

ENVIRONMENTAL ISSUES
IN THE SOUTH AFRICAN MEDIA:
A CASE STUDY OF
THE *NATAL WITNESS*

by

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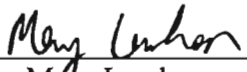
ABSTRACT

The media has had a significant impact on spreading environmental awareness internationally. The issues covered in the media can be seen as both representative of and an influence upon the heterogeneous public. This paper describes the environmental reporting in the South African provincial newspaper, the *Natal Witness*, and considers the results to both represent and influence South African environmental ideology.

Environmental reporting in South Africa has been criticised for its focus on 'green' environmental issues. This criticism is rooted in the traditionally elite nature of both the media and environmentalists. However, both the media and environmentalists have been noted to be undergoing transformation. This research tests the veracity of assertions that environmental reporting is elitist, and has found that the assertions accurately describe reporting in the *Witness*. 'Green' themes are most commonly found, and sources and actors tend to be white and men. However, a broad range of discourses were noted, showing that the paper gives voice to a range of ideologies. These results hopefully will make a positive contribution to the environmental field by initiating debate, further studies, and reflection on the part of environmentalists, journalists, and academics on the relationship between the media and the South African environment.

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These studies represent original work by the author and have not
otherwise been submitted in any form for any degree or diploma
to any other University. Where use has been made of the work
of others, it is duly acknowledged in the text.


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Robert Fincham

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PREFACE

The roots of this paper can be traced back to arguments I had in the American spring of 2003 about the relationship between the media and social activism. My pragmatic friend, activist, and avid newspaper reader saw the press as an important barometer of society. He searched for truths not in philosophy or history but in the pages of the *New York Times*. He also felt that obtaining media coverage should be one of the main priorities of activist groups. Taking the perspective of the positivist, idealist, and non-news-watching activist, I claimed messages should be expressed in their truest form, and neither softened nor repackaged for media attention. Of course, I was more motivated by the prospect of a good debate than by true support for this ideology.

Nonetheless, the debates themselves provoked questions which were still on my mind months later when I came across a reference from McDonald (1997). In an article quite unrelated to the media, he made a brief comment about the bias in South African environmental reporting towards coverage of traditional 'green' issues. When deciding on a research topic months later, I realized I could both seek answers to my own ideological queries and test McDonald's assertion through a study of environmental issues in the South African media. Research on this topic would also give me a chance to step back from academic perspectives and see what South Africans themselves had to say about their environment.

Since my academic background is in the physical sciences, my literature review exposed me to a range of new concepts and theories. I also came to realise that little research is being done on environmental news in the global South. Thus, I decided that my literature review would emphasise the range of possible studies rather than the particular methodology which I selected or a description of the local environmental context. The motive for this is twofold. Firstly, I personally needed the exposure to a variety of papers in order to decide on which type of study to perform. I included this broad range in my written literature review so that readers of the thesis will see how many options there are for further research. Hopefully, this will help spark ideas for other students interested in performing studies on environmental issues in the media.

The research is divided into two sections according to CEAD requirements. Component A includes a full literature review, methodology, and report of limitations. Component B is

written in the form of a journal article, both summarising Component A and reporting on the results. This format significantly constrained the discussion of results, for many more results were achieved that could be discussed in a single journal article. Thus, with the approval of my supervisor, my Component B is a compromise between full thesis result and discussion sections and the shortened version which will be submitted for publication. Despite this, some of the information obtained during the research process, such as insights gained from interviews and conference presentations, is not discussed and was used primarily as background information.

Component B is written in the format specified by *Communicatio*, the journal to which the paper will be submitted. The journal guidelines are outlined in the appendix to Component B. A few exceptions have been made and will be adapted for the submission to the journal. First, for the thesis, 1.5 spacing has been used. The abstract will not be translated into Afrikaans until after thesis revisions. Finally, the abstract has been placed at the beginning of the thesis rather than before the journal article.

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1. INTRODUCTION

Since the publication of Rachel Carson's *Silent Spring*, environmental awareness has grown internationally. Yet few individuals have formal, scientific training and understanding of environmental issues. A significant amount of the information received by the public comes from the mass media (Gooch 1996; Kwansah-Aidoo 2001). Previous research has sought to determine what and how environmental issues are presented to the public, and what impact this has on their concern for the environment. However, the content and messages have been noted to vary in different parts of the world (Chapman *et al.* 1997), and little research has been performed in the African context.

As interest in and the impacts of environmental challenges grows, diverse societies are becoming immersed in the debate. This heterogeneity adds critical new dimensions to the deliberations, and contests much of the received wisdom of environmentalists from developed nations. Perspectives on the definition of 'the environment', establishment of what constitutes an environmental 'problem' and determination of the 'correct' relationship between humans and their surroundings are constructed in social contexts. Social, cultural and economic factors impact this construction, and result in diverse answers. Each society's perspective forms a critical component of international environmental ideology. It both contributes to a more comprehensive understanding of human roles in and relations with the environment and, more pragmatically, enhances capacity for international cooperation. Understanding media messages is a critical component of understanding the environmental ideology of a country (Chapman, *et al.* 1997).

South Africa has a unique role in the environmental debate because it contains challenges which have resulted from affluence and industry and well as poverty and shortage of services. Standing on the boundary between the township of Alexandra and the wealthy suburb of Sandton serves as proof of the dual nature of the society. Cholera epidemics from contaminated water occurred in a township adjacent to a suburb where there is high indoor air pollution because residents fear opening their windows (Bond 2002). South Africa is commonly heralded as the most economically powerful, and arguably most influential, nation in sub-Saharan Africa and was the recent host of the World Summit on Sustainable Development. Thus, the nation has an important role in international

environmental relations and its actions influence those of the rest of the continent and the world.

This research helps to illuminate South African environmental ideology through content and discourse analyses of environmental issues in a South African newspaper. The next chapter details the research purpose, drawing on previous studies which are discussed in the subsequent literature review. The review highlights key concepts in communications studies and developments in the study of environmentalism in the media follows. The chapter concludes with a description of the South African media context in which the study was performed. Finally, the methodology of the content analysis, discourse analysis and interviews is described.

2. RESEARCH PURPOSE

2.1. PROBLEM STATEMENT

The recent transition to democracy in South Africa has increased the role of individual citizens in environmental decision-making. Yet, as in many other countries, many individuals in South Africa have limited sources of information about environmental issues and receive much of their knowledge from the media. However, news reports are, arguably, neither impartial nor objective and the selection and framing of issues is a highly subjective process. The content and discourse of environmental issues presented to the public is likely to have an impact on how they view the environment. Therefore, there is a need to understand what, how, and from whose perspective environmental issues are portrayed to the public in order to understand public perceptions of environmental issues.

2.2. AIMS AND OBJECTIVES

The aim of this research is to gain a better understanding of environmental messages portrayed to the South African public through the press.

The objectives of this research are:

1. To document what types of issues are discussed in environmental stories,
2. To indicate which environmental interest groups are portrayed most often in the press,
3. To identify the underlying discourse of the messages portrayed in environmental stories,

4. To gain a better understanding of the media context in which environmental news is constructed,
5. To show gaps in the environmental information being provided to the public, and
6. To lay the groundwork for future research into understanding the general public's perceptions on environmental issues.

3. LITERATURE REVIEW

This study is rooted in both communications and environmental fields, and therefore background is needed in two quite contrasting areas. First, this literature review examines the theoretical concepts of language with emphasis on its nature as a social construction. This leads to a section on the social construction of the environment in which contrasting views of human surroundings are explained by this paradigm. Next, a more specific section on the mass media details its history and common research methods used in media studies. Examples of research performed on environmental issues in the media are given. Finally, the South African media context is described with reference to key topics of research and studies focusing on environmental issues in the press.

3.1. LANGUAGE, SOCIAL CONSTRUCTIONISM AND THE ENVIRONMENT

This study is concerned with what and how environmental information is presented to South Africans through the press. Such research which emphasises the selection of messages by social actors rather than objective reality falls within the social constructionist paradigm. The paradigm recognises that “language helps to *construct* reality” (Terre Blanche and Durrheim 1999: 149), and constructionist research focuses on signs and images used to create a particular representation of reality (Terre Blanche and Durrheim 1999). These socially constructed meanings effect how individuals view and act in their surroundings. Consequently, studying the language used by the media contributes to an understanding of how ideas about the environment are constructed.

3.1.1. Language and Discourse

Language constitutes a fundamental component of social constructionism. It is often the key component of study by constructionist researchers because it concretises symbols. Examination of language, both the system of words used and the constraints imposed by the limited range of meanings, can illuminate underlying social structures which engendered the particular construction (Terre Blanche and Durrheim 1999).

Theories of the social construction of meaning through language led to new awareness of the ability to influence society through words and symbols. If individual decisions are impacted by an underlying socially constructed reality, then social beliefs and actions can be altered through manipulation of the symbols by which meaning is constructed. These ideas, initially formulated by French philosopher Michel Foucault, have been built upon and expanded by contemporary theorists (Fairclough 1989).

Galbraith (1983) details the evolution of forms of social control in *The Anatomy of Power*. This work traces historical shifts beginning with the use of condign power through punishment. The next phase according to Galbraith is use of compensatory power through rewards. Finally, conditioned control is achieved through changed beliefs. The most subtle and persuasive form, conditioned power can be realised through the tool of language. Thompson (1996) follows the typology of Michael Mann in using four categories of power, using the label 'symbolic power' for the most covert form. This descriptor illustrates the method through which conditioned control is achieved. Power relations are reinforced by "the diffusion of symbolic forms which seek to cultivate and sustain a belief in the legitimacy of political power" (1996: 15). Many different components of society support this structure, including media institutions. The media, according to Thompson, typically reinforces symbols created by authorities and help spread them over space and time.

Fairclough's (1989) *Language and Power* describes many of the theoretical aspects of this association. He first distinguishes between studies of linguistics which describe conventions used in language and critical language study, the purpose of which is to show the link between language use and power relationships and struggles. Another critical concept discussed is ideology, defined as the assumptions and conventions accepted by a society. Ideologies are spread and accepted in a society on behalf of the powerful through language. The ideology of a certain institution or social group is expressed through the form of discourse. Discourses are "systematically-organised sets of statements which give expression to the meanings and values of an institution" and give the guidelines for how a certain "topic, object or process is to be talked about" according to the institution or group which formulates the discourse defined by (Kress 1989: 7).

Fairclough (1989) claims that the characteristics of a discourse, and the language used by the discourse, are determined by social conditions. Social conditions allow for powerful members of society to define the discourses, and language can either reinforce or cause shifts in a discourse and society. Kress uses a metaphor comparing a discourse to a military invasion in which disagreements lead to one country invading and occupying another. Different discourses, in line with the metaphor, arise, compete with each other, and eventually overtake or are defeated in the social environment.

The powerful are further able to impose control by limiting the scope for opposition through constraints on the content of what is said, the relationships imposed, and subject positions which can be occupied (Fairclough 1989). These may appear indirectly; Fairclough uses an example of a doctor and his student in which “it appears that the doctor has the right to give orders and ask questions, whereas the students have only the obligation to comply and answer” (1989: 46). The ability to control discourse is strengthened when the public is unwittingly consensual and sees the imposed ideology of the discourse as the natural order.

Contemporary society, according to Fairclough, is growing more susceptible to such forms of social control. He notes an increase in ‘simulated egalitarianism’ in which opulent methods of asserting power dissipate while the same unequal power relations continue (Fairclough 1989). The ability of the powerful to impose social control through consent is also rising because of the increasing integration of people into society. Media, and particularly the news, is a major mechanism through which this socialisation occurs.

3.1.2. Social Construction and Environmentalism

The constructionist paradigm has been criticised for denying the existence of external reality (Hannigan 1995). This becomes particularly salient when constructionism is applied in fields such as environmental studies, for causal relationships cannot be changed by simply reformulating perception. For example, some chemicals are harmful to health regardless of how society views pollution. However, some constructionists respond by arguing that while the impacts may be determined, the ways in which impacts are *interpreted* is subject to construction. Following with the example of pollution, it is not the impacts but the level at which the impacts become unacceptable that is subject to construction. Constructionism does not deny the existence of problems or causal

relationships but attempts to explain why the issues prioritised by society are not always those that hold the greatest threat (Anderson 1997; Hannigan 1995).

Social, political and cultural values and processes all have an effect on how risks are constructed and prioritised, and the identification of these factors can lead to improved understanding of environmental discourse (Anderson 1997; Hannigan 1995). However, homogenous values are not universally present in all advocates of environmentalism. Further, determination of the specific values underlying environmental messages remains controversial, and even analysis of a single speech does not always yield consistent opinions (Anderson 1997).

Not all environmental problems immediately gain public attention; they are dependent upon individuals for articulation and publicity (Hansen 1991). The individuals and organisations responsible for this action may or may not be successful in drawing the public eye. Hannigan (1995) has listed several criteria which lead to the construction of environmental problems. First, the claims must be backed by a scientific authority in order to give them credibility. Hard scientists are rarely good at communicating their message, and therefore rely on “scientific popularisers” to bring the message to the greater public. Popularisers “assume the role of entrepreneurs, reframing and packaging claims so that they appeal to editors, journalists, political leaders and other opinion-makers” (Hannigan 1995: 55). This leads to Hansen’s third criteria, media coverage in which the issue is portrayed as being genuine and relevant to society. The portrayal is often simplified and dramatised; utilisation of caricatures such as ‘bad industry’ and ‘innocent public’, symbols and imagery are common. The fifth characteristic is a product of contemporary, commodified society: economic incentives for action. Finally, an issue is more likely to successfully gain and retain attention if it is adopted by a legitimate sponsor who gives credibility and ensures that the issue remains visible to the public.

