports originates from press releases, why is the discourse of 'distortion' only aimed at journalists and not press officers? In other words, journalists are only "animators" and scientists and press officers are the "principals" and "authors" of the text that is used by journalists as their source of information. Therefore journalists cannot be held solely responsible for 'distortion'.

8.2.2.2 Conceptualising the audience

In newspapers, audience can be viewed as 'consumer' and 'commodity' (Richardson, 2007:77). In viewing audience as 'consumer', newspapers are seen as businesses that exist to make profit by selling their products. News is therefore the product that needs to be made appealing to the consumers. Only stories that appeal to the readers will be published. This can be seen in the way journalists associate themselves with their readers when deciding what to write and how to write news reports:

> [...] I think we think we are similar people to our readers on the whole although we are going to have arguments about it nonetheless we have real interest in issues. So if we think it's really interesting we think they are going to as well. But it's the different, it's a question of identification really I suppose. (Health editor, G14/5/07)

> [...] Often I think if I'm interested in it and probably other people are interested in and then I go to my editor and say have you ever heard of Fragile X syndrome, you know it's the most common inherited condition and maybe other people will be interested too [...] So when you hear a story like this, it's a great story because people go oh no I never do that and immediately that was my reaction when I read it, whoa that's gross. If I think it's gross and so will other people. (General reporter (1), H14/5/07)

However, the commercial logic of the newspaper market is not only to sell copies to readers but also to sell advertising space (Richardson, 2007:79). The advertisers' influence on news production can be seen in the limitation of space available for news stories:

> We have some fixed parameters under which you know disciplines I supposed. [...] Page one for example, this the advert which is on page one and page two is the weather ( ) and so on as you go through the book, the adverts are already booked and placed but we'll have a bit of negotiations usually on where adverts follow because we wanted to do for example say we wanted to do last Friday or Thursday Tony Blair's stuff, we want to clear space here so we need to move some of the ads here so there's a bit of ( ) between editorial and advertising and of course at any given day to move adverts and then place but we do have a fixed number of pages within which we can work [...] (Editor, H14/5/07)

> So, some days we have a bigger newspaper than other days in terms of number of pages and the size of the pages can vary. If you look through the newspaper there, some adverts are bigger than others so, you know, we have a certain amount of variability in the size of the pages ( ) so what we have to do is fill that and we have to work out each on the daily basis what priorities are going to be. (Assistant news editor, H14/5/07)

Audience is therefore not only seen as 'consumer' of a product but also as 'commodity'. The audience becomes the product itself. They are targeted by newspapers to attract advertising revenue. In other words, advertisers determine the newspapers' target audience.

On the other hand, the audience for scientific research can be divided into specialists (other scientists) and non-specialists ('lay' public). Scientists' engagement with 'lay' public constitutes a "public duty" (Rowe, 2005). As a public duty, this means that the scientists have a responsibility to disseminate the research outcomes to the public (see Section 8.2.3 on the definition of responsibility), especially for research which is publicly funded by taxpayers' money. Scientists need to show how the research benefits the public. Besides disseminating research outcomes, public funding bodies also want to maintain, and possibly increase funding. Commercial newspapers can help scientists serve their public duty by disseminating their research to a wider audience.

Unlike publicly funded research, in privately funded research the audience is seen as 'consumer'. Similar to commercial newspapers, private funding bodies are interested in profit maximisation. That is to say, their main interest is to increase the revenue of their shareholders. They do so by funding research which shows that their products are backed by scientific research. As a result, the findings in health and medical research funded by private funding bodies are often found to be in favour of the funding bodies (Smith, 2005; Bhandari et al., 2004; Lexchin et al., 2003).

As the scientific community and newspapers organisations have different social roles and audiences, the question then is do newspaper organisations share the need which is expressed by the scientific community. In other words, do the newspaper organisations also agree with the need for 'undistorted' health and medical communication? If they agree that what is needed is 'undistorted' communication of health and medical information to the public, then when they communicate with the public they have to follow scientific practices. However, if the newspaper organisations were to do so, no communication would be possible. If journalists, when reporting health and medical news, were to use scientific discourse, the public would have difficulty in understanding the news reports. If the public could easily read the scientific articles, then journalists would not be needed.

8.2.3 Function of the concern for 'distortion'

The previous section has shown that the difference between science and media can also be seen at the level of social practice. Science and media have different social roles and economic interests. The concern for 'distortion' is necessary to maintain the traditional view of popularisation, where the scientific community is the producer of scientific knowledge and the media is a major channel for scientists to communicate their research to the public. Thus the concern for 'distortion' is ideological. Ideologies can be understood as a

"construction of practices from particular perspectives (and in that sense 'one-sided') which 'iron out' contradictions, dilemmas and antagonisms of practices in ways which accord with the interests and projects of domination" (Chouliaraki & Fairclough, 2005:26). The concern for 'distortion' has an ideological function in a sense that it needs to be there otherwise the social order will be disrupted. Social order refers to "a structuring of a particular social 'space' into various domains associated with various types of practice" (Fairclough, 2001:24).

The ideological function of the concern for 'distortion' can be understood in terms of the increasing need to be socially responsible. Social responsibility is presupposed by those participating in the discourse, despite the fact that science and media engage in different social practices and communicate in different and sometimes conflicting ways. Before explaining why there is a rise of social responsibility in science, in the following paragraph I briefly explain the concept of responsibility.

Contributions to the concept of responsibility have been made by sociologists such as Durkheim, Weber, Parsons, Gehlen and Habermas (Strydom, 1999). According to Strydom (1999) there are three categories of responsibility: the traditional concept of individual responsibility by Durkheim (1984) and Parsons (1964); the post-traditional concept of individual responsibility by Habermas (1979); and co-responsibility by Apel (1988). The traditional concept of individual responsibility applies within informal pre-institutional contexts such as friendship, kinship and family (Strydom, 1999:68). More formal institutional responsibility is mostly ascribed to occupational roles in a society. In the post-traditional concept of individual responsibility, the responsibility is due to the individuals' possession of knowledge, power and influence (Strydom, 1999:68). However, individual responsibility has been undermined by the challenges derived from developments in science and technology (Stehr, 1992 cited in Delanty, 1999). Individual responsibility took for granted that the individual could be responsible for "primary and secondary consequences" of their action (Delanty 1999:156). This concept of responsibility was derived from a philosophical tradition that the individual was a "self-contained entity, independent of society which was merely the aggregate sum of individuals" (Delanty 1999:157). As the challenges derived from science and technology can no longer be dealt with through individual responsibility alone, there is a shift towards a new form of responsibility which is called co-responsibility (Apel, 1988 cited in Strydom, 1999). Co-responsibility can be practised and organised discursively in a social and political sense (Apel, 1987:27, 1993:24 cited in Strydom, 1999:68). It can be fulfilled by a network of communications and allows

the participation of individuals, groups and the public. In co-responsibility, there is a public level of responsibility for common or shared problems. While the focus in co-responsibility is on common or shared problems, the role of individual responsibility in public communication is retained. Thus everyone collectively bears the "observed consequences and side-effects of collective activity" (Strydom, 1999:69).

The rise of social responsibility in science can be traced back to the shift in the production processes of scientific knowledge. Historical analysis of British science by Boden et al. (2004) shows that scientific knowledge production processes have shifted from purely "academic science" to "useful science" and are now becoming "commodified science". In academic science, scientific knowledge is produced for its own sake. The commercial and social applicability of science is not of significant importance. In contrast to academic science, in useful science, science would ally itself with socio-economic objectives of the state and industry. In commodified science, scientific knowledge is "a commodity traded as any other and the means for its production are subject to commercial pressures and controls" (Boden et al., 2004:157). The difference between useful science and commodified science is in terms of whether the shift is only in the vision of science or in both the vision and organisational form of science (Boden et al., 2004:140). By altering both the vision and organisational form, the very institutions of science are "captured" by the commercial interests and government, rather than only encouraging scientists to reorient their objectives. The shift towards commodified science is associated with the wider tendency towards "commodification".

Commodification refers to "the process whereby social domains and institutions, whose concern is not producing commodities in the narrower economic sense of goods for sale, come nevertheless to be organised and conceptualised in terms of commodity production, distribution, and consumption" (Fairclough, 2006a:207). Health and medical research, like any other product, needs to be sold, distributed and consumed by the consumer. However, commodification of medical research is not only accepted as part of social practice but also resisted. It gives rise to dilemmas for scientists trying to work out ways of "accommodating, containing or subverting colonisation" (Fairclough, 2006a:117). Scientists have to decide whether to embrace or resist the idea of "selling" health and medical research to the consumer. Therefore the rise of social responsibility in science can be attributed to the increasing tendency towards the commodification of health and medical research.

The involvement of funding bodies in health and medical research raises the issue of responsibility that is specific to the industry, known as "Corporate Social Responsibility

(CSR)". Corporate Social Responsibility refers to the acknowledgement that industries should be responsible for "the impact of their activities on society and/or the environment" (Confederation of British Industry, 2007). However, there is no agreed definition on the meaning of corporate social responsibility:

> "Although there is no universally agreed definition of the term, CSR requires business to acknowledge that its responsibilities extend beyond maximising profitability – and thus shareholder value – to meeting the needs of other interest groups. Often referred to as 'stakeholders', these groups may be defined as those with which the company closely interacts – such as employees, suppliers and local communities – or more broadly to include national governments and societies as a whole." (Confederation of British Industry in Royal Society report, 2006:9)

Moreover, corporate social responsibility is a "voluntary" action that industries can take to address the interest of the wider public. As it is only voluntary, industries can choose not to be socially responsible.

In communicating health and medical research to the public, the common problem is the scientific community's concern for 'distortion'. Rather than just putting the blame on the media for 'distortion', the scientific community should collectively bear the consequences and side effect of 'distortion'. As scientists are the source of information for journalists, they are part of the health and medical communication process. However, as science and media are two different institutions, they are being socially responsible in their own way. The responsibilities of the scientific community are to "attempt an accurate assessment of the potential implications for the public" and "ensure the timely and appropriate communication to the public of results if such communication is in the public interest" (Royal Society, 2006:5). On the other hand, the responsibilities of the media are to "provide full, truthful, comprehensive and intelligent account of the day's events in a context which gives them meaning", "serve as a forum for exchange of comment and criticism" and "be a common carrier of the public expression" (Hutchins, 1947). The scientists' discourse of 'distortion' is a way for the scientific community to show that they are 'ensuring' that the communication of research findings is "accurate".

The interaction between scientists and journalists provide evidence of their acceptance of co-responsibility. Scientists' discourse of 'distortion' will always be present and journalists will always 'distort'. Media, as an institution in their own right, have their own practices and can never adopt scientific practices when communicating health and medical information to the public. With social responsibility presupposed by both science and media, the scientists' discourse of 'distortion' is a way for the scientific community to show that they are being socially responsible.

By framing their research according to the Critical Discourse Analysis framework, future research can pursue the line of interpretation which I briefly discussed in this section.

8.3 *Significance of the study, limitations of the study and recommendations for future research*

The significance of the findings of this study for Genre Analysis is that it fills the gap in previous studies. In terms of news texts, as previous studies on the structure of news texts focus more on van Dijk's (1985) and Bell's (1991) schematic structure analysis, this study shows a different way of identifying the structure of news texts i.e. using move structure analysis. The limitation of this study is that it focuses on newspapers and on the reporting of health and medical research. Future research can investigate different type of medium such as the television or the Internet. In terms of press releases, unlike previous studies that mostly focus on the genre of press releases issued by the industry; the present study has investigated the genre of press releases issued by universities, journals and funding bodies. However, as the press releases collected were not differentiated i.e. whether they are issued by universities, funding bodies or journals, future research can explore the similarities/differences between press releases issued by different organisations.

The significance of the findings for the Social Issues Research Centre (SIRC, 2001) guidelines is that this is the first study to investigate whether or not journalists in Britain are aware of the guidelines and whether these guidelines are effective. This study shows that the SIRC guidelines are redundant. This can have future implications. In future, any guidelines should be devised as a result of empirical research. By conducting empirical research, the 'actual' practices can be taken into consideration instead of perceiving practice from an 'outsiders' position. Moreover, consultations should include not only scientists and science journalist but also health and medical journalists.

This study is in no way a final word on the matter. It merely alludes to the need for future research to be conducted at a larger number of newspaper organisations over a longer period of time. Moreover, any future intervention should be the result of detailed analysis not only of journalistic practices but also of scientific practices and of the practices of press offices in order to coordinate an overall approach rather than placing the emphasis on journalistic practices.