3.1.3 Environmental Discourses

Discourses define the social boundaries for different issues, and the growth of the contemporary environmental movement has led to the development of a heterogeneous range of new discourses. Early discourses of elite conservationists in settings such as the United States and South Africa have evolved and changed, encompassing greater scope and social acceptance. These discourses have merged with the discourses of urban health

activists to form a broad environmental movement. As the movement has grown, it has also lost some of its previous coherence, illustrating how discourses grow, interact and divide. Ross, as quoted in *Discourses of the Environment* (Darier 1999: 8), notes, “Except for the name of ‘ecology’ itself, virtually nothing unites the bioregionalists, Gaians, eco-feminists, eco-Marxists, biocentricists, eco-anarchists, deep ecologist and social ecologists who pursue their ideas and actions in its name.” These varying discourses, like those of any other field, compete for attention and acceptance and evolve as they age and expand into new cultural environments.

Various authors have undertaken to define and classify environmental discourses, such as Pepper’s (1984) *The Roots of Modern Environmentalism*. Others have shifted and adapted such discussions to form their own categorisation, such as Kelly (2003) in her study of Irish discourses. Seemingly the most comprehensive and widely cited version is Dryzek’s (1997) system explained in *The Politics of the Earth: Environmental Discourses*. His work begins with a rationalisation of examining environmentalism from a discourse perspective and argues that only by clarifying diverging environmental claims and understanding the social roots of competing perspectives can the flaws and merits of each be revealed and true solutions reached.

Dryzek’s classification scheme has nine discourses which can be seen as both competing for attention and adherents and at complimenting each other in their concern for the environment. The first discourse is *Survivalism*, which is rooted in concepts of growth, limitation and disaster. Its adherents typically view humans as biological entities which consume and breed, and need to be controlled by strong elites. The next discourse, labelled ‘*Promethean*’, is a response to the Survivalists of the 1960s and argues that human ingenuity will find a way out of any ecological problem.

The following three discourses acknowledge the need for solving environmental problems, but see different mechanisms through which this can be best achieved. Adherents of *Administrative Rationalism* favour strong government regulation. This method is typically seen as the ‘default’ mechanism rather than an ideal solution even by those who practice it. *Democratic Pragmatism* is an attempt to make *Administrative Rationalism* more responsive and accountable to the public and argues that individuals should actively participate in decision-making and implementation. *Economic Rationalism* argues in

favour of market-based solutions to environmental problems. This contrasts from the Promethean discourse which claims that there is no need for action; action must be taken according to Economic Rationalists, but the market used as the mechanism for change.

The next discourse, *Sustainable Development*, is often considered an ill-defined catch phrase. However, lack of clarity has not kept it from being the most popular international discourse. *Sustainable Development* professes that people, planet and prosperity can all be protected together, and emphasis is placed on increased material well-being for the world's poor. *Ecological Modernization* can be considered a more concrete version of the former discourse. It offers technological solutions through conscious, coordinated efforts within industry, although it does not directly reference redistribution of wealth.

Finally, Dryzek draws a distinction within radical environmentalism, although noting that there are a range of diverging ideologies within even his two broad categories. Radicals in both groups see the need to restructure and transform society in order to achieve holistic solutions, but differ in the way they define solutions. *Green Romantics* include Deep Ecologists, Ecofeminists, Eco-Communalists and others who see a need for individuals to establish new, personal connections with the earth. It is through this new consciousness that environmental change will occur. *Green Rationalists* include the European Greens, Social Ecologists, proponents of Environmental Justice, Animal Liberationists and others rooted in Enlightenment ideals of rational, critical examination of society, concepts of equity and justice and modern science. They see a need for structural changes in society achieved through political action.

The discourses outlined by Dryzek are by no means the only environmental discourses, and individuals and organisations often profess overlapping discourses. However, the above categories are useful for understanding the roots and ideologies underlying contemporary environmentalism and are used as a basis for the discourse analysis described below in the methodology.

3.2. MASS MEDIA STUDIES

Media studies encompasses a range of areas of focus and methodologies. Although some forms of media can be traced back for centuries, media studies is a relatively recent discipline. The following section briefly outlines major trends in media studies. This is

followed by a discussion of various theories on the normative values of the media. Relatively recent controversy surrounding the influence of the North on the media of the South is examined in the third section. Finally, a range of methods used to conduct media research and an overview of the merits and shortcoming of each is given.

3.2.1. The History of Media Studies

Many authors have noted that media studies have undergone two significant shifts as researchers gain greater understanding of the field. First, early models of the media tended to view the media-society relationship as linear and unidirectional, with the media forming messages and the public passively accepting them. Contemporary models recognise that there is a dual interaction in the relationship. The media influences what society believes, but it is also responsive to the social atmosphere. To a significant degree, the media mirrors segments of the society (Anderson 1997; Fairclough 1995; Hansen 1991; Thompson 1996).

Secondly, traditional approaches construct the audience as homogenous receptors of media messages. They overemphasised the complacency of the audience and ignored the diversity of methods of interpretation. Contemporary models recognise the range of experiences and ideologies which comprise the backgrounds of individual audience members and the way in which these affect individual interpretations of the same message (Anderson 1997; Gooch 1996; Thompson 1996).

These two shifts have significantly complicated the field of media research and brought forth new challenges. It is now recognised that the existence of the media does not dictate its ability to influence society. The mutually reinforcing nature of the reciprocating relationship of media-society influence makes cause and effect difficult to separate (Anderson 1997; Hansen 1991). Additionally, the media is never the sole influence on a society, and therefore it is a challenge for researchers to measure the impact of the media (Anderson 1997). Studies have been performed which show correlation between public concern and the issues portrayed most often in the media, however, such conclusions are controversial because they may merely indicate awareness by the public of the issues defined as prominent by the media (Hansen 1991).

Contemporary research, according to Anderson (1997), can be classified into three diverging branches. The first of these, *political economy*, emphasises the perception that those who own and control the media, the powerful of society, hold significant influence over its message. *Structuralism* examines the linguistic forms of the texts and the impacts that this can have on the audience. *Cultural theory* attempts to place the media into its social context and examine its role and impact from this perspective.

Thompson (1996) describes four characteristics of mass communications which help to explain how its growth has impacted societies. He first notes that “the development of mass communication is inseparable from the development of the *media industries*” (1996: 27). The label ‘industry’ emphasises that the media is not merely an impartial provider of information but, as McChesney (1998) points out, is composed of profit-oriented businesses that follow the rules of commerce. According to Thompson (1996), the link between mass communication and the media industry has resulted in cultural symbols being turned into commodities used by the media industry to garner profits. Thirdly, the gap in time and space between the production and reception reduces the ability of the audience to influence the formation of the text. Finally, the spread of messages across time and space allows for the product to be received in a different context than that in which it was formed. This also reduces the capacity of the audience to impact the message, and alters the audience’s sense of community, potentially uniting an audience with distant societies and enhancing feelings of a commonality (Thompson 1996).

3.2.2. Normative Values of the Media

Attempts at understanding the media are further complicated by heterogeneous perspectives regarding the ideal role of the mass media in a society. A range of normative models have been formulated, such as those by Siebert, Peterson and Schramm published in 1963 and McQuail in 1983 (Oosthuizen 2002). Oosthuizen (2002) describes those most relevant to the South African context.

Oosthuizen first explains the *authoritarian theory* in which those in power prescribe media content. The South African apartheid regime held many commonalities with this oldest of media norms, as detailed below in section 2.4.1. *Libertarian theory*, which has roots in the Enlightenment period in Europe, holds that rational individuals are capable of making decisions when selecting media and therefore there should be no restrictions on the content

of published materials. *Social responsibility theory* evolved out of recognition that some of the assumptions underlying libertarian theory, such as equality of access and the freedom of the individual to select media, were untrue in contemporary societies. Adherents to this theory believe that the media has a responsibility to society and therefore should apply professional standards, be self-regulatory, avoid inflammatory coverage, and ensure the expression of a diversity of viewpoints. Contemporary South Africa, according to Oosthuizen, portrays many aspects of this model. The fourth and final normative theory outlined is *development theory*, which claims that the media should support improvements in the economic well-being and international status of the nation and that the government should restrict media freedoms if they interfere with either of these goals.

The *development theory* outlined by Oosthuizen has much in common with what other authors have termed the *nation-building* role of the media (for example, Skjerdal 2001). Skjerdal also uses the *libertarian* and *social responsibility* classifications, as well as a more recently developed theory of *communitarianism*. This final theory emphasises local participation and the need for a balance between individual good and communal needs.

Skjerdal (2001) performed an analysis of contemporary South African newspaper articles in order to determine the prevailing normative ideology in the press. His conclusions indicated that most journalists were in favour of a libertarian model, whereas the discourse of government representatives supported ideas of social responsibility theory, although not typically using this label. Skjerdal points out that this conclusion must be taken in context. The popularity of libertarianism “can be seen both as a reaction to the authoritarian traits of apartheid and an aspiration for Western liberal thinking” (Skjerdal 2001: 75).

3.2.3. North-South Media Relations

Media theorists have noted that the media in different countries have different characteristics and challenges. Challenges of literacy and access to at least one form of media have generally been overcome in most Northern countries. However, the global South still lacks basic infrastructure for many Northern modes of communication (Karembu 1993). Further, messages in the Southern mass media are often claimed to be dominated by Northern agendas (Fairhead and Leech 2003; Opubor 1993).

During the colonial era, Northern forms of media controlled by and for the elite were introduced. After independence, the new governments frequently co-opted media structures and used them for nationalist propaganda (Berger 1996). Transition to democratic governance has generally resulted in the overt separation of the media from political powers. Democracy, combined with capitalist imperatives, has led to the growth of private media industries in many of these nations. Herman and McChesney (1997) describe how the capitalist drive of the industry pressured the media in developed nations to spread to new markets. The expansion was, and continues to be, enhanced by the lack of internal capital in Southern countries to fund competition. Thus, many countries are dependent upon external funding or investment from the North. In many cases, this has enhanced the capabilities of countries to spread information (Fairhead and Leech 2003) although it has also resulted in a preponderance of information constructed in line with the Northern agenda (Opubor 1993).

3.2.4. Media Research

Despite continuing uncertainty about the effects of mass communications, and recognising that diverse forms of media impact different members of the audience differently, it is widely accepted that the messages put forth by the media have an effect on society. Understanding these messages can give insight into the structure, power relations, and concerns of society. There are a range of different areas of interest and methodologies in which media analyses are conducted, including examination of news sources and values, discourse analysis, and studies of the impact of the media.

3.2.4.1. Media Content, Sources and Values

Studies of news coverage include analysis of the actual content of media stories and how the content was selected for coverage. Content analysis is typically quantitative and consists of classifying and tallying the contents of the media. Research highlights the number of times a certain item such as theme, topic, word, phrase, image or metaphor is used. There is, however, a subjective aspect of the method, for the researcher must define categories and select where to place ambiguous data (Hansen, *et al.* 1998). The method has been strongly criticised, for the frequency of occurrence of a topic or source is not necessarily related to the impact of the message portrayed (Anderson 1997; Hansen, *et al.* 1998; Kwansah-Aidoo 2001). However, content analysis can be adapted and combined

with other techniques and is still a commonly used method (Hansen, *et al.* 1998; Kwansah-Aidoo 2001).

Classifying sources of information is also a critical aspect of determining how information reaches the media. Different sources with information about the same issue may or may not have similar messages and compete for media attention (Anderson 1997). The sources chosen for representation do not equally represent all social viewpoints (Fairclough 1989). This is compounded by the tendency of journalists to repeatedly report the opinions of same sources. Most reporters have a trusted set of established contacts that are continually relied upon for information. These sources typically come from positions of power and/or authority, and use their influence to reinforce prevailing ideology (Fairclough 1995).

Definitions of newsworthiness are equally important in determining what gets into the media. Traditional news values vary with the form of media and the audience it is trying to reach. The values vary with the angle of the story, and can include human interest, the dramatic nature of the event, inclusion of famous or charismatic individuals, sudden or unexpected events, and disagreement of opinion (Hannigan 1995). Anderson (1991) includes concepts such as scientific agreement, public concern and visual impact as important values for environmental news. Authors commonly note that the media tend to cover issues defined as important by the powerful (Anderson 1991; Hannigan 1995; Hansen 1991; Fairclough 1995). Newsworthiness is also related to what Anderson (1996) calls “issue attention cycles”. Different social issues gain attention during some periods and lose during others; examination of these patterns and their causes can help to understand media coverage (Anderson 1997). Examples of this pattern in the environmental context are given in section 2.3.2.

Another value discussed in media studies is the competing functions of information and entertainment (Fairclough 1995). Different forms of media, as well as different sources within an industry, balance these two needs in different ways. Fairclough (1995) has noted an increasing reaction to market forces and consequent shift towards entertainment as a news value.

3.2.4.2. Discourse Analysis

Discourse analysis gives a more careful examination of the messages portrayed through the media. Traditional content analysis simply catalogues and counts various representations, sources or cycles whereas discourse analysis begins with the premise that there are a range of choices available for the construction of a story. Different words, symbols, imagery, and metaphors can be selected, and the particular choices made determine the connotations associated with the story (Fairclough 1989). A discourse analysis must therefore first illuminate how a story has been framed and the implicit messages within it in order to gain a fuller picture of what is being presented to the audience through the media.

Discourse analysis explores the options available and to explicates the reason for the selected framing. This is done by looking at the individual texts and the context in which various messages are stated. Framings are often selected because they “resonate with pre-existing belief-systems and attitudes” (Anderson 1997: 36) and journalists can tap into these social beliefs to make their messages more meaningful. Discourse analysis of the media can also be used as a “barometer of socio-cultural change” (Fairclough 1995: 52), for the relevance of words, symbols, images and metaphors changes over time. The shift of their use in the mass media typically parallels shifts in society.