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Appendix A: Textual data

1. <u>Health and medical news reports from *The Herald* and *The Guardian*</u>

1.	H2/4/07-1	Donor blood breakthrough claim
2.	G6/4/07-19	Gene discovery raises hope of treatment for memory loss
3.	G7/4/07-17	The men women see as too good to be true
4.	H9/4/07-9	Breakthrough hope for eczema
5.	G9/4/07-10	Gene find may bring better eczema help, say scientists
6.	H10/4/07-7	HRT 'reduces the risk of heart disease'
7.	H10/4/07-9	Why women's stem cells are 'better at curing disease'
8.	G10/4/07-11	Brain's reaction to stress may harm heart
9.	H11/4/07-10	Stem-cell therapy fees diabetics from needle
10.	G11/4/07-8	Why dieters have fat chance of losing weight
11.	H13/4/07-1	It's in the genes: breakthrough confirm DNA link with obesity
12.	H13/4/07-10	IVF scientists create sperm cells from bone marrow
13.	G13/4/07-4	Researchers uncover genetic link to obesity
14.	G13/4/07-11	Scientists in sperm cell breakthrough
15.	G14/4/07-8	Scientists to unlock genes behind common serious illnesses
16.	H17/4/07-7	Cured meats 'double risk of lung disease'
17.	G18/4/07-12	Flu is a killer for cardiac patients, warn scientists
18.	H19/4/07-1	1000 ovarian cancer victims may have died because they took HRT
19.	H23/4/07-3	The 'lifesaver' pill that could give sufferers a longer life
20.	H1/5/07-12	Bullfrog hops in to fight with superbug
21.	G1/5/07-4	Regular aspirin use may raise stroke risk for healthy people
22.	H2/5/07-2	Treatment now doubles chance of surviving a heart attack
23.	G3/5/07-8	Diabetes may cause surge in male infertility, scientists warn
24.	G3/5/07-3	DNA find may identify early heart risk victims
25.	G3/5/07-8	Gene find helps show how eating a lot less could extend life
26.	G3/5/07-4	Mother's stress harms foetus, research shows
27.	H8/5/07-9	Scientific breakthrough in how to treat epilepsy
28.	G8/5/07-8	Research links excess TV watching to impaired school skills
29.	G15/5/07-5	Walk and work treadmill to get office staff fitter
30.	H16/5/07-5	Multi-vitamin pills linked to higher risk of prostate cancer

31.	G18/5/07-6	More breast cancer sufferers may be spared chemotherapy
32.	G22/5/07-15	Blood cell gel could heal skin wounds faster
33.	G22/5/07-15	Star Trek-type scanner could spot cancer
34.	H23/5/07-1	Diabetes drug 'puts patients at heart risk'
35.	G25/5/07-16	Gene may help to identify inherited breast cancer cases
36.	G28/5/07-1	New breast cancer genes identified
37.	H29/5/07-8	Scientists find key to fighting deadly bird flu
38.	H29/5/07-3	Scottish expert's way to beat insomnia: spend less time in bed
39.	G29/5/07-8	Antibodies from survivors may hold clue to bird flu remedy
40.	G31/5/07-11	Ubiquitous pop videos may harm girls' self-image

2. Health and medical press releases from journals, universities and funding bodies

1.	G6/4/07-19, university	McGill study: Genetic switch can control memory
2.	H9/4/07-9, university	Dundee University scientists make further medical breakthrough
3.	G10/4/07-11, funding body	Cardiac-rain 'vicious circle' may increase risk for heart disease patients
4.	H10/4/07-7, funding body	Effect of hormone therapy on risk of heart disease may vary by age and years since menopause
5.	G11/4/07-8, university	Dieting does not work, UCLA researchers report
6.	H11/4/07-10, journal	Preliminary study suggest use of stem cell transplantation is beneficial treatment of type 1 diabetes
7.	G13/4/07-4, H13/4/07-1, funding body	Major genetic study identifies clearest link yet to obesity risk
8.	H17/4/07-7, journal	Eating cured meats frequently can lead to lower lung function and potential COPD
9.	G18/4/07-12, journal	New research shows that flu is a trigger of heart attacks
10.	H19/4/07-1, journal	1000 extra ovarian cancer deaths due to HRT in UK since 1991
11.	G1/5/07-4, journal	Study suggests use of antithrombotics means more intracerebral haemorrhagic stroke deaths in over 75s

12.	H2/5/07-2, journal	Improvements in therapies for patients with acute coronary syndromes associated with reduction in deaths and improved clinical outcomes
13.	G3/5/07-8, university	Queen's researcher shows diabetes damages sperm and may affect fertility
14.	H8/5/07-9, university	SUMO wrestling in the brain
15.	G8/5/07-8, journal	Frequent television viewing during adolescence associated with risk of attention and learning difficulties
16.	G15/5/07-5, journal	Vertical work-stations could help ease obese shed 30 kilos a year
17.	G18/5/07-6, funding body	Hormone treatment could cut need for chemo in some younger breast cancer patients
18.	G18/5/07-6, journal	Alternative hormone treatment could help fight against breast cancer
19.	G22/5/07-15, university	'Star-Trek'-type scanning may reveal genetic activity of tumours, Stanford study shows
20.	G28/5/07-1, funding body	Scientists 'home in' on new breast cancer genes in groundbreaking study
21.	G29/5/07-8, H29/5/07-8, funding body	Wellcome Trust fast-tracks Avian flu research
22.	G25/5-16, university	Penn researchers home in on possible new breast cancer gene
23.	H1/5-07-12, university	Superbug cured by bullfrogs

Appendix B: Email interview data

1.	H130407	AM	I thought the Herald coverage was fair, accurate and balanced. I was delighted it was on the front page! It was much better than the Scotsman!!
2.	H190407, G19/4/07	JM	Both reports are completely one-sided, quoting from [name of the researcher] who want to get publicity (and hence funds) for Cancer Research UK. Hence the sensationalist strap line of "1,000 deaths from HRT". What a pity the articles did not look into the findings. The figure of 1,000 deaths was invented by the authors of the Lancet paper, and is scientifically invalid. There were plenty of HRT experts, such as myself, who were quoted in other newspapers to give the criticism of the study and to reassure women who get alarmed by this deliberate scaremongering.
3.	H020407	HC	The report was almost identical to many other newspapers and brought the right balance of scientific breakthrough and precaution that clinical trials are needed. Given the space allotted I assume they could not have done much different.'
4.	H080507	JH	This is just the Bristol press release I think. I suppose that could be construed as quite lazy journalism but it's Ok with me. I helped write it and on reflection it is factually correct but maybe too detailed and dry for most people to interest many people or for them get much from it. It is exciting stuff to us but rather far from having an impact in clinics yet. I have realised how difficult it is to convey scientific jargon in a generally readable format. The work did get quite a lot of radio and press coverage, I guess because of the title.
5.	H020507	KF	Yes, I have reviewed the report in the Glasgow Herald and I think that it was a balanced reflection on our study. There were some minor inaccuracies including the fact that I was reported as Mr KF (rather that Dr or Professor). However, the main points came across clearly.
6.	H010507	PC	I basically have no complain about the article. The research is interesting because it about MRSA, which is topical, and potential cure from a frog. Journalists have limited understanding of biology, but this is not a criticism because it's not their job. Journalists also make a fundamental mistake for example in the difference between bacteria and virus. I have to think quite hard to explain to them in laymen term. It makes you aware how important communication is, in terms of extending your work to people. This has been a useful exercise. There is

			no inaccuracy and the research is reported reasonably well. Many of the newspaper use the standard AP statements. I was going to say that there's some element of hyping up but I don't think so. The hyping up comes from the university press release. It's deliberately written to make a splash. The PR is heighten-up, more than I like, to increase the press interest. However, they didn't over hype it. The copy of the publication is sent to the press office and they then write the press release. I did a little bit of changes. The heading is hyped-up but it doesn't affect because it can increase an interest.
7.	H230507	SN	I think this article was very responsibly reported. I say the drug 'could' increase risk of heart attack. Reports the company¹s side to the story and quotes an independent diabetes expert.
8.	G180407	MM	Guardian had a good coverage. When they stick to the press release, it's often in a good shape. Sometimes, when journals do not contact the author or use the exact press release, some inaccuracies happen.
9.	G110407	TM	Regarding the article you attached on my study, here are a couple thoughts: They didn't interview me or [name of another researcher]. The quotes they used came out of the UCLA press release accompanying the release of the article. (1) They kept fairly closely to the press release in their article, so they were pretty much accurate when they talked about what we did and what we found. (2) The headline is inaccurate: Our research says absolutely nothing about "Why" dieters don't keep weight off -- we say only "That" that they don't keep weight off. In addition, the headline suggests that dieters won't lose weight, but in fact, what we found (and what they report in the article) is that dieters initially lose 5-10% of their weight. Our main conclusion was that the weight comes back on. So all in all, the headline is completely wrong. (3) The first 6 paragraphs are accurate and based on the press release. The 7th paragraph gives this 83% figure for the percent of people who gained back more weight than they lost. I have NO IDEA where that number comes from. As we said in our paper, and as the Guardian reported in the 6th paragraph, one-third to two-thirds of dieters regain more weight than they lost. So why now give this 83% figure which isn't even in that one-third to two-thirds range? I don't know where they got that or why they directly

contradicted what they said in the previous paragraph. Also, that 83% number is written very large in the blown-up section in the middle of the article.

(4) Finally, as I am sure you are seeing in every article that shows that diets don't work, this article ends with a quote from someone saying that the solution to diets not working is just to keep dieting. In this case, the quote is fairly toned down compared to others I have seen, in that they at least talk about exercising and don't talk about people needing to find more self-control. This quote is pretty good about saying that people need to make small sustainable changes. What this expert doesn't say is that while those small sustainable changes will indeed improve a person's health, it will not lead to much weight loss (which is fine with me, but perhaps not what the reader thinks this quote means).

(5) Anyway, I have seen MUCH MUCH worse. I would say this is one of the better reports, actually.

10. G070407 SC I wouldn't dream of categorising my work as medical research but if you're interested in what I thought of the Guardian coverage. In general, I thought that they did an average job of reporting it. It was acceptable. When reporting research that can have an even remotely salacious twist, the press generally focuses on the more sensational aspects of the story and its just something that I have learned to accept. There are aspects of the article that are just plain untrue and it is clear that the journalist has not read the journal article that reported this work. More likely, he has read some other press report (probably AP or Reuters) that has misreported the research and then repeated the same factual errors. The essential thrust of the original research was that females tend to select physically attractive males as partners and also tend to select high status males as partners. However, when in combination, the highest ratings do not go to attractive, high-status males but to attractive, medium-status men. This was quite a surprise and we proposed that it may be because men who have so much going for them may be less inclined to be faithful, or at least may inspire this perception in women. The too-good-to-be-true tagline comes from the original paper we wrote but the word *true* was meant in the sense of fidelity rather than the normal sense - something that was lost on pretty much all the press reports I saw. The top column heading on column 1 is a clear mis-statement and it certainly was not the case that success and good-looks were a turn-off. We never claimed that it was. In fact, attractive successful

			men received the second highest ratings in our study. The last line in paragraph 2, concerning time available to devote to family, is repeated in the last paragraph of the article, and is utter nonsense. This is an explanation of our results that we completely discounted in the original article and we explicitly stated that the pattern of results found was absolutely nothing to do with the amount of time that different men might devote to family. Nevertheless, it is something that has appeared in pretty much every single press report about the research. The box in the middle of the second column, 186, I found utterly bewildering. I know that the Guardian likes to have figures dotted around the newspaper to break up the text, but this seemed to be pretty facile to me and I really didn't understand how the number of respondents we had in any way adds to the report. In general, the tone of the report was about what I'd expect for a newspaper - it was more sensational than the original journal article but probably about as sensational as it needed to be for a national newspaper and the attention of the layperson. I wasn't disappointed by it - part of me was concerned that people might read the factual errors and be misinformed, but most of me thought that no one would really care all that much either way.
11.	G060407	MC	The report was excellent and they really did a good job. It is not easy at all to explain the scientific results in lay term. I hope most of the audience got the idea about our discovery.
12.	G310507	VG	In general I think they did a good job of reporting our study and with getting other comments and background material. It was in a different study that we found that antenatal anxiety was associated with raised levels of ADHD in the child, but that is rather a minor mistake.
13.	H290507	CE	They were good to cooperate with. The journalist concerned listened carefully to what I had to say and quotes were accurate. They gave the study a good amount of space too and in good locations in the paper.
14.	G180507	JC	Full details are in the recent Lancet report, but this reflects one of the major findings accurately, although the chemotherapies used were not as good as modern ones.
15.	G080507	JJ	I find this report to be a reasonable summary, and am glad the findings were covered by the Guardian.
16.	G250507	RG	The report is well written and accurate. It's description of inherited breast cancer is well done and I think it gives a fair assessment of our work.

17.	G030507	IA	On the whole we felt that our research findings were responsibly and accurately reported. In conjunction with the team from Human Reproduction we prepared a carefully worded press release conscious that our findings were preliminary and keen to avoid 'sensational' reporting. The title of the article attached may however be slightly misleading as fertility was not one of the outcome measures of our study. Our findings were reported in a number of other papers and as far as we are aware these reports were acceptable, however the findings also appeared on a number of websites and I am unable to comment on the reporting on all of these. By sensational I mean that we were keen to avoid 'over extrapolation' of our results extending the conclusions from the finding of increased DNA damage in sperm to fertility outcomes which we did not measure.
18.	G150507	JL	It is not actually too bad at all - it convey the central point nicely
19.	G310507	HD	The findings of the study were reported accurately, and the concerns voiced in the article are well founded. I should point out, however, that [name of another researcher] is the person who conceptualized and carried out the study (copied into this e-mail), whereas my main involvement came later, when it came to writing up the study for publication.

Appendix C: Transcripts of interviews with the journalists

1. Interview with *The Herald*'s health correspondent (HC) (H26/4/07)

HC[19] And it's funny cos I guess ( ) you're trying to penetrate to them and understand how it works. So and at first it's a bit like, yeah, I mean, it's hard to ( ). And it's really nuisance isn't it. It's not like it's exact science. I mean how do you know I mean if you look at the [name of a newspaper] today, like this story here

I Ehm

HC Right, no one see this story except myself and I thought oh I don't know is that interesting? I didn't know about 6 deaths actually

I Ehm

HC Which is quite good. I just knew about the cases being up but it's not up very much. I mean like, let see, out of 59 cases ( ) and so far this year and then up to 42, so that's like an extra 12 cases? No, 52, an extra 17 cases isn't it? Well it's not, see what I mean it's all ( ) isn't it? So I thought well it's not really that interesting and it pays a leading in [name of a newspaper] and they mentioned that to me yesterday and that potentially you know

I In Scotland or is it in the UK?

HC In Scotland

I Scotland

HC Yeah. So there there's a report that comes out every week and I check it and I saw that and I thought ( ) So I think it's much more important actually. It is much more important I mean ( ) as a potential to change obviously and the same as that ambulance reception is brilliant because we have a splash on the ambulance stuff ( ) and it was very good.