3.4.3. Impact of Media

Studies of the impact of the media on public perceptions and actions step beyond documenting content and understanding messages and attempt to determine how an audience reacts to the media. One of the more conservative claims regarding impacts is that, although not determining *what* people think, the mass media does influence *which* topics individuals think about. This is known as the “agenda-setting” role of the media and was first defined by McCombs and Shaw (1972). Agenda-setting theory is considered a response to traditional linear ideas of impact which theorised that the media directly impacts what people believe. Their theory is related to Noelle and Neumann’s ideas about the ‘spiral of silence’ (Gooch 1996). This theory postulates that “the dominant force in construction of opinion is the fear of holding divergent views” (Gooch 1996: 110). Therefore, the media will tend to support popular views and the public will alter their own views to be in accord with those put forth by the media so as not to be seen as holding deviant opinions.

Agenda-setting research is highly dependent upon quantitative studies and statistical correlations (Kwansah-Aidoo 2001). The model itself has come under severe criticism because counts of the number of times a theme arises do not take into consideration the messages presented to the audience. The relevance of this factor is contentious, as discussed below. Agenda-setting research is also criticised because there is no conventional means for testing the degree to which existing concerns in society impact media content and vice versa. Finally, traditional agenda-setting research approaches do not probe into respondents' answers enough to know whether they cite issues seen in the media or their own ideas when asked to list major social concerns. New methodologies have attempted to assuage these concerns by performing more detailed studies, and examples of this are given in section 2.3.4 (Gooch 1996; Kwansah-Aidoo 2001).

Mazur and Lee (1993) claim that, particularly regarding perceptions of risk, a stronger role for the media can be shown. The quantitative theory of coverage argues that the number of times the public sees a controversial topic in the media is proportional to the risk associated with it, regardless of the message in the particular report. For example, although fluorine was both positively and negatively covered in the media, public opposition was raised because of the frequency with which they saw the topic in the news (Mazur and Lee 1993). This is partially attributable to the fact that even environmental reports with an overall positive tone implicitly convey the message that there is a certain element of risk associated with the topic discussed. Another relevant factor is the inattentiveness of media audiences; newspapers are often skimmed and television news is often watched while performing other tasks. Therefore, the actual tone of the message is of secondary importance and audience perceptions are based on quantity of coverage (Mazur and Lee 1993).

More liberal perspectives contend that the media has a deeper influence. "The wider social impact of media is not just to do with how they selectively represent the world, though that is a vitally important issue; it is also to do with what sorts of social identities, what versions of 'self', they project and what cultural values... these entail" (Fairclough 1996: 17). According to such theorists, the media can influence construction of identity, values, and worldview. Studies seeking to show this relationship encounter significant challenges, for, as with agenda-setting theories, it is difficult to show causal patterns and deduce the impacts of media in societies with diverse stimuli (Hansen 1991).

According to Wanta and Hu, cited in Kwansah-Aidoo (2001), the degree to which media messages impact the actual way individuals think depends on three key factors: the credibility of the source, the degree to which the individual relies on news for information, and how exposed the individual is to the media. Gooch (1996) theorises that whether or not an individual has personal experience in a certain area will effect how a person interprets media reports. These researchers recognise the heterogeneity of audiences and emphasise personal experiences which alter the effect of the media.

The role the media actually plays in influencing public attitudes and opinions remains a highly contentious issue and the subject of many studies. Conclusions regarding the impact of the media on public ideas about environmental issues are equally controversial, for research has resulted in diverging arguments and contradictory results (Gooch 1996; Hansen 1991). Studies which look more closely at this debate in the context of environmental coverage will be examined in the next section.

3.3. RESEARCH ON ENVIRONMENTAL ISSUES IN THE MEDIA

Many different avenues have been pursued in researching environmental issues in the media. Most studies combine areas of interest, adopting methodologies for content analysis, discourse analysis and determining the impact of the media. The following discussion highlights some of these studies, with examples selected to represent various areas of interest, methodologies, time periods, and geographic regions. Although far from an exhaustive account, the following section shows major trends and practices in the study of environmentalism in the media. The majority of studies have been performed in Western contexts, and therefore a greater effort was made to seek out research from other perspectives.

The first of the following subsections gives an overview of major concepts which have arisen out of the study of environmentalism in the media. These broad trends will then be examined more closely through the use of specific case studies. The second subsection highlights the rise of environmental issues in both the American and British medias. The selected studies discuss key events which led to the inclusion of the environment in the mainstream media, and the section emphasises those with relevance to the press. The final examples highlight research on the role of the environmental journalist.

The next subsection of studies includes research which examines contemporary national discourses on environmentalism in the media. The studies vary in methodology and scope, but each aims to make generalisations about the way the environment is portrayed in a particular country. The third subsection examines current debates about the relationship between the media and public concern for the environment. It is followed by a subsection which discusses in research on the impacts of the media. The studies included in this section attempt to address some of the concerns regarding the methodology and conclusions of previous media work. The final subsection considers concerns unique to the African context and reflects on major challenges which face the African people both in terms of environmental issues and mass communications.

The categories used to arrange the above studies are far from absolute; many works include components of each category. The works included in this literature review have simply been placed into these categories to help structure the section and to ease comparisons of similar works.

3.3.1. Trends in Environmental Coverage

The principal two sources for this section are Anderson's (1997) *Media, Culture and the Environment* and a chapter of Hannigan's (1995) *Environmental Sociology: A Social Constructionist Perspective* entitled "News Media and Environmental Communications". These works make generalisations based on observed patterns of environmental issues in the media. The first two subsections note characteristics of early coverage and the impact of media values on environmental stories. The final subsection cites five criteria determined by Hansen (1995) to enhance media coverage of an environmental issue.

3.3.1.1. Early Characteristics

Hannigan's chapter compiles information from a range of studies on the coverage and trends of environmental issues in the media, beginning with coverage in the 1960s which highlighted events such as the celebration of Earth Day. A critical point noted is that the mass media typically followed social concern about the environment and was responsible for spreading rather than instigating awareness. Anderson (1997) notes that as early as the 1970s, major international environmental NGOs such as Greenpeace and Friends of the Earth recognised the importance of media attention to their cause and began developing

approaches for garnering attention. It was during this period that British and American media employees began to recognise the links between different environmental issues and coverage eventually began framing individual incidents as part of a greater problem. However, it was rare for issues to be framed in terms of global significance or for coverage to include non-industrialised countries, and there was distinct separation in the narration of environmental and development issues. NGOs and activists have had varying relationships with the media, from early distrust to recent legitimisation as valid sources. Since the environment has become a more accepted media issue, major pressure groups no longer struggle to gain legitimacy as sources (Anderson 1991).

3.3.1.2. Impact of Media Values on Environmental Coverage

The nature of the media has impacted the way in which environmental issues are reported. Most environmental issues are too complex to be explained under the time and space constraints imposed by the media. This problem was greatest when environmental issues were first covered, for the growth of public awareness has reduced the need for basic explanations and allowed for inclusion of details (Anderson 1997). For example, early coverage on climate change had to explain the impact of chemicals such as carbon dioxide on the atmosphere and the science behind the greenhouse effect. Now that the concept is generally understood by the public, stories can more closely cover its industrial roots, political controversies, economic implications, etc.

Additionally, few environmental issues fall into the typical 24 hour news cycle and thus do not fit into the traditional structure of news. The result is that most environmental stories centre around milestone occasions, catastrophes, and legal or administrative incidents rather than on global, cumulative problems. Continuing with the example of climate change, individual weather incidents are often reported but not portrayed as part of a more comprehensive shift in global climates. This limitation has consequences particularly when reports draw connections between causes and effects, for event-centred stories tend to place the blame on isolated individuals or corporations and ignore questions of systemic failings and interrelationships (Anderson 1997).

Anderson (1997) also notes that environmental stories are limited by the libertarian journalistic ethics of objectivity and balance. This is one of the major challenges of reporting on scientific issues, in which one side of a debate typically receives stronger

support from the scientific community than another; rarely is equal portrayal of both sides of an issue a valid assessment of the debate surrounding a controversy. Again, using the example of climate change, scientists with dissenting opinions can be found by journalists and used to present arguments supporting and opposing climate change. However, the prevailing scientific opinion is that greenhouse gases will- or already do- have an impact on the global climate. Journalists themselves rarely have the skills necessary to evaluate the scientific claims and present an accurate picture of scientific risk, particularly in environmental reporting (see discussion in 2.3.2.3. below). Such impartial portrayals do not help individuals to make educated decisions about the environment.

The media, however, tends to use the obligation of objectivity and balance for their own benefit by portraying diverging, controversial opinions to make a more interesting and better selling story. Objectivity also allows the media to frame issues in a way that allows them to avoid blaming parties and thereby not alienate corporate entities (Anderson 1997). An example of this is given in section 2.4.3. below.

Anderson also highlights studies which have questioned the partiality of environmental journalists. These enquiries discuss whether or not environmental reporters take on advocacy roles. Rarely do these explore what the normative values should be but seek to document the values expressed, as done by Skjerdal (2001). The results of studies have not lead to clear conclusions; however, it appears as though journalists tend to see themselves as information providers rather than advocates for the environment (Anderson 1997).

Both Anderson and Hansen call attention to the cyclical nature of environmental reporting. Environmental issues tend to gain prominence during times of economic security and when media and public interest in other social or political issues is dormant. Mazur and Lee (1993) also noted the upsurge or coverage during the late 1980s when there were no other critical global controversies.

3.3.1.3. Constructing Environmental Problem

Drawing from a range of samples, Hannigan (1995: 69-70) composed a list of criteria which garner attention to environmental problems. These indicate both innate qualities and ways in which activists intentionally frame problems.

- 1) A potential problem must be cast in terms which 'resonate' with existing and widely held cultural concepts.
- 2) A potential environmental problem must be articulated through the agendas of established 'authority fora', notably politics and science.
- 3) Environmental problems which conform to the model of a publicly staged 'social drama' are more likely to engage the attention of the media.
- 4) An environmental problem must be able to be related to the present rather than the distant future in order to capture media attention.
- 5) An environmental problem should have an 'action agenda' attached to it either at the international or local community level.

The next section discusses case studies of environmental issues in the media. These issues will be examined in terms of the above patterns.

3.3.2. Bringing the Environment into the Mainstream Media

Determining when and how environmental issues first gained the attention of the media is widely dependent upon the use of the term 'environment'. Many scholars note that environmental issues became popular in the press during the late 1970s and 80s in the United States and Britain (Anderson 1991, 1996), discounting the importance of the media in drawing attention to issues such as 19th century protests against air pollution and the controversy surrounding damming the Hetch Hetchy Valley (Neuzil and Kovarik 1996). Although such issues were not framed as environmental during this time, they are at the root of the contemporary environmental movement.

3.3.2.1. The Rise of Environmental Issues in the American Media

A range of early environmental issues, from the mid 1800s to the popularisation of environmentalism after the 1962 publication of *Silent Spring* by Rachel Carson, are detailed in Neuzil and Kovarik's (1996) *Mass Media and Environmental Conflict: America's Green Crusades*. The work explores media coverage of a range of selected issues from leaded gasoline to conservation and analyses the impact of the media angles. The author's introduction gives background to the role of the media in the American environmental movement, and attributes part of its success to the mass media. Two chapters from this book, one from the public health perspective and one regarding conservation, are highlighted below to show the impact of the media in the early years of environmentalism. The next study examined is Mazur and Lee's (1993) research on environmental reporting in the United States during the 1980s. It is this period during

which environmental issues reached peak coverage and became accepted as a legitimate news issue.

3.3.2.1.1. Early Issues: The Radium Girls and the Ballinger-Pinchot Affair

Neuzil and Kovarik attribute the success of the battle of “The Radium Girls” against their employer to the combination of an activist organisation and a single news reporter. In the early 1900s, industries employed women to paint a coating of radioactive radium onto clock dials in order to make them glow in the dark. When a brush lost its shape, the workers used their lips to point the tip, leaving traces of radium on their skin. Grace Fryer worked in one of these factories for about three years, and two years after quitting began to experience strange health problems. She spent two years trying to hire a lawyer for her case, and was joined by four other ill workers. It was not until after the case had been taken up by the court, and thereby seen as legitimate, that the press began to report on their plight. Until this time, radium had been portrayed by the media in a positive light, as confirmed by a study of the written media on radium in the early 1900s. Illnesses in scientists working closely with radium were eventually discovered, but the media tended to frame them as “martyrs to science” rather than condemning the chemical.

Despite previous lauding of radium, *The New York World* was convinced to frame the issue strongly in favour of the Radium Girls because of a personal relationship. Neuzil and Kovarik argue that this attention led to the failure of U.S. Radium’s attempts to slow the proceedings until the plaintiffs died. Coverage of the issue continued even after the lawsuit was settled, successfully pushing for changes in the radium industry. The women themselves, however, were not seen to benefit from the press coverage and their lawyer sought less public attention. Articles were often framed in human interest terms, emphasising the gender of the plaintiffs, such as comments on the ‘pretty’ Fryer and discussion of who would care for her children after her death.

Referring back to Hansen’s criteria, it is notable that the case of the Radium Girls strongly parallels contemporary environmental accounts. When the story broke, there was already interest in the rights of workers, and established cultural values such as motherhood and femininity were emphasised in the press. Scientific support came through Fryer’s doctor, and the story was not picked up until it entered the political sphere through the courts. The press framed the story in terms of conflict between the ‘girls’ and the industry, with the

help of a committed activist. There were immediate, visible impacts to the radium, fulfilling Hansen's fourth criteria. Finally, there was an easy achievable action agenda, ending or altering the industrial practice, for which the newspapers advocated.