I Ehm

HC So I think what we did was more important but lots of worry about meningitis

I Ehm

HC So you can argue that I made the wrong decision there ( ) is not that interesting but you can see there the process of picking story

I Yeah

HC I made a choice. It's a bit worrying.

[19] HC refers to Health Correspondent and I refers to interviewer

I Let’s see you are not covering a conference right?

HC Ehm

I What kind of news are you covering? You look at the journals?

HC Yeah, well, that’s just, that’s just like ten minutes work

I So what are your other sources?

HC Well talking to other people I guess. So just talking to members of the professions about issues that come up

I Is there certain people that you contact or?

HC Well, my contact book. So it's like, it's not an exact science you know, it's just a matter of, you know you find new stories in different ways and I kinda get things from research too. So like the way the NHS run. So there's normally the government, so get press release and things, and certain things that people announce are happening, so you have to cover those, and you got reports coming out, so like, so every so often the health services report on how long the patients are waiting for example, about how the health service works. So every so often they will print out a report or something

I So they will send it to you

HC Yeah they will send it ( ) about their own research and university about what the press release is about ( ) so you have to deal with all that and in between that, what you agree is on what is the exclusive, you know, that's what they want, stuff that no one have and anyway, it's just talk to people. So you kinda have to remember things that happen. So for example, there is a government announcement, put on a government announcement a couple of years ago saying that they are going to monitor, they are going to start inspecting cosmetics, practitioners in Scotland about botox. And so if you remember, the government announce that and in a year's on remember to check that and they started inspecting how many people are failing, what's wrong with those that failing, and so that give you a story then and you remember to check and then you find out the consequences of that. So that's quite a common way of, finding a story and you put that in your diary. It's been announced and I'll check what happen. So quite often nothing happens. Like that, it's like two years on now and nothing and what's the point of writing a story about that. So that's quite a big way of getting a story

I Seems like you get a lot of information that is coming in. So how do you decide which one you are going to report?

HC It's just, well, with all the stuff that comes in, that’s not exclusive. You have to, you know everyone get ( ) you got to make decision with that on the spot and that’s just like what I did this morning with those press releases from BMA and Lancet, with press release you just look on them and you have to say well it’s all quite serious, well Scotland is, you know, it’s easy if you have a major public interest or it’s got to be about Scotland, all in pages

I But how do you know that this is what the public is interested in?

HC Yeah, well again, how do you know?

I I mean if it affects a lot so the cervical cancer smear thing, every women over the age of 20 who go for the cervical cancer test thing so I guess that's just one type of story or the big issue that everyone is talking about. So you kinda have water cooler story, you know, people talk about water cooler the next day. So for example I rang up my newsdesk this morning about that obesity thing. I rang [name of the news editor] and I'm saying I can't believe the doctors don't approve it and he replied actually I understand that, actually how are they supposed to control what people eat

I Ehm

HC So already we are talking about it and well this must be a story because we are already arguing about it. So that kind of barometer, you know you get people talking. So there's, I mean, I think I'm quite ( ) myself. If you look at [name of a newspaper]. Today. I mean, if you look at the [name of a newspaper], yeah, this is about the stupid survey that's been done by company on how people communicated through post-it notes, right, I think that's really daft. It'll be alright if it's on the post-it note thing, headline here please, or, I don't know. Anyway, so I guess if people are gonna talk about this. They think people gonna go, yeah we do that. I don't know. Let's look at *The Herald*. But obviously, I guess things that are unusual. So water cooler chit chat and what was the other topic I was talking about before the water cooler? Scottish or?

I Obesity?

HC Yeah, affect a lot of people like cervical cancer thing or something to do with pension or affects a lot of people. And, obviously unusual. So obviously a water cooler is unusual and there's a public interest. I mean, I think, well you could say that, well a lot of people are interested in the politics but it's a matter of public interest who's going to be in-charge of the country in a week's time. So, you know, and that's how we paid for this poll to be done

I Ehm

HC So you just you kinda created that and there is a public interest argument, with this, with this one on the ( ). I think that's in the public interest because, you know, it's about a treatment which Scotland has decided it wants its people to have

I Ehm

HC And now that's supposed to be made in England and ( ) in Scotland. So even if it's not going to have people talk about water cooler it's not unusual and it doesn't affect that many people because ( ) is a very rare condition and ( ) in the public interest because should we ( ) we have to with that, with the people in Scotland make a decision that England can return, when health supposed to be a devolved issue. So, so I think, you see public interest seems like a broad thing but I guess it's almost the biggest barometer really.

I So you do get a release from this source?

HC No ( )

I ( )

HC It's kinda reported in stages. Lots of things so, what happen with this is ( ) there's a campaign ( ) campaign group, and if they are big in Glasgow because Glasgow has the biggest rate of ( ) and actually in Europe. ( ) I mean it's really there. There's a lot of heavy industry ( ) ship building, which is what give you the disease in the first place. It's sort of, it's latent for a long time and it's a very deadly cancer and so eventually the campaign group is campaigning, you know, they, they follow what's happening with the treatment because they care about the people they look after, they found out the treatment can be withdrawn, so they start creating fuss

I Ehm

HC And what they did is they contacted some doctor in Scotland and they sent letters to the campaign group saying, yes, we, the treatment drug should be kept up here, and one of them is the head of chemotherapy for Glasgow so quite a big doctor and then someone, by someone else actually, they eh, we heard about ( ). So it's actually someone else not interested party who wanted to make a fuss about it and rang up rang me up. Someone I don't, well I know and well she rang me up and said oh we wanna do the

I So you get those people, I meant individual phoning you up and say

HC Yeah, if they have vested interest themselves

I Ehm

HC ( ), the drug company for example wants to ( ) you know, sometimes they'll put you on a ( ), which you can argue that as long as I'm a journalists and I know how a drug company work, I mean, I spoke to all these doctors. Yeah, so it's complicated I supposed, but it's also, you know, it's also quite simple

I Because you've been doing for quite sometimes I guess and that's why you find it quite simple. For me, you know, for me it looks complicated actually ( ) how would I know which one

HC Yeah, yeah, yeah. ( ) you probably would. If you look at those things you could probably kinda know. If you look at the motion, if you look at the motion this afternoon okay, it's a bit hard because it's ( ). So we have to go to health. It can be a bit wordy. So we go to the next sort of five major topics or something? This ( ) support where the care has been delivered locally where possible ( ). So the current report is the big report on the future of NHS in Scotland and so that's one motion and really you can start on the word immediately, you can ( ) on that. So, then we go to the next one, this conference expresses concern about the increasing privatization of the NHS and primary care, so we have, we have them as kinda topic, so we have this all motions, doctors are calling for, we are doing a story on BMA conference, you can always say doctors are calling for so we can make it simple and you just do it like that, doctors are calling for care to be delivered locally as soon as possible in-line with the government policy

I Ehm

HC And then we have, great concern, doctors, instead of calling for we say express great concern, either increasing privatization ( ) and then ( ) doctors say the rise of alcohol related death is worrying

I Ehm

HC Okay. Doctor saying, and then this conference is regarding dispensing doctors, I think is the one who can be a pharmacist

I They give out the medication?

HC Yeah and they urges their own body to move forward on this issue, okay. So doctors asked union to negotiate over prescribing issue. I guess. ( ) I don't know. So what do you think? If you have to choose one of the stories for [name of the news editor] what would you do?

I Privatisation is quite, it's been discussed quite a lot recently as well isn't it?

HC Well yeah it's true

I Alcohol related death as well, I mean alcohol and smoking is the one to

HC Yeah

I This I don't think so

HC No

I This, probably not

HC Yeah, exactly, exactly, they are exactly the same. So if you have to put them in order, you would probably put that last, and you put that second last, and this one again I'm not sure either, I mean I'd probably ( ) but at point the past ( ) into it definitely. And the problem here is got to do with the wording too, you know, doctors violated is obviously doctors talking to doctors and doctors are calling for, I mean, it's quite meaningless isn't it? What they on about, yeah,

I Yeah it's very confusing

HC Yeah, and I kinda know why he's talking about and it's all a bit political, you know it's a bit, you know, not very clear on what it means, and they are only calling for it, whereas expressing great concern immediately sounds more, powerful doesn't it? And and ( ) process is worrying, they immediately sound more urgent and pressing then calling for

I So if this were to be put differently by, in the motion, would that affect your decision?

HC Doctors expressing great concern when care is not being delivered to the patients and

I That would be a story

HC Yup

I So you would normally give this to [name of the news editor] and he'll decide or?

HC I'll, yeah, I supposed it's kinda refining process. So I would do what we've just done and I wouldn't even mention this one to him ( ) and I might I might test this one on him and see where he goes. This is the whole agenda for today then I would ( ) and as it is cos we've got other important stuff so there's no point wasting his time on other stories. There's only so much you can put in the paper

I Ehm

HC ( ) I mean you could fill the whole paper and more couldn't you ( ). So obviously you can't do that, you know. So yeah.

I Do you have a limit on the amount of health news that you can put in or

HC It's not, it's not in the kinda formal way. So, we will, and I'll have to watch to cos I want my story to get a good slot and my exclusive, so you kind of play a bit of a game yourself, if I, if I know that there's a health report coming out one day ( ). If someone saying to me when I'm going to get an exclusive ( ) Friday, I'll probably say to them, well, can you actually give me till next week cos I know that there's going to be this conference on Friday. ( ) and they like ( ) and that's why it's quite, yeah, I'm sure if you talk to all the specialists at *The Herald* you'll find that they do things differently

I Ehm

HC Because it's not like it's all written down.

I Ehm

HC It all varies, you know all of it is got to do with chatting to people, building a relationship, seeing things, asking questions, remembering things, writing down in your diaries, and then, it's all quite subjective. But you could, you knew it exactly yourself ( )

I But do you have like a certain, is there such things as guidelines that this how you choose a story

HC No

I You just know that

HC Yeah and, of course, I went to, I did a postgraduate course to learn how to be a journalist and I've been a reporter for 10 years but no cos, so of course you get better on it or but not cos like you see I've missed stuff like today

I Well you didn't think that, you said that you saw this but you didn't think that it's important

HC No. But having made the phone call and ( ) the desk, I would have known ( ) and I chose not to. So you have to prioritise and when I called [name of the news editor] back and he said ( ) and he was like oh it's not a problem. He's very cool about that.

I Ehm. [name of a newspaper] didn't cover your story as well

HC No they didn't ( ) and the question you always have is ( ) and I think mine is much more important ( ). I guess if you work in style or something, it's very easy to see how you are performing because you can ( ) but in journalism. It's much more subjective than that ( ) and if I don't keep doing that well, they are not going to let me have the page nine lead ( ). They know [name of the health correspondent] has been working really hard and she's been giving us a good story ( ). But you know, it's a subjective thing. Just because nothing is coming in and they suddenly [name of a newspaper] can beat me ( ). I think if I have a splash on Saturday, they are not going to ( ), you know, it's not very

I I see. Oh, what about the headline, how do you decide what headline to put?

HC Well I don't do that

I Oh, you don't do that? So you just write a story and you give it to [name of the news editor] and

HC Yeah and [name of the news editor], there are people working with [name of the news editor]. They read the story basically, it's their job to come out with that schedule so we know what's happening this morning ( ). It's up to them to pull that together, with everything on it, and make ( ) they wanted to say. So they basically create the story on the papers, they are the one ( )

I ( )

HC Yeah sometimes they will ( ). It's unusual to see it completely rewritten

I Ehm

HC But they would like probably change a few paragraph, I actually get that less now, you get better, you know you get better but it still happens and say are you alright with this? But it's quite rare. *The Herald*'s quite good at that. If you work with [name of a newspaper], you write a story, they'll just rewrite it

I You mean you write your story and they'll rewrite everything?

HC ( ) [name of a newspaper] tabloids are like that. In tabloid it much more like, there is someone who get the information and I write the story and the people who are experts are supposed to rewrite it and tabloid and you know they kinda [name of a newspaper] it.

I Oh

HC So everyone should know how to do it but I think it's much more likely that they ( ). Anyway, the news agency will do a bit of a ( ), but after that there's what is called the sub-editors

I So you've got the news editor

HC Reporters send stories to the newsdesk and the newsdesk, and they they're checking whether it says what they wanted to say, whether it reads okay, and all that kind of stuff.

I So the newsdesk put the headline and they put the layout?

HC Yeah, and, they put the picture in.

I Ehm

HC So I have no input for the headline at all. Absolutely none

I And then the sub-editors?

HC Well I don't really know. ( ) the printing press and appears in the papers

I So is [name of the Editor]

HC Well [name of the Editor] don't do that whole process really

I Oh okay

HC I guess when they have the conferences but generally I don't think they talk much about headline

I So what do they talk about in the conference?

HC The talk about, well you'll see tomorrow. But they'll going like what comes in page one, what comes in page two. Sometimes, sometimes I think they get into issues. Oh that's quite an interesting story, that's quite ( ). Sometimes I think they just chat it through but ( ) putting it together

I Why, why are you not in the conference? Is it because it's just for the editors or?

HC Yeah, and then there will be like the subs, have a chief sub

I Oh okay

HC So you have the chief sub presumably have some kind of say on what they are looking for. Cos I I don't work, I never work as a sub ( ). I don't really know what they do. Cos they don't get out often.

I Oh do they not?

HC No, no. He just process, some people really like it I guess. They they will have more hand on the finish product than I do. They will see how the whole page and see how the page really works

I So you don't really bother that you are not in the conference?

HC No. You have, you have to be realistic on how much control you have. Of course,

you get annoyed, see that story on page two about the ( ). Yeah, obviously you want it in a different page, but better story than that, but you know

I But that's page two, isn't it? So that's good?

HC Well I always hate page two

I Oh you do

HC Cos it's there ( ). So page three is a much better page. All left hand pages really. I mean it gets more attention. Page two is the worst because it's kinda sloppy I guess

I ( )

HC Yeah, I'm told about page two. They, they say that page two is the second most important but I think that's rubbish

I So what about this? Who writes this?

HC The sub

I Is there, is there anything much being change in your article there?

HC ( ) I think it's being cut slightly. No it's alright

I ( )

HC No, this is the page that, this is the page that's being cut. I'm sure, I'm very sure

I Who did the case study?

HC I did that, I did that as well

I The case study?

HC Yeah and I did the one with the campaigners

I Oh, so you approach this guy and

HC Yeah cos I ( ) and they just want a case study, like human example, to illustrate a story

I So why do you need to have this kinda human angle for medical or is this not the same for science. Like you said [name of the general reporter who covers science] cover ( ). Does he need to find somebody?

HC Yeah. No no cos he has this column appearing in the paper this week that [name of the general reporter who covers science] has some story written on page three, which he has case study for that, yeah. So he does, case study always help. Yeah, I'm too sometimes

2. Interview with *The Herald*'s health correspondent (HC) (H27/4/07)

I How was your meeting this morning?

HC It was good actually. I mean it's quite interesting. I went to see the Head of Division of the like two big science research ( ) and the other one is less easy to define but it's kinda new to the system and ( ) and that was really interesting for me. It was quite exciting because I have read about them in the past but they have kinda treatment kinda processes coming to trial and it's been really special. Because they've been very good in telling me the story bit that's quite funny, the, one of the patient that they have on the drugging has been missing for a while

I You've got a lot of news stories this morning

HC Yeah, probably the second edition one are they?

I First edition. This is the one that I got actually. So okay, does it mean that the one that I get in Edinburgh will be the first edition and Glasgow second edition?

HC I was told that that it was changed later on, that this was the first edition and yeah that is the second edition

I Oh is it?

HC Yeah

I Oh I thought, I thought

HC I would have thought like you too that Edinburgh will have the earlier edition because of, but maybe not. Maybe.

I Early edition

HC Yeah. No sorry, Edinburgh

I Oh which one Edinburgh get? It's the middle one

HC It's the middle one. There you go. Yeah. So it was changed. Yeah. West. North and north to north east Aberdeen basically the first one and Inverness. Second will be the east, basically Edinburgh and sort of going that way and then Glasgow

I So which one. So this is the second one?

H It seems all those blocks

GR1[20] ( ). I think it's got to do with colours. I don't know. How do you tell the difference?

[20] There are three general reporters (GR1, GR2 and GR3) who take part in the interview

GR2 It's the star

HC Yeah star, I thought it was the star.

I But the star is the same isn't it?

HC Must be the colour print check or something

GR1 Ah, there it is

GR2 One star

I Ah, the star. So how many editions again? There are three editions?

GR2 Yeah

I All these seems very complicated

HC Yeah. I thought. I don't think we use one actually. But it's because we broke the story originally and I was suggesting that we pay a credit for it. It seems that this on, this one, no they didn't say that. See this one. It's basically when we show a little picture of our previous headline

I Ah

HC I can't see one but. No not that one. It's just kinda like

I Yeah it's an insert but it's not like

HC No, you could argue that that was just bad subbing It's just the way they present the whole story together.

I It's not you who write it

HC No, they probably take it straight from the wires, you know that we show you. But sometimes you know you'll see like, it would be a like little section like that and kinda put that in here and it would just show a bit of newspaper cut out, they have jagged edges and it looks exactly like headline, it's just like a little inserted headline so what it would show ( )

I ( )

HC Yeah, say like, say like in three months time something else happen with the story, we would, you would have a little picture like that, kinda that, on how we first break the story. It will be about that size and it would be ( ) it would have a little ragout, kinda ragged. Yeah.

I So normally when their comments are cut, do they phone back?

HC Well, yeah, sometimes because people ( ). Scottish Executive sometimes rang and say, you know, the comment has been cut from the story and we are not happy, something like that

I But what about this, nothing from the journals?

HC No I think that's kinda different because, like okay this story is from journal but the sciency story tend to be critical I guess. ( ) But mostly they are find basically. Unless I supposed they are saying, say they are reporting a particular drug but I guess it will be something like the MMR. I guess it will just like MMR cause autism ( ) and don't give them a right to reply and that would be quite bad.

I Oh okay.

HC They might, they might. It doesn't always happen but they might do yeah, they might do yeah. Even if you're careful. ( ) about the research and you wouldn't be actually making any claim and say ( ). So they are strictly accurate in that sense

I ( )

HC So what actually happen. We do not actually publish the response ( ). You will get a phone call saying oh will be you be interested in the reactions ( ) they want to, you know, they want you to next time remember them and not be afraid to approach them and ( ). So they probably do it in a softly softly catchy

I ( )

HC The response, the drug company. So I guess, we did the press release and we did the story but we didn't get reaction ( ) and put an allegation to them and they will, we are getting their reaction to it. And then, yes so if we didn't do that we'd probably, didn't report it accurately but they wouldn't correct too much on that. They might approach us and try to persuade us that the future that we should

I ( )

HC Yes, yeah quite often because the press release that they give us, as you see, they are quite short and they are often quite sciency. They don't often tell you much in there so yeah, so yeah

I There are a few jargons that I'm quite confused with

HC Yeah go for it, it'll be fine

I This x-references?

HC It's cross references inside, so no, because there will be other stuff I think

I So to indicate that there are more stories inside

HC Yeah so it directs readers to other to other related stories

I Is this supposed to be in the back page or something?

HC Yeah I think so. We've got, oh this look

I What what's sidebar?

HC That's actually, no I don't think, yeah, it's actually just a little story, yeah.

I So sidebar is a little story?

HC Yeah it is really, it's like, in a way that is not a sidebar, this is more like a sidebar. But you tend, well, that is not a sidebar it's quite long. But you tend to do it when, if the

I More of a general thing

HC Yeah, you got it as well, it's interesting

I More from PA

HC Yeah, no byline. And they didn't write that one either that's why

I So you will know where this is from?

HC You can't use that as a rule of thumb because some papers do it differently. Sometimes I'll be like today this afternoon I'm going to write this story ( ) and some papers have what they call house byline

I What's that?

HC Yeah, it's like, this is a byline

I With your name and your title

HC Yeah

I And your email address

HC Yeah but byline is basically just [name of the health correspondent] but if you have house byline is like someone doesn't really exist

I Ah

HC You see some newspapers instead of having it without byline, they make it across the paper with joeblogs. It will be an equivalent little box say joeblogs. Sometimes we laugh about it internally

I Joeblogs

HC It wouldn't be a joeblog, it would be something more conventional [a name] or something. And sometimes, it does happen like for example [name of a newspaper] we can make a phone call saying that oh [a name]

I Oh that's interesting, I never heard that before

HC Yeah, yeah, it's quite normal, yeah

I So how do you know which one is the house byline?

HC We don't know that

I Oh you have no idea?

HC No but of course someone has written the story and someone else might have twinkle with it and it will go the newsdesk and ( ) but it is not well researched

I Does *The Herald* has any house byline?

HC Yeah, yeah. I don't know if we have any house byline. We certainly do. [Asking other reporters] Do you know if we have any house byline?

GR3 [a name]

HC [a name]?

HC Do you? Would it be helpful to know? If you want I can try to find out.

I Okay yeah it will be good

HC Yeah. [a name] sounds familiar

I It would be interesting to know

HC Yeah.

I So is there a difference why, I mean

HC I think really no, but essentially I think these are all the new stories inside and this is on the front page

I And it's just for recollection

HC Yeah it's for recollection

I ( )

HC We have Angelika inside ( ) but yeah turn to page five. So we have a fresh story on page five I guess

I ( )

HC I don't know why that

I Yeah, why?

HC It may just be, it might not have a particularly good reason. It may just be because just like it's what he's done, there's a kinda theme inside aren't they, in a way. So you have the whole GP conference and we are going to have Angelika everyday at the moment and we always going to have the election ( ) maybe that's why

I What is UNS?

HC I showed you that on the wire. Do you remember that we always gets it from the wires

I Oh it's just one of the wires

HC Yeah it's one company. See when it says Corr, that refers to a wires story really

I Oh I thought it was a person's name

HC No. So it's not PA cos it'll say PA but Corr is kinda seems to me like another freelance agency. I guess

I But you said UNS is just one, isn't it?

HC Yeah a particular agency

I ( )

HC So these are all the different agencies and that's United News Service, which is UNS

I So you were saying Corr is another

HC Yeah it doesn't refer to any particular agency, just means any agency, any news agency. That's probably, a lot of the other. So Corr maybe just kinda we say it, you know, it's just a newspaper jargon thing that might just [name of the news editor] shorthand

I But this is without, without the newswire at the back

HC Yeah I guess not yeah. I supposed somebody who use it all the time and maybe he puts up there for billing reason even, but generally it means the wire service cos when we file in a story you have you supposed to type it in, he just call it that way probably

I What does this mean?

HC Exclusive

I Exclusive. What does that mean?

HC So and you know how I was talking about how they always want to find an exclusive. So that, you know, no other papers supposed to have the story.

I Ah

HC So and then and you see Saturday's paper with a cancer story at the front, it had exclusive on it

I Ah, so that means no other paper is doing it

HC Yup. And I supposed that I mean I think that newspapers paint too much story on it but it seen as a good thing

I What is this?

HC Yeah usually a little ya fourth by fourth number. So usually it's like a little, here we go like this. So I mean actually that's pretty ( ). But it's like a little, there you go that's it that's the very panel. So it's just like it's ( ). Actually she got downgraded from the lead as well.

I Sorry, what is the leads again? Leads?

HC It should be there ya. It's a, yeah, it's not usually, we can have panel that is text as well but it's a little bit like a supporting information and quite often they are not written as a narrative, they're quite often bullet points or numbers or

I Okay. This is supposed to be a person's name

HC Yeah that is.

I Sorry x-reference is what again?

HC Cross reference

I And what is

HC Oh she is one of our columnist

I So it's a person's name

HC Yeah, it's her column

I And it will be written by

HC Yeah, the news story will be written by [name of a general reporter] and its cross reference [name of a feature writer] twelve, her column must be on the same subject or something on a similar subject. Okay. So she's written about ( ) issue as well

I So, EPL?

HC EPL, that's again *The Herald*'s shorthand really. I don't know whether that happens in, no that happens already, it's Early Page Lead. So it means that they'd like the copy about three o'clock in the afternoon. I don't usually get it but some people do sometimes

I At three o'clock? Is there a reason for that?

HC Why it would be an early page lead?

I Ehm

HC Well, in theory they should check something choose something that is quite easy to turn around and what you have to ( ) the people in the subs have to design the page and put them together and they are waiting for me to give it. ( ). So they like to get the copy flying, you know, they have to come in early and they have to work on

them

I Okay

HC Well all the subs come in later, they always come in later in the day and check later in the day

I But how do they know that this has to come in early?

HC How does he know?

I Ya. You were saying some story has to come in early so how did the newsdesk decide that this story has to come in early?

HC Well obviously some couldn't ( ). We know that some will come in at four o'clock or whatever. So something like ( ) you can never do that because he has to wait until the court session through. But if it is something that is relatively simple to turn around and if it doesn't change much then we can pick that one

I So what's this?

HC It's the combination, we are taking something from the wire but because Alan adds something to it as well

I But if you were to take some information from the wire, does it not have to be written as wire as well?

HC Not necessarily, no. Sometimes, it's not really exact science

I Okay. This is exclusive and this

HC That's a little weird cos that cos that how can it be a Corr copy, maybe Corr not refer to anything in particular so that's possible. So maybe a journalist, a freelance journalist has given a fact story and that would explain why it's written like that. Some of them specifically phone and say have heard of that, I'm a freelance current news story and look at whether that is what we are looking for. So they phoned up, yeah.

I So the limit of the word?

HC Yeah cos that, sometimes you don't get the word kinda thing, that's like a sketch so it could be as long or as short as you want really

I So what do you mean by a sketch?

HC It's not written like a hard-news story. Quite often you get a sketch, they usually about a debate or something and instead of like saying politicians agree with this or that, you know it'll be kinda, it's usually kinda humorous and anything have characters. It's quite often I find it quite stupid. Often ya they're they're funny take. And this In-hold. That means that somebody has written it and that is in the hold box.

I It's already been written

HC Yeah

I So okay. So it's been written and so that means it's just waiting to be published?

HC Yeah, he might do that cos [name of a reporter] has been going around and just chit chat on the ground and I guess he doesn't have to do that, cos on that day ahead he can do that, ahead of time and write up, yeah. You don't realise how much jargon isn't it, in your own world?

I I was trying to I was just trying to work out if there is anything

HC Yup, I was just trying to be helpful there

I That's just

HC Ya just a little story. It's not very much of an issue, but we don't, we don't do that kinda, ya that kinda thing, it's not very important. Ya, that kinda small story

I ( )

HC It's been going around the wires. See that one there

I ( )

HC It's possible that in the Aberdeen national paper that we have he had a longer story as well maybe. Yeah.

I So are you writing anything from the journals?

HC No, they already embargo for today cos they all have to come in today pretty much so it's just

I ( )

HC Yeah. But it's interesting because we see that in the morning and it was one story on the ( ) isn't it?

I Yeah. So will you be writing anything for tomorrow?

HC I understand that I'm supposed to be writing about the junior doctors row

I Do you see the one, well, do you remember the doctor was mentioning it was actually the one in the *Metro*. One of the doctors actually mention about it, that the *Metro* actually publish some of the names and sexual orientation

HC Yeah, yeah, did he actually

I He actually did. ( ) I didn't get the *Metro* yesterday

HC Did they actually publish the names of the doctors that

I I think he was he was, what I understand he was saying that they actually publish some of the names

HC I find it unlikely. Maybe he just saw the story in the *Metro*

I If I understand it correctly it was actually published in the *Metro.*

HC Yeah maybe

I Oh, there's a splash here as well as, this is like what was it again?