Another chapter discusses the allocation of public lands, which has been a contentious issue throughout the nation's history. The dispute over whether primary users should be individuals or corporations was enhanced by growing concern for land protection, articulated by noteworthy advocates such as John Muir, Gifford Pinchot and Theodore Roosevelt. After the discovery of coal in Alaska, a significant amount of federal land was turned over to speculators. When questions arose regarding the association of major speculators, referred to as the Cunninghams, with the Morgan-Guggenheim industrial syndicate, the land allocation became the subject of inquiry by Louis Glavis, a government official.

The situation was further complicated by the involvement of the secretary of the interior, Richard Ballinger, who ordered the investigation into the land claims stopped. Congressional hearings were held, and according to Neuzil and Kovarik, these hearings might have been the end of the controversy. However, the hearings occurred in the era of strong progressive ideology which opposed big business and monopoly and a growing trend of journalistic muckraking. After failing to receive the desired support from the government, Glavis and other opponents to Cunningham and Ballinger utilised the social climate to their advantage, cultivating media attention and public opposition. The politically astute Glavis wrote an article for the magazine *Collier's*, knowing that its editor also had ill feelings towards Ballinger. This "story of robber barons stealing pristine public land with the help of shady government henchmen" (Neuzil and Kovarik 1996: 96) was subsequently picked up by other magazines.

During the hearings, Glavis's lawyer held daily press briefings and continued to utilise other forms of public relations. Ballinger and his colleagues put little energy into such efforts. Although in the end Congress voted in favour of Ballinger, Neuzil and Kovarik claim that the positive attention gained by the Progressives in the media and the negative skew of the anti-conservationists was of more significance to the environmental movement than the actual results of the hearing.

As with the Radium Girls, news coverage of the Ballinger-Pinchot Affair strongly coincides with Hansen's criteria for successfully gaining media attention. Conservation of federal land was a widely accepted American value, and the social climate was strongly opposed to big business. Ballinger and Pinchot were noteworthy authorities, and the controversy itself surrounded a political policy. The social drama consisted of big business against the public interest. The consequences of the policy were immediate, for the land was turned over for mining. The specific action agenda was to stop the land transfer.

3.3.2.1.2. The 1980s: Ozone Depletion, Climate Change and Biodiversity

Mazur and Lee (1993) explore the increased salience of key environmental issues in the American press during the 1980s in their journal article "Sounding the Global Alarm: Environmental Issues in the US National News". Their analysis emphasises the role of the mass media in bringing public attention to debates which already existed within the scientific field. It also argues that there was a combined effect when multiple environmental issues were brought to public attention at a similar time. For example, since biodiversity loss from the destruction of the rainforest and increased quantities of greenhouse gases are interrelated, attention to either issue enhanced the significance of the other.

The first issue discussed in this work is ozone depletion. Rowland and Molina published their theory on the negative impact of chlorofluorocarbons (CFCs) on the ozone in 1974 without national media coverage. Yet that same year, aerosol cans were criticised for a different harmful environmental impact- the carcinogenic properties of a chemical used in some aerosol products. The industry, already feeling threatened by environmentalists, invested in a major public relations campaign seeking to discredit Rowland and Molina's claims. According to the 'quantity of coverage' theory discussed above, this coverage merely enhanced public fears. The discovery of a hole in the ozone, an international conference, and a trite comment attributed to President Reagan's Secretary of the Interior that the problem could be solved with sunglasses and suntan lotion all served to draw attention to the issue of CFCs.

The popularisation of the greenhouse effect occurred much more slowly. The theory was first described in the late 19th century, but it was not until the energy crisis of the late 1970s that serious attention was given to the topic. In 1981, the *New York Times* published an

article by NASA scientist James Hansen which claimed that increased burning of fossil fuels high in carbon dioxide due to reductions in the availability of oil would lead to significant global warming. The article was accompanied by a graph depicting global temperature increases since 1880. James Hansen served as an environmental populiser (Hansen 1995) for an issue known amongst the scientific community for decades. When the energy crisis was no longer in the public eye, global warming also lost attention. However, Mazur and Lee (1993) argue that as awareness grew about human impacts on the ozone, it became more plausible to the public that humans could also impact the climate. Global warming was swept up with concern for the ozone in 1986 and 1987, and gained attention again during the drought in the summer of 1988. Although it is difficult to show direct correlation between a single drought and global warming, the weather raised awareness about climatic concerns.

The final topic discussed in Mazur and Lee's article is national concern for biodiversity. The authors attribute sudden concern for the issue in the mid-1980s to the publication of a new theory that an asteroid was responsible for the extinction of the dinosaurs, which implicitly resulted in new awareness about the vulnerability of species. Protection of the rainforests was the primary avenue through which concerns for biodiversity were vocalised. Publication in the press of photos of burning forests, protests against World Bank projects which threatened biodiversity, the adoption of the rainforest protection by celebrities, and the murder of Brazilian Chico Mendes all increased coverage of the issue. Fires in Yellowstone accelerated in the 1988 drought and made the issue of environmentally damaging fires more salient to the public. Finally, destruction of the rainforests and the consequent release of carbon dioxide brought together concerns for biodiversity and climate change.

It is arguable that the reason these environmental issues rose to such prominence in the late 1980s is because of a paucity of other major events relevant to the American public. The publicity occurred in the years between the end of the Cold War and beginning of the Gulf War and during the build up to the 1990 Earth Day celebrations. Were it not for these factors, Mazur and Lee claim it is likely that these environmental issues would not have been so prominent in the media. This argument coincides with Anderson (1997) and Hansen's (1995) assessments of attention-cycles.

Each of these issues has traits in common which contributed to their prominent placing in public concern according to Hansen's criteria. The ozone issue resonated with existing concerns raised by carcinogenic properties of aerosols, and biodiversity concerns had tacit association with public interest in dinosaurs. Scientific authorities noted both ozone depletion and climate change, however, neither became prominent social concerns until adopted and articulated by more popular, established authorities. Social dramas were created particularly around biodiversity, including those associated with Chico Mendes in the Amazon and World Bank project demonstrations. These issues were related to contemporary concerns by the graph presented by James Hansen, the drought of 1988, the discovery of a hole in the ozone and the death of Mendes.

Action agendas are less evident in these examples than in the previous cases because the causes are diffuse. Environmentalists called for a ban on production of CFCs, which led to an international meeting and adoption of the Montreal Protocol in 1987. However, there is not a single group of compounds or industrial processes which cause climate change and biodiversity loss. This complicates the action agenda, resulting in calls for specific actions, but no single recommended course of action.

3.3.2.2. Rise of Environmental Issues in the British Media

Anderson's (1991) "Source Strategies and the Communication of Environmental Affairs" looks at three key events which led to the legitimisation of environmental issues as newsworthy stories and why they gained the attention of major news outlets. The first event is a speech to the Royal Society by Prime Minister Thatcher articulating the need to address environmental problems. This speech arguably brought green issues into mainstream politics in England, and consequently into mainstream media. However, Thatcher's speech was equally prompted by recent coverage of environmental controversies, particularly by the *Karin B* affair and the seal plague.

The *Karin B*, a ship carrying toxic materials and trying to find a port in the UK, gained media attention in part as a response to growing environmental concern, but also because it fulfilled existing news values. The summer seal plague satisfied a range of news values because of "dramatic, visually appealing pictures; the international nature of the issues; the unexpectedness of the events and the negative nature of these items" (Anderson 1991: 464). This was enhanced by the human interest component of the story, uncertainty over

the cause of the sickness and the continuing death of individual seals. The *Daily Mail* responded to public interests with a 'Save Our Seals' campaign, further increasing the publicity of the issue. The newspaper promotion also gave the public an avenue for action, and public response solidified the paper's awareness of public concern for the environment.

These incidents also resonate with existing values. The *Karin B* affair occurred during a time of high nuclear and toxic fears in the UK. Dying seals equally aroused cultural sentiments. The adoption of green issues just after these incidents by Thatcher gave them voice through an established authority; however, this actually occurred after and as a result of media attention. Both incidents had immediate results and a tangible course of action. The seal campaign gave a role to individuals, whereas there was a need for government level intervention to prevent the landing of the *Karin B*.

3.3.2.3. *Environmental Journalists*

Whereas the above studies examine the rise of environmental issues in the media, an article by Detjen, *et al.* (2000) entitled "Changing Work Environment of Environmental Reporters" looks at shifts in environmental coverage in the U.S. from the perspective of the journalists. Although much of environmental coverage is externally dictated, "environmental reporters, like science reporters, have a specialization that gives them relatively more autonomy in choosing topics, sources, and story angles" (Detjen, *et al.* 2000: 6). The authors contend that this freedom of individual reporters is one of the factors which determines the patterns of environmental reporting. Consequently, information about the backgrounds and ideology of the journalists themselves contributes to understanding environmentalism in the media. The authors note a significant gap in information about environmental reporters, referencing only one such study performed in 1973.

The authors conducted a survey to gain more current information on environmental reporters in the U.S. It shows a predominance of male reporters, but the number is proportional to the population of journalists as a whole. Environmental journalists averaged four years older than other journalists, and tended to be slightly more educated. Fourteen percent had academic backgrounds in a science field. Source credibility was then

rated, and universities were listed as the most trustworthy supplier of information, followed by government and environmental groups with business cited very low on the scale.

Problems listed by the respondents include, in order of most often cited, resources for research and travel, sufficient time for writing the story, low salary and finally adequate space or air time for reporting the story. Despite decades of environmental coverage and solidification of the environment and a newsworthy issue, many journalists feel themselves lacking skills in environmental reporting. More than half the respondents identified training as their greatest need; less than half had training in covering environmental issues. Absence of training, and funding for training, are cited as reasons, as well as a lack of background in scientific fields. Water and air pollution were the most commonly listed topics covered, but respondents also frequently cited land use, endangered animals, hazardous waste and recycling as topics.

3.3.3. National Media Coverage of Environmental Issues

A number of studies have looked at the media of a single country and attempted to determine patterns in prevailing environmental discourse. Whereas the above research focuses on the rise of environmental coverage, these studies look at how the environment currently being covered. The apparent trend in such research is to use national forms of the media, often divided by their audience into popular and 'quality' media. Beyond this distinction, the media is typically considered as a relatively homogenous entity, and audience variation and reactions are not part of the study. Examples from Zambia and Ghana, the United Kingdom and India, the United States, Brazil, and Guinea and Trinidad are detailed below in chronological order. Each study has a slightly different focus, from comparing the national media in two countries to determining the underlying discourse of environmental coverage.

3.3.3.1. Zambia: Content Analysis of the National Press

A compilation of studies on African mass communications entitled *Media and Environment in Africa: Challenges for the Future* was published in 1993, just after the Earth Summit. The work contains research performed in Northern Nigeria, Ghana, Zambia, Kenya and Ethiopia, and some studies which make wider generalisations about the media on the continent. Nyirenda's (1993) "Newspaper Coverage of Environmental Issues in Zambia" gives the results of an analysis of the two national papers in the country.

Data was collected as to the total percentage of environmental stories, whether the topics cover disaster or non-disaster events, whether the stories are foreign or international, and the position of these stories in the papers. The results indicate that environmental issues are only 0.7% of total coverage, and that there is more reporting on environmental disasters than non-disasters. National and international stories were covered nearly equally. When reported, environmental stories quite often received front page attention. The Zambian study supports Anderson's (1997) conclusions about the event-driven nature of environmental coverage.

3.3.3.2. Ghana: A Discussion of the Role of the Media

Boateng and Akosua's chapter in the above cited compilation is the most comprehensive in weighing the potential impact of the media. "Laymen and media experts alike agree that the media have a role to play in addressing the ecological crisis facing countries in Africa and elsewhere... Ghana's Environmental Action Plan (1991), the Ghana National Report to the Earth Summit (1992) and the InterAction Council cite the mass media as a means of information dissemination for environmental education" (Boateng and Akosua 1993: 47). The media has had a role in mobilising concern on some environmental concerns, such as opposition from the Nigerian government to the dumping of Italian toxic waste in Nigeria. However, evidence is also cited cautioning too much confidence in the ability and willingness of the mass media to incite change. According to the article, individuals most involved with environmentalism typically obtain their information from other sources, and the general public is typically less susceptible than policy-makers to shifting ideologies.

Boateng and Akosua then reports on results for a brief examination on the portrayal of women in stories on the environment. Research indicates that women do appear in stories on the environment, although not frequently. Conclusions from a study of two Ghanaian papers were also cited, including parallels between issues covered and the national Environmental Action Plan. The study supported other authors' conclusions that environmental coverage is event-driven. Stories which contained depth were typically from external sources, and therefore local perspectives were often missing from the more lengthy stories. This supports the ideas detailed above regarding Northern influence on the South through the media.

3.3.3.3. *The United Kingdom and India: National Comparisons*

Environmentalism in the Mass Media: The North-South Divide (Chapman, *et al.* 1997) is a detailed comparative study of media coverage in the United Kingdom and India. The study of the UK shows that the popularity of the environment coincides strongly with national economic conditions. It also indicates that the initial role of the media in raising awareness of environmental issues was successfully fulfilled, and that this role has shifted to a more challenging function of explaining, contextualising, and reframing the issues in news terms. Environmental reporters were added to many newsrooms in the late 1980s, although many of these positions have since been removed after a peak in the early 1990s. Most journalists consider themselves to be impartial reporters of information and seek unbiased representations. The high costs of covering environmental issues were noted, and cost was one of the factors cited for reporting on domestic rather than international issues. However, international issues such as the greenhouse effect and ozone depletion do receive significant coverage.