HC You know, the little kinda comment

I ( )

HC That's an agency as well

I What is reaction? Oh, you get a reaction from the people that ...

HC And sometimes it's not necessarily the people that are that the allegation against, sometimes it's like, if we got a reaction for this story, not that story this story. You could've get reaction from people who agree with them as well so, see it would be nice thing to

I Would it be the readers or

HC This one just from, actually that might not be a very good example but sometimes the story that comes out saying, you know, everyone is drinking too much story, then you could've then go to someone some campaign group on alcohol and you could've saying that doctors yesterday saying about drinking too much alcohol what are you going to say about that? ( ) you get reaction too, you have positive reaction as well, defensive reaction

I So these people actually phone you up and say

HC Sometimes, they do, yeah they do actually, and sometimes they just come in an email. Sometimes you could just send an email commenting on the story. That happens all the time

I Alright. Then you would then you would put it in the next day paper

HC Yeah, depend ( ) sometimes some reaction got deleted ( ) pretty much go to the SNP and get reaction about something everyday

I ( )

HC ( ) say shambolic so hopefully that's from the wire. Yeah it is. Because it virtually exactly the same word, I think. If you take them, the government expect to come under fire, the government expect to come under fire

I Why is the shambolic highlighted?

HC It's because they are quoting someone who said that, someone that one of the junior, because, actually to be honest, the mess around the junior doctor training programme is clearly in shambles so probably we could say that, without being ( ) and it would be okay because you can defend it in court and say that well this is

clearly in shambles, you know, publish the name and the doctors today are saying that ( ) is inappropriate, you know, that all these people that are interviewed ( ). So it would be a legal defence. But it's kinda protection thing against, you know, a law suit because somebody has said it's shambolic ( ) or emotional and it's not PA saying it's shambolic, they are quoting somebody else and then if you are going to do it like that it's just should be somewhere down the story, the quote that support that should be in there. Actually it shouldn't be highlighted cos it should be there really. I mean I think that headline is badly written

I Is it?

HC Ya, why you don't need to say that the government is under fire ( ).They don't need to put that the government is under fire in quotation

I Oh that one

HC Why they come under fire? They don't need to do that. It's expected, not that it didn't happen

I How long does it take you to write this?

HC Well, it's a page lead so they are probably 600 words

I That's for general page lead?

HC Yeah, it does vary, like this is only 500 something

I Oh this is a briefing

HC This is a briefing. It's what is in the paper. I don't think we should call it a briefing. It's telling you what is in the paper, it's a content list. So I think we should call is insight because it's what is inside the paper or the paper will be inside or something like that, I don't know but

I Oh you've got a medical dictionary. Do you use it a lot?

HC Not a lot but I do use it. It's for some of the terms when you want to look at the definition, looking for a definition you know

I Do you normally put it up, you know, when you write, do you explain the terms that you use?

HC Oh, I nick words from it

I Like the mesotolamia thing, you explained a little bit, you mention that it's a cancer

HC Ya, I tried to explain that stuff to people

I Do you get that from a dictionary or

HC Oh well, I got it from the NHS. It's actually the English, NHS 24 in Scotland, the equivalent of the English. They have a very good website and you can look up a whole alphabet of definition. I do that and look it up, just to check. You kinda know

but some of the terms you just want to phrase it correctly

I Yeah because some of the terms that people don't really understand, some of the medical terms are difficult to understand, like you were talking about some of the journalistic jargon, medical jargon is the same.

HC Ya but Quality Outcome Framework I struggle a bit. So I actually typed the Quality Outcome Framework in the computer yesterday. It's actually in here, in a second paragraph, I called it a, their incentive pay scheme and that was because I typed into Google and I found that it was actually in the website and it said

I Oh it's a actually a pay scheme. I didn't know that

HC No, I think it simplifies it a lot

I How does quality and outcomes got to do with pay scheme?

HC Well, it's actually an incentive programme and that is actually in the website. It says UK but ( ) because it says the GP incentive, for example, every patient with diabetes they are going to monitor their blood pressure and you can treat it but it's ( ) they kinda get rewarded if they can achieve the 95% say of the patient. So they have an incentive to get the patient to come in and check ( ) and the doctors can hire more receptionist or something, make sure the letters went out and the reminders sent out get the patients to come in, get their 95% up, get them so that is more of service and quality ( ) and they bring down the blood pressure so I guess that would be an outcome and they would get more points and more money if they manage to do that. Does that make sense?

I Oh ya. So how do you decide which one

HC Well I think that story is not a bad example because

I Ya because there are a lot of quotes

HC Ya ya, I mean in the way quite often the way, if you picture your ideal top quote is the most attention grabbing, so it's the most dramatic

I So if it dramatic it will be attention grabbing

HC Ya I think so or affecting most ordinary people

I ( )

HC Ya and ( ) it's more complicated in a way but then he said how exciting this is and he said to be honest it's quite. So okay, everyone likes to have a drink so I guess that kinda thing. If you want to cut the top you cut the bottom sorry, you kinda need microscopic of the story that summarise it in a way. So you go with your intro which is simply the most attention grabbing and then you would do that quote quite high up and then lower down a quote that's saying oh we were really please to put a lot of money in the university, you know, ( ) would say oh did you hear the scientist who is drinking

I ( )

HC ( ) something out of the ordinary. Like scientist drinking is unusual but university getting money is happen everyday. So in this case, the quote is quite good because ( ) sounds quite bad and it affects the family, which affect a lot of people. Affecting a lot of people is quite a good barometer sometimes. So also the scientist said today, you know, millions people can benefit from this and that one you can put it quite high up and lower down you could say oh everybody has this protein, that kinda background information, you need it in a story to explain a story but you put it quite lower down. You tend to go for the big bold statement on top and then you get more into that explanation lower down. Probably it's the first quote in there.

I Well actually there's no quote

HC Exactly. But it's the first quote ya

I Ya it's the first quote

HC Ya

I Do you always have to have a quote in the story that you write?

HC If that page lead, ya.

I So you have to say that this person says that

HC I don't think I can't think I ever have a page lead without a person's quote in there because that's probably not what I'm saying, you know, I'm writing about other people's opinion so you pretty much have to quote them. You get suspicious if there is no quote in the story at the back, I do anyway

I Is it because ( )

HC Just because ( ). For example [name of a newspaper] do quite a lot. Say there may be like a flu outbreak and the [name of a newspaper] top line saying this is the worst flu outbreak ever known and then three quarter down the story they'll quote from the expert that I speak to and he'll say, you know, flu is a bit up last week but we are not too worry about this yet. I'll get a bit suspicious and, well you know, your top line doesn't really supported by the expert

I Probably because it's more attention grabbing?

HC Ya exactly

I I see. I noticed that this is always in capital, like the beginning or something?

HC Ya, it's like historical newspaper thing. They must have looked better, I guess. It's quite normal. And if you have a as the first and you use the second word in capital

I Sorry. Ah. I saw that this one has no title in it

HC Sorry

I This one has no correspondence, is it because it's shorter space?

HC Well, general reporters also don't have a, we are not all correspondent

I Oh I see. So general reporters do not have a title

HC Ya cos, ya. They should have probably say general reporter

I Sorry?

HC They should have probably say general reporter, ya. Because people that do not have particular because there are more general reporter than there are

I So general reporter quite a lot, they cover quite a lot

HC They cover ya

3. Interview with *The Herald*'s Editor (E) (H27/4//07)

I From what I understand from her yesterday, journalists is just one part of it and there is the newsdesk. So it's a joint combination of a lot of people doing the work together and that's what I'm interested in

E Yes. Alright, alright. Okay. The whole process, the processes don't start when we come to this point in a day. The processes actually start a lot earlier. It starts when we have our first conference at ten o'clock in the morning. We then have another conference at half past eleven. We then have this conference at four o'clock in the evening and then after the first edition, you know, and then we'll look again at the paper. And this part of the process here is all about achieving balance within the newspaper itself. Not just for a health story

I But overall

E Yes overall and you know we have, you know, guiding of all sorts here not just the strength of individual news stories but because we live in a twenty-four seven news environment these days. How much exposure those stories have elsewhere, for example, the stories that we have this morning, for example the democratic candidate or Professor Hawkings in space

I Ehm, yeah

E Living in a simulation in space. No matter how good the picture is, the story has been running all day on the television so, it would be wrong for us then to present that near the front of the paper tomorrow because people are not interested in the news that are already been and those stories tend to get pushed to the back, in a context of the overall paper

I Ehm

E So it's that kind of news judgement going on. There's also the balance between, you know, we're in the middle of the election campaign. Much of the likely coverage was discussed in great depth earlier on. So we are just kinda confirming at this point what we can do and the kinda big changes is the poll we expected to get is not happening for us so we have to take that into account. So in making final decisions, you know, as well as the strength of the individual news stories then we have to look at the exposure that have been going on and then we have to balance our choice on the basis of what is the most important story for *The Herald* tomorrow and, we all must think about tomorrow and not today. In the Scottish, in the UK national and international. We are, we are a local in a sense that we are a Scottish paper and the national paper that cover the whole of Scotland and circulate some part of the UK, although not all, and an international paper in a sense that the readers expect to at least get a flavour of the major international stories. So in that context we'll also have a specialist like [name of the health correspondent] who is working in health and often producing very very good exclusive on the health. But on any given day the strength of her story has to be weighed against the rest of the news agenda in terms of what we do. The story got knocked out because of some of the bigger agenda. If that makes some sense.

I Yeah, that makes a lot of sense.

4. Interview with *The Herald*'s Editor (E) and Deputy Editor (DE) (H14/5/07)

I Okay so, what, I'm still trying to work out the journalist who is writing the story and you have the newsdesk can actually come out and tell the journalist that this is actually can be an interesting piece to write about

DE First of all the journalists have to pitch their ideas to the newsdesk, so the first port of call to [name of the health correspondent] she has to write the story which will go to [name of the news editor] or whoever in the newsdesk and say story x. They are the first I supposed

E Sounding board

DE Yeah that's a good story or not sure about that and they're the first indicator in how they see it fits in the day's news because the newsdesk would know what other events are happening either live or planned in terms of the schedule or the diary and they make the first judgement I supposed on whatever story health or whatever within the news schedule

I Oh, okay

E We have some fix parameters under which you know disciplines I supposed. This is the page of the day. This is what we call the dummies or the book

DE ( )

E Page one for example, this the advert which is on page one and page two is the weather and so on as you go through the book, the adverts are already booked and placed but we'll have a bit of negotiations usually on where adverts follow because we wanted to do for example say we wanted to do last Friday or Thursday Tony Blair's stuff , we want to clear space here so we need to move some of the ads here so there's a bit of ( ) between editorial and advertising and of course at any given day to move adverts and then place but we do have a fixed number of pages within which we can work, that goes to pages we've been discussing the Opinion page of the day there's no adverts in. I mean from the back we have these pages

DE ( )

E And then Features and there are a couple of pages that comes in after the Focus page that have to come before Opinion which is kinda news features of the day ( ) then we have the Opinion then we have Features. So that's the structure of the day and we tend to follow hard news, the softer news i.e the news features, opinion on the days event, and then to features you know which can be based on that day's news but more on that doesn't usually fit into the wider news general agenda and sometimes can be quite hard and sometimes can be quite soft. ( ) that can be something like health feature, can be a big interview but it's there to complement the hard news of the day if you like. We have to balance what we do features again if we have a particularly heavy news day and we choose a lighter feature element to adjust to, to give it a lighter shade. If we have a light news day then we have a harder features area

DE I was just saying to Imelda that health is one of the priority

E ( )

DE ( ) you know we have health inequality in Scotland and particularly in the West we have people whose life expectancy can vary. If you live ( ) you have ten years more and if you live a mile down from ( ) you know then the rate of heart disease, obesity, and cancer are enormous. So there's a lot of people ( ) to them

E And particularly among our readership is eighty-two percent are ABC1, top category of sort of ( ) and they are also interested in health from a wide point of view, you know, they have a great concern for their own health and well being

DE And also doctors as well

E So as well as looking at health issues we also look at sort of general health reporting health well being. And there's when everybody comes to choosing stories on the newspapers, not only choosing based on the news values but also choosing on what interest our readers and you know we're trying to target their selection in terms of I'll give you a sheet which sums up who our readers are and what kind of social categories they fall into and what interest them

I How do you know that this is what the readers are interested in?

E Because we've done our research. Let me get you this

DE In every newspapers you have to know who your readers are, what they are interested in. An in terms of *The Herald*, because you have very intelligent very engaged readership who don't want a diet of celebrity or ( ), don't want reality television, they want to be engaged with politics, very into the arts, very into environment and all the implications of climate change etc etc ( ) challenges to provide them with intelligent news everyday and if you don't they'll tell you. So that's what interesting and ( ). But you can affect change, you can have an influence on the government policy on matters on health and environment and everything else because you have a quite powerful people, a quite powerful readership

E So that's a little snapshot of the person readers group, what their ages, what their favourites and some of their interest. This is we have a split you know around Scotland and the main topics that we're interested in. So all the newspapers do that but we don't do it in that format to be perfectly honest

I Is that every year or every six months?

E Well we did this last year and we'll do it again at some point this year. From year to year it doesn't change much you know. If you look at ten years then you'll notice more ( ) but that gives you a flavour of our readers

DE There's an interest in medical and sixty-two percent is quite high percentage. And in terms of the health and medicine we're not the same as ( ) it's about issues on pollution

E In opposed to ( ) issues

DE On more strategic level ( ) more about NHS24 I think in that way is good a lot of policy on the NHS24 has changed

E And it's the paper like this you're saying can change hugely influential. Eighty-three percent of the MSP read *The Herald* and we hope the things we say on the leader column can and does influence the quality of ( ) in Scotland and that's a huge responsibility and that's why our leader writer like [name of the managing editor] are superb

DE ( ) the other one is about junior doctors

E ( ) picked up and they are now looking at the whole issue of the junior doctor recruitment

DE I mean it becomes a national campaign. [name of a newspaper] picked up after we have it here so you know they have that support of broadsheet in England as well

I So how did you first get the story about the junior doctors?

E It was [name of the health correspondent] contact. Some junior doctors advised approached [name of the health correspondent] through one of her contacts and they originally raised their concern with us which we then looked at in some detail. It's very unusual doctors are very conservative bunch, even the junior doctors. It's very unusual for them to go public with their concern but we have ten ( ) and we have a huge front page piece on it and we give ( ) coverage here in Scotland but for some reason it's a slow burning story. It seems to be behind the scene and suddenly exploded into life downside about six months after we originally raised that and now it's become huge national story. But it started here

DE ( ) area of policy at *The Herald*, quite a lot of examples ( ) inequality so we concentrate quite a lot on that as well. [name of the health correspondent] is in a very good position she's very good contact with the people in the medical profession and good position in NHS24 and the Ambulance Service. Not entirely every conversation end up in a piece of paper but she's well informed in terms of what's happening in NHS24 and individual connection with doctors again ( ) every time they talk to her and that's a very good position to be in

E Exactly

I Is there a difference between, because I saw that there is some journalist who is a science correspondent and some a health correspondent. What's the difference between them? Is there any specific differences?

( )

E Health is very much, we don't look at the science or health in terms of she looks like health issue she looks like story about, you know, not just about personal health and delivery of health care and the whole of health industry if you can call it health industry

DE Health and medical research following science because we're trying to explain

the science behind the research but HC is much more about policy and strategy and individual health and there's also [name of the features writer]

E ( )

DE Ya it's about personal health

E Health and lifestyle whereas [name of the general reporter who covers science] covers science, he'll cover the scientific health and medical research, not just medical research but all sorts of research, you know he covers all sorts

DE Climate change

E Ya climate change. So we have a bit of a ( ) on the production activity because people are actually trying to create you know roughly what we discussed this morning and then they come back about four o'clock, we have a conversation between now and then

DE After the ( )

E Because something might collapse after the focus on health farmers ( ) it might collapse and we might have to do something else on the Focus page. So those kind of conversation will go on in the background, you know, head of department will work on that so there are many people involve in the creation period before it goes on the production period

I I also see the there are business and sports who doesn't fall under news

DE No it doesn't, completely different and that's why the people who like [name of the Editor] and I, people who have an overview of everything so we need to ( ) in term of news, whether new things are happening or things have developed, what's happening in terms of sports, in terms of business, in terms of marketing, features etc but within these departments they are kinda self-governing as well but news don't need to know what's happening in sports but [name of the Editor] and I need to know what's happening with all of them

I Okay so they are not the newsdesk just dealing with the news

DE The newsdesk simply deals with the news reporters and with the news specialists like [name of the health correspondent] who deals with health, [name of the education correspondent] with education ( )

E So Features who you do not meet this morning [name of the features writer], he has an overview of all this area like the features writers, things like arts and cinemas, the magazine Saturday magazine Going Out section. So that's one distinct area. Sports is another distinct area. You met [name of the sports editor] this morning at the conference, you know again they have sub-editors and writers ( ) that serve all of these departments. Pictures you met [name of the picture editor] this morning and he has a team working under him, people under the picture desk plus photographers. ( ) This area here is the production team, the night editor. When all the news copy comes in all these people are responsible for packaging it to the various pages and that from three o'clock onwards to two o'clock in the morning. So that's kinda the activity in the

evening. The news editor [name of the news editor] is on holiday this week so [name of another news editor] take over and that's the kinda specialists that [name of the deputy editor] was talking about and that's general reporters. We have people on Westminster and Hollyrood, in Edinburgh, Inverness, and in Aberdeen and then we have the Society section which ( ). Online is an area which you should visit as well. We are looking at a business area here which is small but again very influential it's very highly regarded and then for Leaders you met [name of the managing editor]. So that's the kinda newspaper structure

I So the newsdesk is just this

E Ya, ya

DE Ya. But in terms of how we cover health, it's also in the Features ( ) what they are taken what Society covers. Society is very much on people who work within education, health, social work

E Public services

DE Public service

I Okay

DE So it's an important area actually

I And the subs

E The subs, subs are not here until later. But each area has a subs so it's ( )

DE They're the production team

I Okay

E You'll see all of that later on

DE Later on ya

5. Interview with *The Herald*'s Assistant News Editor (ANE) (H14/5/07)

ANE Well basically what we do everyday is this, well but we have adverts. So, some days we have a bigger newspaper than other days in terms of number of pages and the size of the pages can vary. If you look through the newspaper there, some adverts are bigger than others so, you know, we have a certain amount of variability in the size of the pages but is essentially the same. Today so what we have to do is fill that and we have to work out each on the daily basis what priorities are going to be. So, what we do in news and the same applies to all other section of the papers. Business desk, sports desk, other section of editorials, we have schedule, we call it news schedule. I will open here, and that is for tomorrow's newspaper and this is basically a list in, roughly in order priority. What story we think we are going to use in tomorrow's paper. And at the moment we have stories about Robert Mugabe, I think stripping of his degree or something like that, Gordon Brown ( ) Another year to see if there's any contest for the leadership of the Labour Party for the Prime Minister's position, there is various other mention but so far he is the main candidate. We also have a story that [name of the health correspondent], medical correspondent will be working on which is about a small but significant decline in the level of breastfeeding among Scottish mothers. So those are three stories that [name of the news editor] put that on top, at the moment. The other obvious one is the story among the missing four year old girl in Portugal. It relates to the Gordon Brown story, the story about the Deputy Leader of the Labour Party, John Prescott. The Deputy standing down at the same time as Tony Blair and in terms of the aftermath of the Scottish election, a week ago you will find that Dave, who'll be the presiding officer at the Scottish parliament, that's the person who effectively chair all the meeting and, you know, all the meetings of the parliament, because the person who has done that is standing down cos the new set of parliament, you know, after the election. So these are some of the stories that are, you know, we put at the top at the moment. We also have stories that we call leads, so these are other leads story, smaller stories that we set around that

I So the leads story will be the biggest

ANE It's the biggest story yes on page seven for example and page one, that one there, ( ). So these are stories that we want to give a fair amount of attention to and cover in reasonable depth but may not necessarily be, you know, contenders for the front page you know, it will be an inside page lead. One is about church of Scotland controversy over same sex partnership, you know like gay marriages and that. This is another one that a nursing care home, nurse tribunal over allegation about accessing pornography in residence. So these are some of the stories that we are working on currently and going further down schedule, the other section will be smaller story, these will be just stories that will be that sort of length and so on, going further down less priorities

I Is there a limit on the number of words

ANE Yes, I mean there is a limit on the number of stories that we get in the newspaper anyway because we only have so many pages, you know, it's very you know finite and once we established what priorities are, anything that's futher down the list ( ) will be a smaller story. So what we do is we assemble a schedule stories and

we hear these stories by different means, some of these stories are what we call daily story. It means that you know about it anyway in the diaries and in the forthcoming events like press conferences, you know, so on. So we know about these stories anyway. We know that it's happening, we know that today there's something at the Scottish parliament, other things are really the latest events sort of known stories, so for example the Madeline McCann story about this little girl in Portugal whose parents issue a statement at eight o'clock this morning. So you know, that's the sort of stories

I So how do you know that they are going to give out a statement?

ANE They put the word out through their lawyers that they are going to issue a statement at eight o'clock and, BBC and Sky and appearing on the wires as well. Are you familiar with the wires

I [name of the health correspondent] did show me a little bit

ANE Basically we, every national newspapers anyway, subscribe to various services where they can get all the latest news stories that are around the UK by the Press Association, international will be the Associated Press AP or Reuters. So these are stories the latest stories that are coming in today from wires twenty-four hour service

I That's quite a lot isn't it?

ANE Yeah . So we pay we pay a subscription fee for all these stories and we can use these word-for- word if we choose or we can take the stories on and develop them ourselves and use a mix of our what our writers do and what the agency supply, but anything happen in the UK we can use Press Association

I Ehm, okay

ANE So, you know like like the may be to do with house prices, which ehm we might take a look at, [name of the news editor] do you see this government statistics out about the house price house prices house prices risen slightly and Scotland average house prices is a hundred fifty one and a half thousand

NE ( )

ANE In January house prices ( ) than in March, still riding above ten percent annual cost than government plan. So we got stories like this and every minute almost everyday. So stories to do with diet. So that's one source of stories, it's a Press Association, Reuters, Associated Press, press agency as we call them. Another source of story is stories that are provided by news agency, domestic news agency in Scotland

I Such as

ANE Well the main one here for example Centre Press agency, Glasgow based news agency, Dateline Scotland Edinburgh based news agency, they did quite a lot of quote work for us, North Scot agency an Aberdeen based news agency

I So this is also wires. Is this also called wires?

ANE Well, yeah it comes electronically but it's different from you know the agencies, the wires like PA, AP. So yeah, these people news agencies will file stories for us. Some of the news agencies are based elsewhere in the UK, some companies are London based, there's stories about ( ). So we look at all these stories and decide what stories we want to use and again we can use whatever they write or we can choose we can improve it ourselves or we can, you know, develop it and put that staff writer on that story what we use we pay them for that. Agencies like Press Association, we don't pay them for what we use because we subscribe to their service and we just pay a flat rate

I But for this for news agencies

ANE Yeah if we use a hundred percent of what they write we pay them for that

I So out of so many, it seems that there a lot of different kinda stories on wires and agencies, so how do you know that this is something that you want to put in the papers

ANE Two words news judgement. We are kinda, I kinda categorise what we do good at assessing what makes a good news story. Let's have a quick look. This is kinda soft story about ( ) I read the first three paragraph and I'm not entirely sure what this is about so if the story is not grabbing me within the first four and five paragraph then the chance is that it's not worth pursuing

I What do you mean by soft stories?

ANE Well, if you read the content ( ) Victorian checking bicycle ( )for a wacky charity ride so it's clearly a story about some charity event in which an old Victorian bicycle will be used. It's striking me like, you know, if there is a picture to go with that it might make it look like a story but it looks like something they might just want to file in our diary and possibly do a few paragraph when the event takes place. If it's a busy day and you've only got so many pages to fill, the stuff that gets into the paper has to be good you know, we need to make a quick assessment, one might take a look at but ( ). Other stories, well let's have a look, something to do with an old soldier again its, reading the first paragraph it's not it's not earth shatteringly good. These are two schedule lines, these are not stories but dateline from news agencies that are in the schedule and this is a story covering a court case in Edinburgh to do with ( ) of a sixteen year old on Saturday morning in Edinburgh two men are to appear in court, so that would be a story I think, I'm almost certain we'll carry

I What is schedule line?

ANE Schedule line is the news agency sending us a short piece of information about the story that they cover

I Ehm okay

ANE These are schedule line, this is our daily news schedule. So schedule line is just a short ( ) about what's the story is about. You know we're not putting more in the schedule line we might as well, similarly like news agency like Dateline send us stories that they are covering now. So I think we're almost certain that we are

using something from this court case in Edinburgh today the chances are maybe just about ( ) might appear in court and might make a plea and might go to trial, so there might not be much more to say at this stage, but we'll cover that. Stories also come in we get press releases. This is from NHS Scotland, the National Health Service in Scotland and they put their press release here ( ) in Scotland is released today on their website, but what they've done is they send us schedule telling us what the figures are. See it says that 2006 ( )percent of breastfeeding of babies up to ten days is up to six percent to sixty-eight weeks, that's compared to forty-five percent and seven percent on the year before, so that shows a small decline. Now that's quite interesting because there's quite high up government encourage women in Scotland to breastfeed so it's not working, we don't know why but when we look at that and we think that's quite a good story. That's why we put that at number three. So what we do is [name of the health correspondent], the medical correspondent, will look into that story, find out what she can, see what information the government is putting out show some enquiry she might get new information and we'll assess that as the day goes on I mean if the story is as strong as we think it is or maybe stronger, then it will it will potentially stay at least at number three on our list or it might go up. What happens there is what might happen to other stories. You know, Gordon Brown. We'll learn today whether there's someone else who will fight with him to become Prime Minister. Well, to be honest, the better story will be if there is a surprise candidate in, you know, come in from, you know it's expected that he'll be the next Prime Minister so if there's no contest it'll be well that's what we expected. But that story may develop and go in to the top of our schedule. So, the story is kinda moveable you know and we have to be ready to react. We need to find out what we can about a story but we have to have a base to work on and the next, within the next two quarter of an hour we'll have a morning conference at which [name of the news editor] will take in a printed version of the schedule, which he is updating as we speak, you know the, we constantly looking at the wires, we are checking emails to see because we get information through the email also

I Is this also from a press release?

ANE Yup that's a press release from College from South Lanarkshire. So we'll look at the kinda thing that strike us as news, what will be interesting and what will be going in a schedule and see what happen when it goes in to the schedule

I You are talking about a news judgement, do you use a certain criteria or how do you know that this is

ANE Not really a certain criteria, it's a judgement of a journalist like us. If you work at the newsdesk here, you do so because you know what is newsworthy and if I saw a story and they came on the wires just now really grab my attention then I'll alert [name of the news editor] to put that in the schedule

I So it's something that if you work for a number a period of time you can actually

ANE Ya, if you're not very experience then you're probably be less able to make this kind of judgement. The more experience you are like any jobs the best you get at it you know. So that's part of the ( ). Now what happen is another source of story is of course from our own staff writer in here and Edinburgh and Aberdeen and Inverness and they're making the stories and send them by email and we get

information from contacts that we have, some of them speaker from press conference so we get stories like that. So that's how the story come in and we have morning conference at either eleven or eleven thirty. So [name of the news editor] will take in the printed version of this and the editor of the day whoever is in-charge of the news that day will share that in morning conference

I The editor of the day is from the newsdesk?