Environmental issues in India, in contrast, focus much more on domestic issues. One correspondent interviewed simply explained that most Indians do not see international issues such as global warming and ozone depletion as their problems but concerns for the West. Indians “are more concerned about forests and land use and with industrial pollution, with water pollution and air pollution” (Chapman, *et al.* 1997: 74). These issues have been of interest for some time, and are only recently being grouped together under the category of the ‘environment’. No newsrooms were found to have environmental reporters, although there were categories such as ‘science’ and ‘development’ journalists who covered environmental issues. Journalists tend to be divided into two factions which can be described using the terminology of normative values. One group holds traditional Western news values of impartiality in line with libertarian norms, and a second supported advocacy journalism in line with values of social responsibility. The environmental movement is centred on charismatic individuals who utilise the media to spread their messages.

The debate between environment and development is much more pronounced in the Indian media than in the media of the UK. Many interviewees noted that different newspapers cover the issue differently; newspapers in English tend to frame development negatively whereas those in other Indian languages favour the development. This is best understood

by recognising that the English press caters towards an urban audience and papers in Indian languages are more popular in areas where developments are planned.

A content analysis was also performed for various forms of media in both countries. For the newspaper analysis, one popular and one upper-market paper was reviewed for each country. The results show that roughly the same proportion of the two upper-market papers is dedicated to environmental issues, and that the popular Indian paper had more environmental coverage. Roughly 80% of Indian and two thirds of the UK stories are locally focused. Stories about Africa appear most often in the UK popular press; most of these stories centre on wildlife tourism and holidays. More Indian stories focus on both malfunctions and mitigation, and Chapman, *et al.* interpret this as illustrative of active interaction with the environment. The UK stories, by contrast, tend to be of a more contemplative nature. All types of coverage on water were more common in Indian stories; coverage of natural disasters was found more often in the UK. The popular press in both countries tends to have fewer stories about the environment, and those included had a more localised focus.

Chapman, *et al.* then compares the determined media messages with public understandings of the media in both locations. The conclusions indicate that major public concerns in India are often related to 'brown' environmental issues, although they are not typically categorised by the individual in this manner. There is little understanding of traditional 'green' environmental issues, although this varies with literacy, income, education and access to the media. Results in Britain indicate a more homogenous population that sees environmental problems as occurring in other parts of the world. There was greater awareness regarding environmental problems, but these do not take high priority unless they are seen to have a local impact.

3.3.3.4. The United States: Portrayal of Sustainable Development

Lewis (2000) uses a different strategy for determining national discourse, choosing to examine the single theme of sustainable development. The study looks at the ways in which debates over sustainable development are framed in the American press in the decade after the 1987 publication of the Brundtland Report. Sustainable development is viewed within the social constructionist paradigm, and Lewis highlights three dominant critiques of the theory. These include: there is excess culpability attributed to the global

South, the concept of sustainable development is abused by the North to influence Southern resource consumption, and finally the concept is used by the North to maintain unfair global power relations.

The results of the analysis show a single prevailing view of sustainable development which is closely linked to economic growth. Associated assumptions include that development is defined in terms of economic growth, faith that science and technology will solve problems and that industrialisation leads to improved environmental conditions. Many stories used the concept of sustainable development as a model to reconcile opposing environment and development proponents. Solutions tended to focus on technology transfer and support the idea that the North has solutions, both academic and technological, to Southern problems.

Critiques of sustainable development are also present in the media which question whether or not emphasis should be on economic growth or social equity. Other critiques note the constraints on business and profitability, and consequently lowered economic growth, associated with sustainable development.

National government, NGOs and industry were used as sources in nearly equal quantities, although there is a very narrow range of NGOs cited. Roughly half of the NGOs had views critical to the prevailing paradigm. The majority of articles on issues in the North were written by authors from the North. A smaller percentage, but still a far majority of articles on the South were written by Southerners. Although looking at portrayals of the South in the North, this challenges the ideas put forward above regarding the dominance of the media by the North. Both Northern and Southern nations are blamed for environmental degradation, contrary to the aforementioned criticisms. However, articles tend to focus on the problematic nature of Southern development and population growth rather than Northern consumption.

3.3.3.5. Brazil: Analyses of Environmental Issues in the Press

Like the above study, Guedes's (2000) examination of the press in Brazil looks at both sources of information and the underlying values of the expressed discourse. Until the mid-1980s, the Brazilian press was entirely controlled by the government. Although the newspapers still tend to portray the views of the powerful, members of the general public are increasingly being able to express themselves through this medium. Most citizens do

not access newspapers, however, they are commonly utilised by social movements as a means to instigate change. Democratisation resulted in the privatisation of the media in a capitalist context, and the press is now run by a centralised few, following the trends noted in section above. The press has been highly influenced by American journalistic norms, and journalists have shifted from expressing their own opinions to attempting to reflect Brazilian society. Industrialisation, urbanisation, and modernisation have contributed to the formation of the media industry, resulting in a high quality, informative press.

The study shows that there was increasing coverage of environmental issues during the early 1990s, partially attributable to the presence of the Rio Summit in the country. Most stories were of straight news; the newsworthiness of many stories was based on visual appeal. Few stories came from international news agencies. Just over half the content referred to the local environment, a lower percentage than that found in either the UK or India by Chapman *et al.* Nearly two thirds of the stories reported positively on the environment, many offering solutions in the articles.

The study reveals interesting conclusions regarding the sources used by the journalists. “Representatives of government institutions, experts and environmental groups were the main actors in the environmental debate... followed by politicians representatives of industry AND workers. Among actors hardly ever appearing in the environmental news were the workers and victims- people considered to have suffered any damage from environmental problems” (Guedes 2000: 544). Like other studies, this shows that environmental issues tend to gain prominence when endorsed by individuals seen as legitimate sources of news.

The press frames the issues according to the dominant environmental discourse in Brazil. Debates are explained in terms of cost-benefit analysis and scientific, technological solutions are offered without questioning the system in which the problems arose. Science is portrayed as being separate from the political sphere and without its own set of values. Equally unquestioning is the typical stance on responsibility for environmental problems. Humanity as a whole is cited as the cause, rather than corporations or capitalism. Although journalists have the legal right to question environmental issues on various levels, the typical story does not engage in such inquiries. Voices of NGOs and protesters tend to only appear when they counter prevailing opinion.

3.3.3.6. *Guinea and Trinidad: National Comparisons*

Fairhead and Leach (2003) examine the relationship between governance and the spread of environmental information in *Science, Society and Power: Environmental Knowledge and Policy in West Africa and the Caribbean*. The chapter entitled “Mass Media and Education” discusses the role of the media in Guinea and Trinidad in spreading environmental messages. They begin with the premise that the role of the media varies, at times supporting the status quo and at other times working to inform and engage citizens in opposition. The authors note that the two countries in many ways parallel the distinctions determined above in the work by Chapman *et al.* (1997). Guinean media audiences are “involved in direct productive/livelihood relationships with the environment” (Fairhead and Leach 2003: 189) whereas the media audience in Trinidad views the environment as an external concern with which they have peripheral involvement.

Colonial media in Guinea was run by the government and included messages supportive of the political status quo, although alternative media did exist. The Toure government was equally unsupportive of media diversity, and was characterised by endorsement of science and ‘demystification’ of traditional beliefs. Political shifts after Toure’s death in 1984 resulted in increased freedom of the media; however, negative associations remain for some Guineans. “Combinations of media forms and their meanings are thus shaped by their particular histories of practice. Such histories in turn shape, but do not determine, interpretative possibilities” (Fairhead and Leach 2003: 193).

Guinean environmental media is largely reliant upon external funding. Environmental journalists and radio programmes are given EU support. According to the authors, these funds for environmental awareness have made positive contributions to the development of the media industry as a whole. “The environmental field has been pivotal in the shaping of mass media in form as well as content” (Fairhead and Leach 2003: 191). This involvement has given the media an international outlook, often decreasing the ability of people to influence the direction of the media and resulting in a paucity of debates regarding science and policy. However, despite the low level of influence, Guineans have been able to assert dissenting voices through the media.

The media in Trinidad is less dependent on external support, in part because the country has a stronger history of using the press as a medium for political dissent. Coverage of environmental issues is found within quality and community papers and continues to be shaped by the prevailing opinions of authorities. “The majority of those reporting on environment (and certainly the most famous and frequent contributors), whether from within NGOs or as professional journalists, are strongly identified by readers as part of white, elite culture” (Fairhead and Leech 2003: 205). These ideas play a major role in shaping the national environmental discourse. The government also utilises the media to spread its stance on environmental issues, although its employees rarely directly write stories.

News stories tend to depict environmental issues as morality plays with good and bad iconic characters contesting over resources. Farmers, hunters, loggers, squatters and fire setters are amongst the ‘villains’ who are ignorantly destroying the environment. CBOs, NGOs, and the government are portrayed positively as those fighting for a just cause. These stories often appeal to the tourist ethic of urban elite. Descriptive stories of the activities of government and organisations are also commonly included in environmental coverage.

The media in Trinidad contrasts with that of Guinea particularly in the presence of formal debates surrounding environmental policies. Voices opposing the standard portrayals include critiques of environmental ‘doomsayers’ and contestation of national conservation policy and legislation.

3.3.4. Role of the Media in Setting the Environmental Agenda

Gooch’s (1996) “Environmental Concern and the Swedish Press” and Kwansah-Aidoo’s (2001) “The Appeal of Qualitative methods to Determine Agenda-Setting Research: An Example from West Africa” are concerned with determining the impact of the media on public opinion. These studies were chosen to reflect continuing controversy over the effects of the media and attempts to redesign research methods to increase the consistency and confidence of results. They were also selected to represent research in different social climates.

2.3.4.1. Considering Social Factors Discounts Agenda-Setting Model

Gooch's (1996) study first notes the contrasting conclusions reached by various authors regarding the impact of the media on public opinion. His research seeks to determine what factors can cause the media to have different effects on different audiences. The study uses newspaper content analysis and follows the 'quantity of coverage' theory described above rather than considering the discourse of the articles. This method was complimented by a public survey and documentation of NGO activities.

Regional newspapers are cited by respondents as the most common source of information on environmental issues, followed by television; friends, neighbours and relatives; and environmental organisations. Contrary to the scepticism of journalists regarding the reliability of environmental organisations, respondents cite them as the most trustworthy source of information. Local authorities and politicians are rated very low in this factor. Nonetheless, government sources are used nearly five times as often as sources of information as environmental organisations.

Gooch's results show that there is not a significant correlation between the issues prioritised by the public and those covered most often in the newspapers. Therefore, although the press is considered a major source of information, the media does not have a strong agenda-setting role. This may be attributable to a range of factors, including the influence of other more trustworthy sources. For example, a notable correlation existed between the issues most commonly discussed by environmental organisations and public concern. Since media use sources not regarded by the public as highly trustworthy on environmental issues, it may be that the public gains information from the press but does not reorganise their priorities based on such information.

3.3.4.2. Qualitative Research Supporting the Agenda-Setting Model

The primary goal of the Kwansah-Aidoo's (2001) research is not to draw conclusions about perceptions of the environment but to test the research model (Kwansah-Aidoo 2001). Nonetheless, the research provides key insights into the role played by the media in the formation of public opinion about environmental issues. The article begins with a critical examination of the deficiencies of agenda-setting research methodologies and the inconsistencies in the conclusions drawn from such research, as discussed above.

Kwansah-Aidoo suggests that this can be solved by combining quantitative research with qualitative data, and it is this new method which is applied to the research. Document analysis was performed to determine the environmental agenda of the media, and in-depth interviews and focus groups were conducted with educated urban Ghanaians in order to ascertain environmental perceptions of those most exposed to the media.

The results of the study strongly support the agenda-setting theory. The five issues most often represented in the media and the top five concerns listed in interviews and focus groups were the same, and listed in nearly the same order. Further, over 80% of respondents claimed that their major source of information for environmental issues was from the media, and more than 90% stated that the media helped them to determine which environmental issues they prioritised. The results confirm the hypothesis that the issues represented in the media influence public concern for the environment.

3.3.5. The Media and Environmental Issues in Africa

Media and Environment in Africa: Challenges for the Future also contains chapters which focus on generalisations about environmental coverage. For example, Yilma (1993) notes that media coverage outside Ethiopia emphasises the environmental causes behind Ethiopian droughts and famine, whereas internal media are less likely to take this approach. Conclusions drawn from two other chapters in the collection are highlighted below.

Four key points arise out of the first discussion. First, the media in Africa, as in most other locations, is event-driven. Secondly, events chosen for coverage are often those “identified and given prominence by the international organisations and external agencies who actually set the agenda for our media” (Opubor 1993: 7). These organisations also have the ability to delineate the boundaries for the discussion. Finally, Opubor notes that there are a range of different perspectives on issues of environment and development, and that different actors, interests, and levels of engagement can alter these views. When considered together, these points raise concerns regarding the limited number of voices heard in the media given the range of perspectives noted.

Another chapter in the collection uses Kenya as an example to detail practical challenges facing the media in Africa. Karembu (1993) cites three main reasons for the importance of

spreading environmental messages. Environmental problems impact a range of decisions being made by Kenyans in their everyday lives. Kenyans must also learn about environmental issues in order to better participate in decision-making at the level of governance. Finally, environmental challenges can only be surmounted if there is action from all members of society, and the ignorance of some may dishearten those taking action.

However, there are many difficulties which must be overcome in raising environmental awareness. There is a reliance on information sourced from outside the country in English; although other information may be available in other languages such as German, French or Arabic, most Kenyans cannot read these languages. Further, many Kenyans cannot read English and must have information translated into local languages. However, much technical and scientific information does not easily translate since words and concepts do not exist in the local languages. Illiteracy, low levels of education, and financial constraints also limit accessibility to newspapers and magazines. Finally, some areas are more difficult to access and consequently the transferral of papers is a significant challenge.

3.4. THE SOUTH AFRICAN MEDIA CONTEXT

As with so many other factors of society in South Africa, the role of the media has shifted significantly in recent years. This section of the paper gives an overview the history of the media in South Africa, then highlights contemporary debates regarding the transformation of the media and the role it should play in South African society.