ANE No we have an editor, deputy editor, and assistant editor so whoever is in-charge of the newspaper that day will chair the editorial conference and that that [name of the news editor] will go through each of the story and discuss what we know about them, discuss the relevance. Other people might comment about it, the editor might have an interesting particular story and at the end of the day he is in-charge. So again if he is particularly interested in story that is futher down the schedule we elevate that and if he is not interested in something that is high up we relegate that story further down. After the morning conference, [name of the news editor] will come out and make some changes to the schedule and distribute that to the journalist who is involved in the story. So after conference everyone just getting on with what they're doing. So journalist working on the stories on the Westminster parliament stuff, [name of the health correspondent] as you know as the medical correspondent is working on the medical story, [name of a reporter] who is based in Edinburgh she is working on that story

I So how many people are there in the newsdesk?

ANE Well the newsdesk is essentially just this desk here. This is where the News Editor, who is in-charge of the news operation of the day sits. It's [name of the news editor] today and [name of another news editor] next week. I'm assisting him and there'll be another Assistant News Editor coming in at lunch time and then another Night News Editor who will start at four pm because their operation is in the night up to two in the morning

6. Interview with *The Herald*'s science reporter (SR) (H14/5/07)

I Did you look at the journals?

SR So yeah I did look through the journals and the major journals they tend to choose story that are ( ) which are boring science. So *Nature*, *Lancet* and *PNAS* on Tuesday, the *Proceedings of National Academy of Science*

I Is that the American journals?

SR I've no idea, it's science. I get the press release a few days in advance and they tell me which one is an interesting paper ( ) and I go to the journals and pick out a story that might be interesting and then maybe I try to get hold ask for the paper as well and then I log in to the website to get an advanced copy of the paper

I Is that for the journalists?

SR Exactly. At that point even scientists haven't seen the paper. So I phoned up the expert and say do you know that there's a paper coming out and they said no and said can I see it can I see it and I say yeah sure I can send you a copy. You almost get you get the first reaction from the experts because they don't know yet. I also get from smaller journals there's this website called AlphaGallileo. It's predominantly European and it's for it's just any universities or institutions for any events any corporate they can publish in AlphaGallileo and it get sent to journalists who subscribe. I get them everyday.

I So you get a lot of stories?

SR Ya. So I'm absolutely swimming in these stories to pick out a story.

I How do you actually pick up a story?

SR ( ) I wrote stories with personal relevant to Scotland because the *Herald* is a Scottish papers so if there is any discovery by Scottish scientist in Scotland that's number one and then if Edinburgh university scientist get mentioned. One of the story that I cover is ( ) and I saw the paper in *Nature* and I thought that was an interesting story but the *Herald* probably wouldn't cover that because it's from an international scientists. So I wonder if there's any way I can make that relevant. I notice that one of the scientists from the paper in *Nature* was because scientists had improved ( ) and one of the scientists who made that improved was from Edinburgh university. So I was able to go to my editor and say Scottish scientists are potentially saving lives, which is a great plus story. So I first chose quite an interesting story and investigate scientists who try to save lives and see how that's science story, an unusual science and to fit it into *The Herald*, I give a Scottish thing to it. This story here is a good example because ( ) but it's very relevant to Scotland, there's higher number here in Scotland. Generally people here suffer from cystic fibrosis more than anywhere else

I Is there a reason for that?

SR I don't know why it's so common here. It's common in Ireland and it's common in Scotland and so when I saw them, well it's a big story anyway. Like cystic fibrosis is common in Scotland, that's a good line. What I have to do is I have to make it

Scottish and I spoke to an expert here which is a guy in Glasgow who is an expert and the guy in Edinburgh is an expert in cystic fibrosis. Usually I have to find out. What I do is I search on ( ) database and I type cystic fibrosis and try to find a research or something you know, or if that's not working very quickly then I would phone up the Science Media Centre. Have you heard of them ya?

I Ya, the one in London isn't it?

SR Ya. I ask them and say do you have any expert in Scotland or can you help me with such and such

I So do you think the Science Media Centre is a good point of contact?

SR I think so ya. It's getting bigger as well, they are expanding it. They phoned me up and say we might have a special person in Scotland and a service for regional papers as well and that I say well that's great but I hope you don't because I'm already using you I don't want other journalists to find out about you, you know, I want the story for myself but I think they do a really good job. I mean I think that most of the stories, most of the journalists from the national papers take the quotes from Science Media Centre, from their daily journals. Because the Press Association they put their stories on wires and the journalists who use the Science Media Centre they end up with the same quote, they use the same quote. So it's quite a powerful organisation

I So do they have different purpose from the Royal Society?

SR Yeah I think. Well the Science Media Centre doesn't have a view on anything, doesn't take any stand. Royal Society is lobbying government on certain issues and predominantly ( ) Science Media Centre there's just ( ) where they can assign an expert, what they do is an expert will come in and the journalist ( ) society and they would comment on their view. So yeah they're quite different. The Royal Society, you can phone them up and ask them for scientists and put you in touch with experts so it's a service that they like to provide very often. It's not something that I don't use the Royal Society it might be what other journalists would use. I don't normally use the Royal Society. When the Royal Society itself decide to comment I will ( ). So actually maybe you highlighted something that I should do as well. I might find that the Royal Society is better than Science Media Centre, maybe they're quite objective as well

I Do you actually use any criteria when you decide whether this will be a story or not?

SR Ya. It's a really difficult question to answer actually. Often I think if I'm interested in it and probably other people are interested in and then I go to my editor and say have you ever heard of Fragile X syndrome, you know it's the most common inherited condition and maybe other people will be interested to ( ) why is that interesting. Because it's unusual and everyone has allergy and everyone think that they are allergic although not allergic at all so immediately especially the readers of *The Herald* is slightly more affluent ( ) usually people who have time to worry about allergy. So when you hear a story like this, it's a great story because people go oh no I never do that and immediately that was my reaction when I read it whoa that's gross. If I think it's gross and so will other people. I supposed it's kinda sometimes it's its, in this case it's good. I go for stories that are very relevant.

Recently I wrote a stories about computers imagine the computers will go live and I go whoa, I can't imagine if my computer has biological materials in it

I It's the i-robot

SR Yeah so exactly yeah so that was one of the robot story that I write. So I think it's, things that are quite weird, things that provoked a kinda strong reaction whether it's horror or things that are duressed, things that are quite gross

I Isn't that like a scare story?

SR Sometimes. Although, well sometimes you have an article which scare people like the on the i-robot one, talking about robot having human rights. So you begin the article like that but you have to be careful at the end and say I've to be very careful too. It's not happen yet, I don't wanna scare people I don't wanna but I think some science journalists in other newspapers they'll do that but we don't go for that in *The Herald*, that's not the style of the journalism here. Definitely not. But then sometimes when we have a scare story, because we think that it's something that people should be debating, people should be talk about it, it's not gonna happen for a while but people have to decide whether it's a good idea or a bad idea. I have a story about, the story has not been written yet, which is about eugenics. It's the guy in Edinburgh, it's the guy from ESRC, his name is [the name of the guy from ESRC]. He was arguing that where parents can choose ( ) then we're saying it's eugenics, but he was saying that we have to recognise that there's eugenics because very very soon we might be allowing ( ) or deaths and things that aren't necessarily possibilities and then you can get to real cases like what eye colour they want and he was saying we need to have this debate and I like that. You could call that a scare story if you like because he was saying ( ) isn't that scary? But I still think it's worth reporting. He's right, you got to have that debate. People are, people want to have, no people ought to have democratic say in science research, in an ideal world they can say I don't think we should not have another cloning technique, people need to feel that they can have a say. But at least politicians can be prepared on what people reactions are going to be.

I So do you, I heard from [name of the health correspondent] that when you write article it gets edited by the sub. So does your article get a lot of editing from the sub?

SR [name of the news editor] choose the story. So that's a form of editing, you know, although he doesn't change my copy, he tells me what he's interested in. Like the cystic fibrosis, he says I think you should find the Scottish researcher and he's technically he's kinda constructing the article for me. So he kinda tells me what he wants and then I write the story and so by the time he got it he says ya that's good and he sends it to the sub. So he doesn't really change it but he shapes it so that's quite an important first stage and then sometimes the way I would've written could be different so I have to keep it in mine when I write it, I do I have to. His job is to decide what the readers want, what the reader doesn't want. He decides who reads the paper and what they care about and so he has the first shaping of the article and he sends it to the subs who'll write the headline that really catches the eye and make people ( ). We have the one where people ( ) and it can help cure the elderly people ( ) and the subs headline was ( ) and people like that one, a lot of people read it. The editing they choose the best bit and to make it clearer and stuff he finds

out which one that could be misunderstood and make it clear but sometimes they take out important thing, like in this article. I was very lucky that I was shown the edit just before the paper is gonna go on and it was missing a really important paragraph

I Are you not normally shown?

SR No there's no time there's no time. There's a paragraph, actually I think it's here, could be used to treat 13% of DMD and 10% and that would be taken out of the article and so without that it looks like everyone who's got cystic fibrosis and everyone who's got muscular dystrophy ( ) and of course it's actually just a small percentage. It's a different kind of DMD it's a different kind of CF, it can only work for a specific type and without that the article looks like it can cure everyone and that would've been wrong, and so I was able to get that back in and that's the kind of thing sometime the sub editors and they don't have much time you know, they've got fifteen minutes before the paper goes, they have to go through a very complicated article they have known nothing about. They don't know anything about it and they have to edit it and they have to check it, there's not much time so they may they do make mistake they do make errors. So sometimes I have to call up you know the researcher the next day and say I'm really sorry there is a mistake and sometimes I get email from readers and I have to say that I'm sorry actually. It's difficult you know

I Would it not appear in the correction?

SR Sometimes, there's ( ) who do the correction but I think I never have one correction

I So you do actually get in touch with the scientists and say sorry

SR Oh ya, oh ya. I try to keep the relationship with the scientists. So I try to encourage them and they say that they are very pleased with the article and it is very exciting, you did not exaggerate, you did not ( ). Same with Fragile X, same with ( ). The scientists were happy the charity were happy and so I was pleased you know that I did a good job

I Yeah because of the argument that scientists not very happy with journalists. Do you think anything can be done about it?

SR Well newspapers job is to sell so editors and journalists are always going to look for something, to sell the papers ( ) and so there is a desire, maybe instinct not to miss something out. Very rarely you see journalists saying something that's not true or lies. Sometimes they might take out the point that you know. But I think, I imagine I never be in that situation because *Herald* is not that kind of paper, *Herald*'s reader is somebody who doesn't like sensational and somebody who say right I don't trust journalists, I don't believe the tabloid, I don't like ( ) and they're very cynical. And they like *The Herald* because *Herald* is not sensational, doesn't try to make big headline and shock. We didn't try to do that and they value that. We try to be very straight, very honest, almost boring almost like, almost dull, especially has to be accurate and you know has to be interesting but not in sensational way, that's not the way to sell papers because our readers are intelligent, you know, they are ABC1. So for me I very rarely have a dilemma.

7. Interview with *The Guardian*'s health editor (HE) and health correspondent (HC) (G19/4/07)

HE This is somebody wants me to put their story on the paper. I don't run page you know

I So what does he want?

HE He wants he wants his theories on the Guardian, either I write it myself or you writing it for me. You know one person's theory I'm afraid is no good because we need a lot more evidence. So I won't. I'll write back to him politely and say no. ( ) This comes from the newsdesk. This is the thing [name of the health correspondent] is doing. So she's got that. This is, right, Royal College of Gynaecologist, they've told me HRT. It's be interesting to see how they find out because [name of the researcher] is ( ). Everybody is expecting that and Royal College of Gynaecologist says oh no. That [name of the researcher] is absolutely epidemiological. It's a huge study, it's over a million people. This is the thing about the road deaths. So yesterday something from the World Health Organisation and it looks like it's embargoed

I ( )

HE Yeah. I mean this is the *Lancet* which is one of the major journals and it's embargoed zero zero one hour on Friday, that means we can't publish before that time. Mustn't go into the papers before that time So Thursday today all those are ( ). If someone broke an embargo, if someone puts it in the public domain and that's quite a serious matter and some journalists might get ( ). She's saying I don't understand this. Right this is the report which is going to be released, which is Monday. So this is embargoed on Monday morning and what I have in mind when writing the story on Sunday to be published on Monday morning but this is referring to the editorials now giving some of the details from report. So maybe what she means [name of the press officer] the public relation who work with the World Health Organisation she may well mean the *Lancet* itself editorials it, she means ( ). So what I need to do, what I will do is check whether that means all will be embargoed or one for Saturday morning and one for Monday morning. The stats they gave me, along with things like this [showing me the information pack given by the World Health Organisation]. That's the other ones and these reports, this one Tony Blair is making a statement that's embargoed Monday morning and this is the tragic story of people who are involved in road accidents, and that's the one that's embargoed on Saturday morning, which is ( ) and they got really interesting report there but that's embargoed for Monday morning and this is the other one, the World Health Organisation one and that's embargoed for Saturday morning so what [name of the press officer] means is this one that they changed but doesn't make things very easy for me because I want to do that one, but I'm going to have to wait for Monday morning for that one. I can still write this one now but sometimes when you write one story and ( ) we have that already even though it's a different story and this story is really about the number of deaths and health costs and everything else, it's mostly about developing world. But the interesting one from my discussion with them, they pointed it out to me something which is ( ) it's about the World Bank, they have been putting billion of pounds in ( ) but there have been no improvement

whatsoever in this plan and all the money that they spent

I That the money has been given and nothing happen?

HE Exactly and that's quite a good story. What you could do about this is that instead of putting section and you don't put ( ) and anyway I thought that's quite a good tail but as I say, I've got a complicated situation here about the embargo time and I'm not sure how it's going to work out you know, I'll have a word with them. ( ) that's a comment on that study ( ) comments from science technology staff. This is the conference, fertility treatment conference coming in July

I Is that an academic conference?