3.4.1. Media History

Media policy under the apartheid regime generally adhered to the authoritarian normative theory as discussed above. Strict legislation was in place, such as the 1974 Publications Act which “led to the banning of political content that was deemed to threaten the status quo” (Oosthuizen 2002: 88). Other regulations allowed for the banning of individuals, organisations and publications. Some of the implications of these restrictions listed in by Oosthuizen (2002) include lack of information to the public, indiscriminate prosecution of media sources, and increased internal censorship by the media. Professional ethics were also impacted by the political climate, and were unable to develop independently within the media industry.

The ownership and control of the press had a significant impact on the messages portrayed (Berger 1999; Fairclough 1996). Most broadcasting was under government ownership and control, although the press was privately owned. A range of papers existed; however, they were controlled by four major groups and uniformly regulated. These groupings horizontally integrated production, making it difficult for new papers to enter the market. Equally important, there was little competition for audience members between papers, in part because of agreements between groups not to overlap (Berger 1999).

The degree of complicity of the media during apartheid remains a contentious issue, as evident from the Truth and Reconciliation Commission hearings on the media (Barnett 2003). The results of these hearings portrayed the media in contrasting ways, from “complicit handmaiden” to “worthy defender of liberal values” (Barnett 2003). Despite this ambiguity, it is widely accepted that changes must be made under the new dispensation.

There were exceptions to government publications which aligned themselves with the anti-apartheid movement. These were often funded by foreign sources, which have been exhausted since the transition (Berger 1999). Many of the proponents of these publications have since joined mainstream media outlets. Other publications have shifted their economic base, such as *The Weekly Mail* which joined with *The Guardian* to form what is now *The Mail and Guardian* (Teer-Tomaselli and Tomaselli 2001). The range and readership of alternative publications, consequently, has undergone significant decline (Barnett 2003; Berger 1999; Teer-Tomaselli and Tomaselli 2001).

According to researchers such as Berger (1999) and Steenveld (2002), the media remains a symbol of elitism to some South Africans. This became evident through the 1999 accusation by two black civil society organisations to the Human Rights Commission of racism in the press. According to Steenveld (2002), this illustrates the fact that the South African press still “represented the ideological arm of ‘white’ (bourgeois) power” (Steenveld 2002: 66). Although changes have been made, the accusation indicates that in the eyes of some organisations, a transition (or a significant transition) has not occurred. Yet uncertainty remains as to what kind of change South Africans are seeking.

3.4.2. Contemporary Debates on the Transformation

Although it is commonly acknowledged that transformation of the media industry is necessary, ambiguity remains as to what type of change must occur (Steenveld 2002). Western discussions of the media-society relationship tend to emphasise class differences, ignoring the impact of race and gender on media discourse, and thus are less applicable to the South African case (Steenveld 2002). Significant debate has arisen regarding what factors should be examined to document transformation. Should race or class or gender be emphasised? Should researchers look at change in ownership, or staff, or representativeness of coverage? Such questions have been raised by academics such as Barnett (2003), Berger (1999), Boloka and Krabill (2002), and Steenveld (2002).

Berger (1999) article highlights many of the changes which occurred in the five year period studied. The work begins with an overview of four perspectives of the role of the media in South Africa. These categories have been critiqued as caricatures of prevailing ideas (Boloka and Krabill 2000) and treat the media as a relatively homogenous entity, but are nonetheless useful guides.

First, Berger (1999: 82) describes the view which claims the South African media “was a factor in the production and reproduction of a racist authoritarian system”. This viewpoint supports the theory elaborated on by Fairclough (1989) that the media supports the dominant social power, whatever its ideology. Thus, this view measures transformation in accordance with the degree to which the new media supports the new dispensation (Berger 1999). The second perspective assumes the autonomy of the press and emphasises its independent role and support for liberal values. This contrast from the next view which claims the media conforms to the beliefs of its owners and supports their political agenda. In the South African context, this would mean that upper class white vested interests under apartheid supported the government, and now work in opposition to it. Transformation would be measured by the change in the colour and class of its ownership and employment. The final perspective is that media criticism helped create a political transformation, but that this criticism is no longer necessary since the government is representatively elected. The media should now switch its role and support the authorities (Berger 1999). This is strongly aligned with the development or nation-building normative values as defined by Oosthuizen (2002) and Skjerdal (2001). Each of these theories has

different criteria by which change is measured, and therefore deciding on a perspective is necessary to truly assessing transformation.

Steenveld (2002) takes a slightly different approach by defining the role of the media as enhancing citizenship. The media's performance should be measured by the degree to which it helps raise public awareness of rights, provides information, helps inform political decisions and supports the role of the public as responsible, active citizens. Additionally, "all members and groups in society should be able to see themselves, their values and their life-worlds fairly represented in the media" (Steenveld 2002: 68). Reduced access through privatisation and commodification of messages can detract from this primary goal.

After his description of the varying perspectives of transformation, Berger (1999) reviews the changes which have occurred in the media. His argument parallels Steenveld's (2002), that a change in racial demographics is important because of "the potential impact that social identity (in terms of colour, class, gender and age) and experience can have on the journalist's ideology, access to a variety of sources, and thus the resources at their disposal for practicing their profession." This must be complimented by training and new definitions of what constitutes news (Steenveld 2002) in order to ensure that new demographics result in more representative content.

Arguments made by Tomaselli (1997) and Boloka and Krabill (2000) acknowledge that there have been changes in the racial profile of the media industry. Yet these articles critique the degree to which "media have made substantive- transformative- changes, rather than superficial changes geared toward maintaining privilege among an elite instead of redistributing privilege" (Boloka and Krabill 2000: 79).

The range of perspectives offered by these papers were succinctly summarised by Boloka and Krabill (2000) in their article. All authors recognise that change has occurred, and that this change is not yet complete. The South African media transformation can be viewed either as a glass 'half empty or half full'. There is an underlying theoretical difference to these perspectives which must be acknowledged, and before the actual content and discourse are examined it is useful to have a clear understanding of what criteria are being sought.

Nonetheless, beyond defining transition, there is a paucity of studies regarding the South African media, particularly empirical studies (Berger 1996). Debates are predominantly theoretical and abstract because few studies have been performed regarding whether or not the actual messages in the media have become more representative of the public. Steenveld (2002) agrees on the need for more empirical studies, particularly studies which attempt to measure the impacts of the notable changes, and gives a range of areas for further research in her article.

3.4.3. Media Coverage of South Durban as Evidence of Transformation

Barnett (2003) uses a new strategy through which to analyse transformation, emphasising the need to review changes in social context. His paper questions whether or not “media restructuring has provided new opportunities for innovative forms of political action by various social actors” (Barnett 2003: 3). Although it has been widely noted that since the ANC gained political power there has been a reduction in social activism in South Africa, this perspective is often exaggerated. The ability of once marginalized communities to participate in the new government has opened up new avenues for participation. New legislation allows previously separated groups to unify under common causes and activist organisations to switch their focus to other issues (Barnett 2003).

The media has the ability to promote such activism. Barnett follows the line of inquiry of Gamson in citing three questions which can elucidate the role of the media in supporting democratic participation. “Firstly, does news coverage routinely present *images of protest*? Secondly, are citizens presented as *agents* in such coverage, and is protest seen as legitimate or illegitimate? Thirdly, does news coverage connect everyday *experiences* to *public policy discourses*?” (Barnett 2003: 5). He then adds to this “the question of *how* media frames become stabilised” (Barnett 2003: 6) and notes the concern that South African media caters to a different audience than that of Western medias which were the focus of Gamson’s theory. Therefore, media coverage may not be able to mobilise the South African public in the same manner.

Barnett (2003) claims that there has been a significant change in the South African press brought on by commercial demands. Privatisation and competition have forced the newspapers to expand into new markets and attract broader readership, thereby creating a new standard of newsworthiness. New sources of information have also gained credibility,

and this combination has increased the scope for participation of civil society organisations.

Environmental organisations whose messages have broadened to include a wider range of concerns have benefited from this shift. The Durban-Pietermaritzburg region has been the centre of the South African “redefinition of privileged subjects of environmental discourse away from a traditionally white audience towards the concerns of the poorest, non-white communities of urban and peri-urban areas for sustainable environmental development” (Barnett 2003: 8). The change in both media interest and the framing of environmental issues has resulted in a dramatic increase in the number of environmental stories in the region. Interviewed journalists also noted that the presence of organisations publicly advocating a certain issue increased the likelihood of coverage, indicating the importance of media-related organisational skills to social movements. Activists themselves have increased their skills in creating media stories, which enhances their success in gaining coverage. Organisations have gained credibility as news source, established contacts with individual journalists, and learned how to create and frame stories, three key strategies used by NGOs worldwide.

This shift in coverage is also attributable to the new range of journalists, according to Barnett (2003). “Journalists from historically disadvantaged communities bring with them not only different news values, but more substantively, they are also likely to be connected to alternative social networks, with relationships to sources in previously marginalized communities as well as with actors who have moved into positions of social power in government and business” (Barnett 2003: 10).

Barnett (2003) uses examples from *The Mercury* to illustrate that the press has also developed new approaches to environmental issues to circumvent controversy. Rather than directly placing blame on the industries and calling for change, stories are framed with a human interest narrative. Uncertainties regarding scientific aspects of a problem are highlighted, and the conclusion of a particular series is that there is a need for more research in order to find an amicable solution for all parties involved. This angle was chosen, according to Barnett (2003), because the paper did not want to explicitly interfere with its economic interests. *The Mercury* is part of a larger newspaper grouping, the Independent, which has joined with other companies in “a broad based growth coalition in

Durban promoting inward investment, of which the South Durban basin's status as the country's second most important hub of industrial activity is a major element" (Barnett 2003). Framing the issue in the way the activists would have preferred, directly linking South Durban industries to health problems, would have compromised the paper's economic interests. Yet environmental coverage in the South African media has made significant advances, Barnett (2003) claims.

3.4.4. The State of the Media

The media audience in South Africa, particularly press readership, is relatively small. Less than five percent of the population typically purchases a paper, according to a 1997 survey conducted by South African Advertising Research Foundation (Barnett 1999). Despite South Africa's relatively high average income, "the circulation of newspapers in relation to population size is the fifth lowest in the world" (Duncan 2001). This is partially attributable to high levels of unemployment and the consequent lack of funds to purchase a newspaper. The limited audience to which the press caters limits the range of advertisers, resulting in commercialisation, competition, and concentration of ownership (Duncan 2001). An even more troubling statistic is that, in relation to population size, South Africa has the second lowest number of newspapers from which its consumers can select. This lack of message availability and diversity is compounded by increasing centralisation (Duncan 2001).

Commercialisation also affects the content of the newspapers. The demographics of ownership and the newsroom have changed and allowed for connections with new, previously unheard sources. However, changes in the slant of a paper typically decrease the established readership (Teer-Tomaselli and Tomaselli 2001). Despite a growing black middle class, "the most profitable readership for the foreseeable future, continues to be dominated by white, Indian and 'coloured' readers" (Teer-Tomaselli and Tomaselli 2001: 135). Therefore, the commercial impetus may negatively impact the transformation of media discourse. One solution to this has been to launch new titles catered towards new audiences (Teer-Tomaselli and Tomaselli 2001). Although successful in increasing readership, the impact of this on "reproducing the racially segregated and segmented apartheid markets" (Steenveld 2002) and the social consequences and desirability of such division remains both contentious and uncertain.

3.4.5. Coverage of Environment Issues in the South African Media

Generalisations about the media and its coverage of environmental issues can be found in South African literature. In an interview in *Going Green: People, Politics and the Environment in South Africa* (Cock and Koch 1991), activist Chris Albertyn notes that his environmental awareness was heightened while he worked for the *Natal Witness* in the late 1980s. He read environmental news stories received over the international wire service, but felt that these issues “were being pushed aside by editors who believed the public wasn’t interested” (Cock and Koch 1991: 18) in South Africa. The media began to pay greater attention in the following years, for the same work also refers to press coverage of mercury leaks at Thor Chemical in 1989. These stories led to the 1990 environmental and worker protests (Koch 1991), highlighting the importance of the press in one of the most notorious environmental episodes in South Africa. Other works argue that there is a predominance of coverage about conservation issues and a paucity of stories relating to issues facing the general South African population. The following quotation was taken from a study which analysed the environmental ideology of municipal bureaucrats.

Unfortunately, mainstream media coverage of the environment in South Africa continues to be dominated by conventional, green issues. Relatively little is said or written about environmental problems in the townships so it comes as little surprise that people who get all of their environmental education from the media would develop similarly narrow perspectives (McDonald 1996: 329).

Although many environmental texts mention in the media, studies regarding the quantity and type of environmental coverage are scarce. Guy Berger, professor in the Department of Journalism and Media Studies at Rhodes University, raises a number of questions regarding environmental coverage in South Africa. His “All Change: Environmental Journalism Meets the 21st Century” (2002) gives a descriptive comparison between environmental and development journalism, and lists key points to be examined regarding environmental coverage in South Africa. The work highlights the role of environmental journalism in pushing the environmental agenda, informing the public, serving as a watchdog for society and mobilising the public to act on environmental issues. It notes that journalists are to some degree reliant upon external factors to instigate coverage, for most stories need a disaster or social actors as a catalyst. However, within this framework, newsrooms and reporters have a role in addressing challenges associated with sources, frames, expertise deficits, negativism, event orientation, transience, economics,

trivialisation, and polarised and reductionist reporting. Berger also raises key questions regarding the interrelationship between environment and development.

Is the media focus in a country like South Africa mainly on development delivery, (and short-term considerations for that matter)? Is there adequate reporting of about the environmental impact of housing programmes or land redistribution policies, and the ecological and socio-economic sustainability of these programmes... In South Africa, does reporting on environment post-WSSD take into account economics and wider human development issues, or is it just "bunny hugging" in the interests of nature in its own right? In other words, do we have people-centred journalism, on the one hand, and planet-centred on the other, with too little focus on the interdependency? (Berger 2002: 7)

Studies which sampled texts include a study focused on the factors influencing press attention to environmental issues (Parker 1991). Using the classification of Galtung and Ruge, Parker determined that the news values most prevalent in environmental coverage were “‘negative happening’, ‘meaningfulness’, ‘frequency’ and ‘elite persons/nations’” (Parker 1991: 125). These were complimented by trends of event-oriented coverage and sensationalism. Another key point raised in the study is that the role in which the newspaper sees itself influences the manner in which news is covered. A paper which views itself as solely informative frames issues differently than one which sees its role as both to inform and motivate public action (Parker 1991). Finally, Parker’s interviews reveal perspectives on training of journalists which contrast with international trends and recently noted perspectives. “None of the news organisations felt that any formal environmental training was necessary for journalists to cover environmental issues” (Parker 1991: 123). This is partially attributed to the low level of public awareness and the need for journalists to create a simplified picture of environmental challenges. Therefore, the growth in public knowledge about environmental issues in recent years may have led to the changing perceptions about the need for journalist training.

The results of an empirical study by Svendsen on press coverage of environmental issues in South Durban were published by Barnett and Svendsen in 2002. The article frames the results within the context of growing challenges to environmental journalism. Increasing commercial demands on the media are not conducive to detailed, scientific coverage which is resource intensive, according to the authors. Nonetheless, the changing political climate and organisational structure of the South African media have resulted in an increase in coverage of air pollution in South Durban. For example, during a five year period in the

late 1980s, there were only five stories in the mainstream press on air pollution, contrasting with sixty in 2000 alone (Barnett and Svendsen 2002).

Numerous reasons for this increase exist, including the redefinition by activist groups of environmental issues. The shift in focus from traditional 'green' conservation issues towards a 'brown' agenda which appeals to a wider range of South Africans paralleled a shift in the media industry towards covering issues relevant to the greater public. Additionally, the environmental groups themselves employ proactive media strategies to garner attention from reporters and consequently the government and industry. This was enhanced by the unification of South Durban environmentalists into the South Durban Community Environmental Alliance (SDCEA), which provided a single resource for journalists seeking local perspectives on the issue (Barnett and Svendsen 2002).

South African journalists have heterogeneous views of the environmental groups, however. Reporters who cover the issue frequently tend to consider the activists to be credible sources of information; these reporters are also more likely to view their role as 'advocacy journalists'. Other journalists are sceptical of the agendas behind, and reliability of, information from community activists. These journalists tend to report on environmental issues less frequently and see their role as impartial and objective informers (Barnett and Svendsen 2002).

A study conducted by the Media Toolbox (2002) looked at media coverage over an unspecified period of time. The results showed that, despite the presence of the World Summit on Sustainable Development in Johannesburg, only .15% of media coverage is on environmental issues. The study further examines coverage of corporations to determine which were presented as most and least environmentally friendly. These studies indicate that .98% of articles discussing the greenest company and 2.48% of coverage on the least green company were about their environmental performance. These low percentages indicate that the behaviour of even the most environmentally notorious company is rarely covered by the press.

3.5. GAPS IN THE LITERATURE

The above discussion illustrates that significant research has been performed in determining the rise, current content, and impact of the coverage of environmental issues

in the media in some parts of the world. Controversies remain in each of these areas, exemplifying the challenge of making conclusions about such a heterogeneous and evolving topic. Much work remains to be done in modifying the models of data collection, balancing quantitative and qualitative studies, and recognising the variances within the issues and attitudes encompassed by the broad label 'environmentalism'. However, generalisations have been made which appear to successfully describe the popularisation of environmental issues in the North.

Many fewer studies and much less understanding exists regarding media attention to environmental issues in the South. The environmental conditions and needs in these regions often differ significantly from those documented in the North. Differences also exist in the histories of, levels of exposure to, and attitudes towards the media. Therefore, there is a need to assess the coverage of environmental issues in the media of these societies on an individual basis in order to gain a better understanding of what and how information is being portrayed.

4. METHODOLOGY

This study seeks to begin addressing the described information gap through an analysis of press coverage of environmental issues in the *Natal Witness*, a South African provincial newspaper. A content analysis was performed to address the question of *what* environmental issues are portrayed. The analysis gives an overview of the topics covered, emphasising what types of issues receive more attention and what types of sources and actors are prevalent in the reports. This is complimented by a discourse analysis in order to address the question of *how* environmental issues are portrayed. The analysis examines the language and symbols used in the stories to in order to document which discourses are commonly found. The third component of the study is primary information obtained from the media representatives and environmentalists through interviews at the *Natal Witness* and attendance at the 2004 EnviroMedia Conference. This information helps to place the environmental stories within the media context. Based on the above research, the study finally highlights areas in which both the media industry and its readers may need further knowledge.

In the literature reviewed above, multiple media outlets were researched. This particular analysis only examines a single newspaper for two main reasons. First, the strong correlation between demographics and readers (Steenveld 2002) indicates that the South African media should not be seen as a homogenous entity. Thus, the results for one paper are likely to differ from those of another paper. The second reason is pragmatic; the research was performed during a very short time frame. The researcher decided that results with greater confidence were preferable to examination of fewer issues of multiple papers or papers over a shorter time period. Further, the examination of multiple papers may have resulted in excess attention spent *comparing* rather than *describing and analysing*.

The medium of the press, rather than radio or television news, was selected despite low readership levels of paper in South Africa. Skjerdal (2001) notes that “the advantage of studying the newspaper debate is that the debate reflects the views of the policy makers and the so-called opinion leaders.” Newspapers were also used for pragmatic reasons; old issues were easily accessible and therefore a wider range of dates could be used.

The one-year period of August 2003 to July 2004 was selected so as to avoid seasonal variations in coverage (see Appendix A for dates). A nine day cycle was selected so that forty issues were sampled, although every two weeks an eleven day time lapse was necessary so that days of the week are equally represented (Hansen *et al.* 1998). Advertisements and sports pages are not included in the content analysis. The *Witness* does have a website with archived articles; however, not all previously published stories are included. Therefore, the researcher examined all pages of the newspaper on the defined days in order to identify the environmental stories. Headlines were used to indicate potential articles, and all prospective stories were skimmed in order to ensure that environmental articles were not missed.

4.1. CONTENT ANALYSIS

This research first provides a content analysis of the *Natal Witness*, documenting what environmental issues are covered and the sources of this information. The methodology is based on a chapter in Hansen, *et al.* (1998) on content analysis and the examples provided by Guedes (2000) and Chapman, *et al.* (1997).

4.1.1. Defining the ‘Environment’

Although the category of ‘environmental news’ seems to be relatively straightforward, the term becomes quite ambiguous when applied. For example, a story about flooding would typically be classified as ‘environmental’. However, a story about a car accident caused by a rain storm is questionably environmental news. Mining is a major cause of environmental concern in South Africa, and stories about mine dust or debates surrounding new developments would easily be classified as ‘environmental news’. Stories which focus on the economic status of mining or accidents which occur deep within a mine are more dubious. How the environment is defined significantly impacts the results of a study, for the inclusions and exclusions alter the proportion of stories on a certain topic.

Guedes’s (2000: 539) article defines environmental news as “any item mainly concerned with the environment and its physical deterioration and the economic, political and social aspects of the environmental debate”. Yet this puts a negative emphasis on the term by explicitly referring to its deterioration, not its current state or restoration. Further, it does not clarify what is the ‘environment’. *The Geography of South Africa in a Changing*

World (Omara-Ojungu 2000: 419) uses the word ‘environment’ to describe “an area or land unit in which the biophysical system interacts with the socio-economic system to produce potential resources and to support a range of existing resource practices for both human and other life forms”. Although this definition is useful in its reference to the interaction between the biophysical and socio-economic systems, it emphasises positive, utilitarian aspects of the environment and seemingly disregards issues like pollution and non-resource uses of the environment. The South African Environment and Conservation Act (Act 73 of 1989) considers the environment to be “the aggregate of surrounding objects, conditions and influences that influence the life and habits of man or any other organism or collection of organisms.” This definition, however, is so broad that few stories in the newspaper would *not* fit this description.

Therefore, combining the above definitions, this research considers environmental news to include *stories which are mainly concerned with the interaction between the biophysical and socio-economic systems, and the values and decisions which determine the nature of this interaction*. However, because any definition can be interpreted in a myriad of ways, a set of guidelines have also been composed and are included in Appendix B. These are based on both the above definition and the researcher’s own impressions about the range of issues addressed by organisations which consider themselves environmental, and have been adopted in order to ensure consistency and clarity in application.

4.1.2. Categories

The categories chosen for the content analysis are an adaptation of categories outlined by Hansen, *et al.* (1998) and from the environmental content analyses performed by Guedes (2000) and Chapman, *et al.* (1997). The classification has been altered in an attempt to address the key problems listed by Berger (2002) and to assess the representativeness of environmental coverage.

4.1.2.1 Race and Gender

A noteworthy addition is the classification the race and gender of the sources and actors portrayed. These categories have been included because the elite nature of environmentalism has been commonly noted as a key critique of movement and its representatives (Berger 2002; McDonald 1997). These are unique criteria of study in an environmental context; none of the research covered in the literature review documented

these factors. However, in the South African context there is a perceived dichotomy in the perspectives and interest of different races regarding the environment, and a strong association of environmentalism with the white male colonial and apartheid past (McDonald 1997). This research therefore takes this into consideration and categorises race and gender in order to examine the accuracy of this perception in the context of environmental news. Although recognising that racial classification is a highly sensitive subject and in many ways itself a social construct, the goal of this component of the research is to test the veracity of existing social assumptions by indicating which interest groups are portrayed most often in the press.

The terms used for racial classification are those most commonly accepted in and used in South African society: black, white, and Indian. Because there is no way of differentiating coloured individuals based solely on a text unless the race is explicitly referenced, this group has not received unique category. The term 'gender' was chosen in accordance with contemporary distinctions between *sex* (male and female) which is a biological trait and *gender* (man and woman) which is based on portrayed characteristics. In line with the social constructionist ideology, the important factor is not the *actual* race or gender, but that which would be *assumed* by a reasonable reader.

4.1.2.2 Themes

Organising themes presents significant challenges, particularly when determining a label. The delineation of 'green' and 'brown' environmentalisms is commonly used and accepted, but with varying meanings. For this research, narrow definitions were used and other categories added for themes which do not neatly fall into these groups. All labels are noted to be subjective and applied simply because more appropriate terms could not be determined.

The issue and theme categories were conservatively defined so as to minimise stories with overlap. For example, 'Species Protection' was used only for stories which explicitly use terms such as threatened, endangered, at risk, presumed extinct, etc. These stories were not included in under 'Wildlife', a term used for other species not including domestic animals. Stories tallied under the theme 'Protected Areas' included only those about incidents occurring on a protected area and stories debating the quantity, effectiveness, funding or policies on a protected area. The term 'protected area' was never found in the

stories. However, it has been applied to emphasise the distinction between stories about 'conservation' which can occur on or off a delineated area and stories about areas specifically delineated and set aside for ecological purposes. When analysing the stories, the context of the term 'conservation' was considered, and typically interpreted as indicating actions taken in a protected area.

4.1.2.3 Language and Discourse

A space was also added for the inclusion of key phrases and metaphors in line with the emphasis in Hansen, *et al.* (1998) of vocabulary and lexical choice. Another category based on Hansen, *et al.* (1998) is a general assessment of the value-dimension and attitude towards the environment conveyed by the story, notably in those which, as described above, can be termed 'morality plays'.

A trial run, as suggested by Hansen, *et al.* (1998) of five newspaper issues was performed to test the categories and determine the time constraints in order to ensure that the categories selected and the number of issues chosen was feasible.

4.2. DISCOURSE ANALYSIS

Secondly, a discourse analysis was performed in order to obtain a more detailed examination the message of the articles. Classifying discourses is a challenging, subjective process, and the way in which the categories are selected and delineated impacts the results of the research. Different classification schemes for environmental discourse have been formulated, such as that of Dryzek (1997) in his *The Politics of the Earth: Environmental Discourses* described above.

This system is used as the basis for the analysis in this research. However, the system lacks a unique classification for the discourse commonly found above in the studies concerning the global South, evident in Fairhead and Leech (2003), Lewis (2000) and Opubor (1993). As in Lewis (2000), this radical discourse argues that there is excess culpability for environmental problems attributed to the global South, that environmental concerns are abused by the North to influence Southern resource consumption, and finally that environmental policies are used to maintain unfair global power relations. The discourse does not deny the need to address environmental problems, and therefore ought not to be seen as a criticism of the movement but of its abuse.

Dryzek's (1997) categories also ignore discourses which favour environmental protection for recreational use. Finally, there are no categories for texts which do not tacitly or explicitly identify the cause or preferred solution to environmental problems. These comments should not be seen as criticism of Dryzek's scheme but as further elaborations based on the particular texts in the *Witness*. For the discourse analysis associated with this research, Dryzek's scheme has been adapted to take into account these above observations (see Appendix C for descriptions). The revised system provides more options for clearly classifying articles found in the South African press. The discourses have been arranged into major categories in line with Dryzek's classification.

The first category has been added for those stories which do not prescribe a solution and thus cannot be classified according to Dryzek's scheme. Stories which simply report acts of nature without seeking cause or solutions, such as storms, earthquakes, or animals attacks, have been categorised by the researcher under the discourse summary 'Nature is Untame, Unpredictable, and/or Dangerous'. For example, a report about a flood along a river could emphasise, or at least mention, the fact that floods occur regularly in a certain area, or that they have increased because of upstream human activity. Such a report would present nature in a much more rational, amoral fashion and attribute blame to a human choice rather than ecological processes. A slightly less extreme version may simply quote a scientist arguing that increasing storm activity may be related to anthropocentric climate change.