HE Yeah, they always always ( )

I Is this from the university as well?

HE Yeah. Sometimes from the university, sometimes from the lobby group, sometimes individualist, sometimes companies, sometimes its commercial companies trying to sell products and quite often they don't really have sense on what we do. Don't want that and that's the story we've seen this morning. There's a story about ( ) crashes in developing world. So I was proposing to do a story about that, actually I will do a story about it but I may have something else, something that's going to be interesting, like this Britain spending money on roads and that's contributing to the problem and that that does work as a story and then you can talk about the disastrous accident

I Because it's UK based

HE Yeah because it's relevant to us, ya. Sometimes it also works where ( ). I don't think I need to look at that, the tragedy of road crashes, I need to look at this. So we need to look at this, in one week seven thousand people are killed in road traffic accident

I Is the number of people who is involved a lot?

HE Yes, it's a lot, in one week seven thousand people died in road accident and actually talking to these people yesterday they were saying it is the biggest cause of death among young people anywhere so and they are more likely to be road accident and the point of this campaign next week is to reduce death among children and young people and they are talking about five hundreds death a day and about a thousand in nineteen ninety five, this is very much orientated to the USA, there's a mention of USA here . So that's the sort of thing that I'm able to say in that but ( ) and I will ask them about it. That one help the aged, it's the one we looked at before actually that's an interesting story but because it's older people and social affair problem, [name of the social affairs editor] would probably deal with that. There is one on the HRT story. What's all that about? ( ) And this I get a lot of stuff about HIV because I've written a lot about it

[The health editor's phone rang]

HE It might be easier if you could, if it is in written form because there's someone to. I'm actually doing a further piece on it and I've just been talking with a gynaecologist from the Royal College, he's saying exactly that. So to a degree I'm on

the issue. Yes yes she's the one I've just been speaking to. Okay well I mean. Yes. Yes no I understand that I appreciate that when you say ( ) in fact there are women who were invited to take part. In what way? Well indeed it's not a randomised controlled trial it's an epidemiological study. Yeah yeah, I mean if I get back, perhaps I get this entirely wrong but I mean you got a million women, those who are taking HRT surely the control for them is the hundred women. Surely you can't call the a million women study if it's not. Well that you know. Yeah well I also think it's been given an authority anyway ( ). Why then the publication in the *Lancet* presented the way it is doing? Yes I know but that's a very different sort of thing, here you talking about what here is not the first paper either on a million women study, there has been a number now. They, they must think. Yes. What would you say to [name of the professor who is the leader of the study] then I mean she's pretty well respected isn't she? Well she's an epidemiologist isn't she? So this is her bread and butter. Yeah well. No. Yeah well, except what we are talking about here, you need to lobby the *Lancet* and you need to lobby the Oxford University unit don't you? No I understand. Except you have a difficulty in one person here trying to take a balance against a rather major institution on the other hand. Anyway what you're saying is rather interesting and I'm trying to get to the bottom on why there is such a controversy around HRT and so everything you are saying is useful. Yeah. Okay. Can you, okay. Do you have a phone number in case I need to get back to you on this. Yes. Ya. Ya. Yes. Yes. Right. Yeah. Yes. Okay. That's very kind of you. Thanks for the call.

HC Who is he?

HE He is a random doctor. [name of the doctor]. He was taking issue with the fact I call this thing authoritative and he says it isn't. I met [name of another doctor] before who is at Royal College Gynaecologist. What they say is that this isn't an authoritative study being the point they're both making is that this is not a randomised controlled trial so you're not pitching one million different women on HRT. But getting to the core of wider thing that this is wrong and bad is a bit more difficult

HC Is there a reason why you can't do a randomised controlled trial

HE Well there you go. What I was saying to them well they don't because HRT are massive and when they happen is not known. ( ) every women around the seventies. So how much trial is really matter. It must be really great. I'll call (name of another doctor) and find out

HC It's good reaction though

HE It's good. It's very good. But the, yeah it is very interesting. But the other complication which I forgot about is there have been two major major studies on this the One Million study and there is one in America called the Women Health Initiative. They both started about the same time about nineteen ninety one. Women Health Initiative a couple of weeks ago actually came out ( ) about the heart disease

HC Wasn't that a similar I think the One Million Women study last year? When that story came out there was a very nice splash about it but I've seen something similar the year before, the very similar story about HRT which stop a lot of people from taking it

HE Yup. The key thing seems to be the age which it started and ( ) damage to the artery. But maybe the first story was people's interpretation of it and the Women Health Institution came out and say yes you were right. So it's getting really complicated

I Why do you think is CJD story stronger than the Parkinson's one?

HE Cos the Parkinson's one, let's see this. Are the *BMJ* on Parkinson?

HC Yeah

HE It an editorial only by one doctor. He is saying that this is an issue but the only new thing about this is, I think, this is the *BMJ* press release and various thing there, it's this one. It's the sort of like oh my goodness I didn't know people with Parkinson can be a pathological gambler. That sort of strength of the story and in a way it's ( ). It doesn't tell you anything important. Whereas the CJD thing it's an actual situation to, which they have done in surgery already

HC For refilling of teeth

HE So that's something that affects more people because everybody in the country goes to dentist

HC Three million

HE Not just for filling but. That much evidence involved ( ) and more of a change in policy

I How do you know that it is the kind of story that people the readers will be interested in? Is there any guidelines?

HE No no nothing like that. It's gut feeling. I tell you what it is, I think we have the sort of, I think we think we are similar people to our readers on the whole although we are going to have arguments about it nonetheless we have, we have real interest in issues. So if we think it's really interesting we think they are going to as well. But it's the different, it's a question of identification really I supposed. If you look at the [name of a newspaper] you can tell exactly what sort of people they are orienting at, generally perceived to be ( ) and not to be career women and a lot of what is interesting is ( ) a lot of decision are made by men and that's not many women in commanding position but generally men said this is what women want

I This is what men say what women want

HE But it's a very successful product, it sells well

HC Which was that?

HE The [name of a newspaper]. Imelda was just asking how we know what the readers are interested in. And I said it's because we have a feeling for it and because we probably are like them in what we think. We generally expect them to have, most of them have been to university and then most of them are fairly active intellect, they enjoy ideas, enjoy discussing things, they enjoy issues and they have some very strong feeling about some ethical issues

HC I think idea is an issue quite different in the way ( ) as well

HE Yup. ( ) news story is a bad issue. Very often you heard that phrase if they, news is someone somewhere doesn't want to put in the paper, everything else is publicity. That's what I was taught when I was trained to be journalist

I So you know that by doing and by writing

HE Ya and also readers email, as soon as they don't like it

I That's exactly what I want to know how you know that it's an interesting story

HE Because we think they're interesting. It's very random actually, there isn't any science behind it

I How do you differentiate between what you do and what the science correspondents do?

HE They mostly do hard area but sometimes they do more subtle area and you can say they tend to do new genes for instance and they tend to do stem cells. They don't do all stem cells actually it's more when it's basic research it's more likely to them and when it's treatment it's more likely to use and we would do issues very much and they don't do issues so much. But under certain journals we always cover the *BMJ* and *JAMA Lancet* and *New England* main four and they don't touch any of those

[The health editor received another phone call]

HE It may turn into a story, it's quite interesting because it from a Health Secretary and he's chairing this and it's about cancer in Africa, I'm interested anyway cos I'm interested health in developing world. But what would make that a story would be is that there's a push to get Britain involved in cancer in developing world because it's not issue in health to a degree and we're not doing anything about it at all, you know we are very into malaria and AIDS

I But you don't hear about cancer

HE But you don't hear about cancer and that's the point they are making that cancer has been increasing actually so but it's massive you know it's a very very expensive to treat, it's not like there's cheap drugs isn't it? It's not like that so that is hugely ambitious and I'll be interested to see what the Health Secretary is going to say about that. I guess it's very hard getting into papers any health in developing world issue. It's hard because people really want to read about themselves you know their immediate society and the further away from you the news is the more differences and that's the divide really between Home pages and Foreign pages. I can turn it into a Home story as long as someone here is involved with it but if I'm just writing about cancer

I So are you writing in the Foreign section as well?

HE Ya I do write for the Foreign section as well so

I Do you check the wires regularly?

HC We shouldn't really because the newsdesk check the wires

HE Ideally actually but they don't and sometimes very late on they come over and say

HC Just in case they miss something

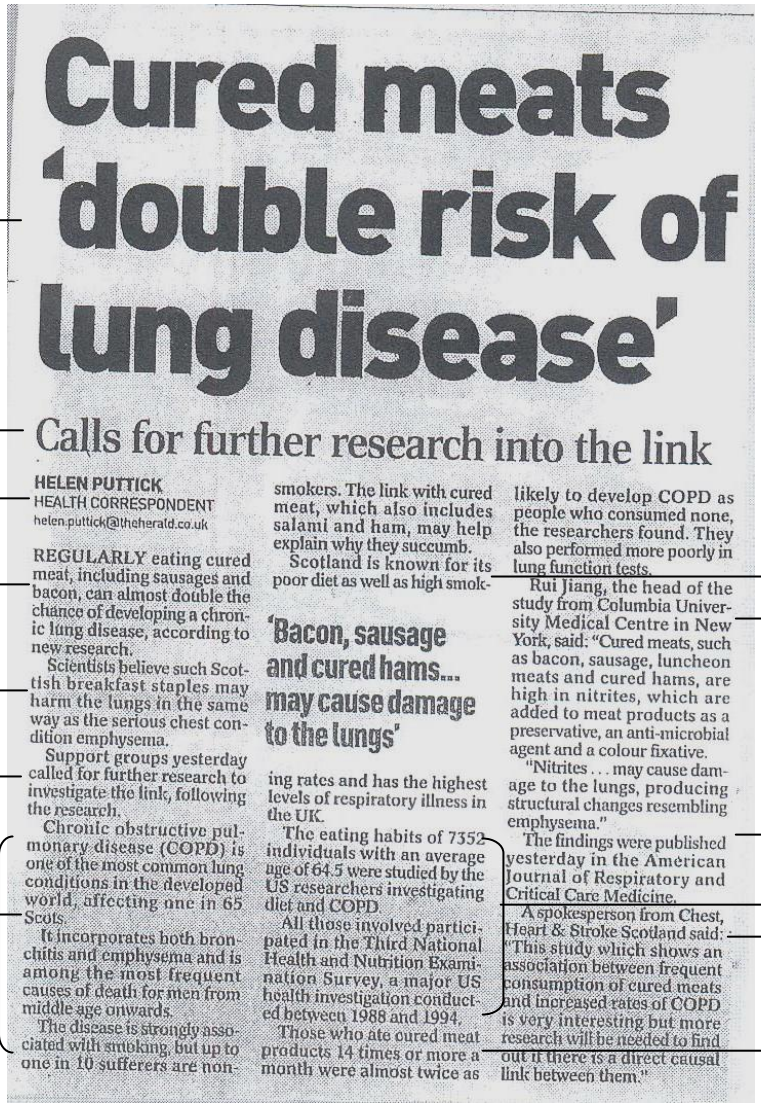
HE You are watching the wires ya, no it's a very good thing to do. It used to be our jobs checking the wires ya

HC I kinda think ( ) the local wires agency which I really doesn't know what is what and sometimes the story crops up there

HE I think sometimes another thing is that sometimes they won’t see the significant of the story in a way we would understand it from a health perspective, they don't really know

HC Yeah

Appendix D: A sample of move structure in a health and medical news reports



Move 1-1

Cured meats 'double risk of lung disease'

Move 1-2

Calls for further research into the link

Move 2

HELEN PUTTICK
HEALTH CORRESPONDENT
helen.puttick@theherald.co.uk

Move 3

REGULARLY eating cured meat, including sausages and bacon, can almost double the chance of developing a chronic lung disease, according to new research.

Move 4-1

Scientists believe such Scottish breakfast staples may harm the lungs in the same way as the serious chest condition emphysema.

Move 8-2

Support groups yesterday called for further research to investigate the link, following the research.

Move 5-3

Chronic obstructive pulmonary disease (COPD) is one of the most common lung conditions in the developed world, affecting one in 65 Scots.

Move 6-2

It incorporates both bronchitis and emphysema and is among the most frequent causes of death for men from middle age onwards.

The disease is strongly associated with smoking, but up to one in 10 sufferers are non-smokers. The link with cured meat, which also includes salami and ham, may help explain why they succumb.

Scotland is known for its poor diet as well as high smoking rates and has the highest levels of respiratory illness in the UK.

'Bacon, sausage and cured hams... may cause damage to the lungs'

The eating habits of 7352 individuals with an average age of 64.5 were studied by the US researchers investigating diet and COPD.

All those involved participated in the Third National Health and Nutrition Examination Survey, a major US health investigation conducted between 1988 and 1994.

Those who ate cured meat products 14 times or more a month were almost twice as likely to develop COPD as people who consumed none, the researchers found. They also performed more poorly in lung function tests.

Move 5-3

Rui Jiang, the head of the study from Columbia University Medical Centre in New York, said: "Cured meats, such as bacon, sausage, luncheon meats and cured hams, are high in nitrites, which are added to meat products as a preservative, an anti-microbial agent and a colour fixative.

Move 7-1

"Nitrites ... may cause damage to the lungs, producing structural changes resembling emphysema."

Move 7-2

The findings were published yesterday in the American Journal of Respiratory and Critical Care Medicine.

Move 4-2B

A spokesperson from Chest, Heart & Stroke Scotland said: "This study which shows an association between frequent consumption of cured meats and increased rates of COPD is very interesting but more research will be needed to find out if there is a direct causal link between them."

Move 8-2

Move 4-1

Source: *The Herald*, 17 April 2007 page 7