As with the previous discourse, the 'Recreation/ Tourism' discourse is not one which argues for how to protect the environment. It is used to classify those articles which implicitly argue for the protection of the environment for human enjoyment, emphasising the 'why', but not the 'how'. The third non-explicative discourse is termed 'Humans are Disrupters of Natural Systems'. This category is used for stories which emphasise human destructiveness without further explication of cause or solution.

The 'Others' category has been added so that stories which had unclear discourses can be classified.

The next four categories are those described by Dryzek (1997) with the addition of the *Southern Critique* discourse to the category of 'Radical Discourses'. The two radical discourses identified by Dryzek (1997), 'Green Rationalism' and 'Green Romanticism', are used by Dryzek for discourses which argue for radical, structural changes. This criteria was somewhat lessened in this analysis; many of those associated with the green discourses in this analysis would be satisfied with seeing the changes they support achieved through the current political system. However, the language and rationale used often bears a strong resemblance to the discourses identified by Dryzek, and therefore his terminology has been used. It should be noted that Dryzek uses 'green' as a general environmental term and not in the sense of distinguishing 'green' from 'brown' environmentalisms.

These categories should be seen not as absolutes but as a means through which to compare various discourses. News stories often include representation of more than one discourse, particularly in texts in which opposing perspectives are portrayed. Each time a discourse arose, it was counted, resulting in a total number of discourses greater than the number of stories.

Defining the discourse underlying a particular text is a challenging task. As discussed above, the language and images used in a text are selected from range of available options (Fairclough 1995). Fairclough (1995: 14) defined three key questions which help to understand the context of the framing of an issue.

- What are the social origins of this option? Where and who does it come from? Whose representation is it?
- What motivations are there for making this choice?
- What is the effect of this choice, including its effects upon the various interests of those involved?

Answers to these questions were used to guide the classification and interpretation of discourses.

As with the content analysis, a trial run of five stories was performed to test the categories and determine the time constraints in order to ensure that the categories and number of issues selected is feasible.

4.3. MEDIA CONTEXT

Finally, information about the media context in which environmental stories are selected and composed was obtained through interviews and participation in an environmental journalism conference. This helped to uncover how information is transmitted and why certain stories are selected and create an understanding of the production of South African environmental stories.

The 2004 Southern African EnviroMedia conference was held in Johannesburg was held 5-7 October, and the researcher attended the conference in order to gain a better understanding of environmental journalism in the region. Interviews were held at the *Natal Witness* offices with Craig Bishop, Senior Reporter in Environment, Land and Agriculture, and his deputy editor, Yves van der Haeghen on 9 November 2004. Open-ended questions included personal queries into the writer's background and how he became involved with environmental coverage. Information on contacts and their credibility, as well as and how stories are identified was sought. Other questions surrounded the opinion of the journalist regarding the quantity and representativeness of environmental coverage. Finally, questions were asked regarding the constraints felt on environmental coverage.

4.4 PROBLEMS AND LIMITATIONS

As the methodology is relatively straightforward and a trial run was performed, there were few problems encountered during the research. However, the researcher did note that headlines were often not entirely correlative with the text in the articles. Therefore, since the analysis was based on identification of potential articles through reading of headlines, it is possible that stories with environmental components were missed because the headlines did not indicate that the text would have an environmental connection.

Data was not collected for non-environmental stories in the newspaper. Thus, the frequency of environmental stories cannot be compared with the frequency of other topics. Similarly, the race and gender statistics obtained for environmental texts would be more significant if they could be compared with race and gender percentages for other types of news. However, other such empirical studies were unable to be found and it was outside the scope of this research to collect this type of data.

The structure of some of the *Witness* articles presented a challenge in classification. Many of the stories were presented as 'News Snaps', which include numerous brief summaries of unrelated events. For this analysis, each of these 'snaps' were considered to be an independent texts. Another complex article is the Earthweek Diary which highlights ecological events internationally. Although presented as a single article, its themes and discourses vary with each sub-article. Thus, for the size, geographic regions, author categories, it is tallied as a single article. However, for the documentation of themes and discourses, each sub-article is considered independently. Photographs that occurred independent of a story were always included. Associated themes and discourses were classified where possible.

The types of events occurring during the study period were not formally taken into consideration. The World Parks Congress in Durban is likely to have increased environmental coverage, and the government elections attracted much media attention which may otherwise have been drawn to environmental issues. The year long period was selected so that no single event could significantly alter the results, but such factors are likely to have influenced the data.

Another major limitation is that a single newspaper has been covered. This method was chosen so as to gain a more thorough understanding of the issues presented to a single audience. The goal of this research is to document content, and the researcher was concerned that analysis of more than one paper would result in emphasis on the difference *between* the content and discourses rather than the independent results of the analysis. Therefore, although the results are doubtfully representative of the press as a whole, this method was determined to be the most appropriate given the research aims.

This research does not attempt to determine how the readers interpret the texts presented in the press. Although the researcher acknowledges that this is a critical component of the study of media, it was beyond the scope of this project to document textual comprehension. The researcher hopes that this study will lay the foundations for further research into this area.

Finally, the previously discussed subjective nature of categorising both content and discourse presented a significant challenge in the research. Although subjectivity should

not itself be seen as a limitation, it must be taken into consideration when interpreting conclusions.

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APPENDIX A: NEWSPAPER DATES

Friday 1 August	Thursday 5 February
Tuesday 12 August	Saturday 14 February
Thursday 21 August	Monday 23 February
Saturday 30 August	Wednesday 3 March
Monday 8 September	Friday 12 March
Wednesday 17 September	Tuesday 23 March
Friday 26 September	Thursday 1 April
Tuesday 7 October	Saturday 10 April
Thursday 16 October	Monday 19 April
Saturday 25 October	Wednesday 28 April
Monday 3 November	Friday 7 May
Wednesday 12 November	Tuesday 18 May
Friday 21 November	Thursday 27 May
Tuesday 2 December	Saturday 5 June
Thursday 11 December	Monday 14 June
Saturday 20 December	Wednesday 23 June
Monday 29 December	Friday 2 July
Wednesday 7 January	Tuesday 13 July
Friday 16 January	Thursday 22 July
Tuesday 27 January	Saturday 31 July

APPENDIX B: CLASSIFICATION GUIDELINES

The following criteria were used to determine whether or not a story was classified as 'environmental':

- **Agriculture:** Stories referring to genetic engineering, chemical applications, organic farming, food and ornamental gardens, non-commercial tree plantings, impacts of commercial agriculture and timber on the ecosystem and the impact of weather on crops are included; stories about other new technologies and the economic status of agriculture.
- **Animals:** All stories about wildlife are included, as well as articles which are focused on the rights of the animals. Stories about individual domestic animals which are purely human-interest are not included.
- **Climate and weather:** Events such as famine and drought are included, as well as stories about other weather extremes. Daily weather reports are not included. Stories about the impact of drought on crops are included, however, stories focusing on other tangential effects such as road accidents caused by rain or food aid because of famine are not included.
- **Disease:** Stories about disease caused by environmental conditions such as poor sanitation have been included. Those with unknown or non-environmental causes have not.
- **Energy:** Stories about new energy developments and connections or are included; stories about electricity being lost or cut off, or energy pricing/privatisation, are not included.
- **Land ownership:** This topic is closely linked to broader environmental issues, particularly in South Africa. However, for this analysis only articles concerned with ideas of land use and stewardship are included; those regarding land claims and equity are not unless they specifically refer to degradation of the land.
- **Mining:** Stories about new developments or accidents with explicit environmental consequences are included, but those with economic, political or other focus are not.
- **Natural disaster:** Stories about deaths or damage directly resulting from a natural disaster are included, but stories emphasising secondary effects are not.
- **Nuclear concerns:** Stories about nuclear energy are included; stories about nuclear war, weapons or political intentions are not included.
- **Protected areas:** Stories about the areas themselves are included, but those focusing on specific recreational activities (mountain hiking, recreational fishing) or crime on the property are not included.
- **Poverty:** Although often related to environmental conditions, stories about poverty which do not explicitly mention environmental degradation are not included.
- **Tourism:** Only stories directly related or referring to ecotourism are included.

- Water: Stories about water quality are included, as well as those about service provision which make an explicit connection to the environment. Stories about service privatisation are not included.

APPENDIX C: DISCOURSE CATEGORIES

The following discourses were used for classification in the discourse analysis. Discourses 1- 5 and 13 were added to the scheme developed in Dryzek (1997).

Non-Explicative Discourses

- 1) *Humans are Disrupters of Nature*: discourses which do not offer solutions to environmental challenges but merely describe the negative impacts humans have had on the environment
- 2) *Nature is Untame, Unpredictable and/or Dangerous*: nature is a powerful force which cannot be controlled by humans; humans are often the victims of natural phenomena
- 3) *Recreation/Tourism*: environmental resources should be used and protected for the *enjoyment* of society; this argument may be implicit within a story which simply describes a recreational location; the story may end here without giving a mechanism for protection of nature, or may give the prescription that protection brings *tourism* and its benefits without describing the way in which this may be applied
- 4) *Legal/Rights*: debates not questioning what should or should not happen but arguing for the need to follow existing regulations; the legislation itself may follow any of the discourses below

Other Discourses

- 5) *Other/Unidentifiable*: stories with discourses which could not be identified or classified

Problem-Solving Discourses

- 6) *Administrative Rationalism*: bureaucracies, agencies, and legislation should be used by the government, with the help of scientific experts, to solve environmental problems
- 7) *Democratic Pragmatism*: public participation should be enhanced to improve the capabilities of and make administration more effective
- 8) *Economic Rationalism*: market forces can be used by governments to improve environmental protection (note: this is different from the Promethean argument described later which claims market forces themselves will fix environmental problems)

Technological Discourses

- 9) *Sustainable Development*: a relatively ambiguous discourse, claiming social, economic and environmental concerns can all be achieved simultaneously
- 10) *Ecological Modernisation*: restructuring economy to include environmental component and reduce degradation; economic and environmental goals achieved together; similar to sustainable development, but more detailed and without a social component

Radical Discourses

- 11) *Green Romanticism*: composed of many different discourses which share a belief that humans need to establish a new relationship with nature; the solution to global problems lies in an emotional relationship between individuals and nature, however, concerns of social justice are not included; concerns about animal welfare are included here
- 12) *Green Rationalism*: another category composed of diverse discourses, this category includes those which hold to reason as the means through which to solve environmental problems; new social structures, values and human-nature relationships can emerge through critical examination; concerns about animal rights are included here
- 13) *Southern Critique*: argues that the North has developed by degrading the environment; now they seek to *control/disrupt* Southern development through forcing environmental protections

Extremist Discourses

- 14) *Survivalism/Doomsayers*: the earth has *limited resources*; excess human consumption will lead to global disaster; elites should take severe action to control the errant public
- 15) *Promethean Response*: denies limits, belief in the market and human ingenuity; used in a broad sense to describe stories which do not mention the environmental consequences of an action with obvious environmental consequences

COMPONENT B

Environmental Issues in the South African Media: A Case Study of the *Natal Witness*

Component B is written in the format of a research paper suitable for submission to an academic journal, in this case the journal *Communicatio*

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Despite growing international awareness of environmental problems, few individuals have formal training in environmental studies. The abstract, interrelated and often technical nature of environmental issues can make the association of cause and effect difficult for the lay person to comprehend. Therefore, individuals rarely rely solely on their own personal experiences or scientific skills to construct their ideas about the environment. They seek external sources to create, extrapolate upon and confirm opinions. The media has become one of these external sources, and is a key factor in the formation of individual perceptions about the environment (Kwansah-Aidoo 2001).

It may be reasonably assumed that, as in countries like Ghana (Kwansah-Aidoo 2001) and Sweden (Gooch 1996), South Africans have limited sources of information about environmental issues and receive much of their knowledge from the media. Material in the media may be considered as either representative of, or a major influence upon, public opinion (Gingras and Carrier 1996). However, news reports are, arguably, neither impartial nor objective, and the manner in which issues are portrayed is highly subjective (Anderson 1997).

The recent transition to democracy in South Africa has substantiated the role of the public in environmental decision-making. Through the new constitution, communities and individuals have been given the right and responsibility to participate in governance, and now have more control over their own environments. Therefore, public opinion is key to the future of South African environmental management. Since the media has a significant influence upon public opinion, understanding the messages of the media will help to construct an understanding of how the public views and values the environment.

This research, a description and analysis of environmental reporting in the *Natal Witness (Witness)*, is a step towards gaining this understanding. The *Witness* is a daily newspaper with a provincial focus, and is one of a small handful of daily papers in South Africa. A broad definition of the 'environment' is used; environmental stories are defined as those mainly concerned with the interaction between the biophysical and socio-economic systems, and the values and decisions which determine the nature of this interaction. This approach to defining the environment means that topics as diverse as gardening, endangered species, national parks, street litter and water quality are included in the study.

The aim of this research, performed within the social constructionist paradigm (Terre Blanche and Durrheim 1999), is to gain a better understanding of environmental

messages portrayed to the South African public through the press. A range of objectives contribute to this aim. First, the research illuminates which environmental issues are being portrayed and placed on the public agenda by the press and which race and gender is most frequently shown in environmental news. It contributes to an understanding of the underlying messages, and the associated ideologies, of the articles. This is placed within context and constraints of the South African media. The research draws attention to the topics which are not sufficiently covered and the sources and actors which are not representatively included. Together, these objectives describe the picture of the environment as it is represented by the *Witness*.

The paper first gives a brief background to the linguistic and environmental theories supporting the study. This is followed by a description of the methodologies employed, including content and discourse analysis. The results are given next, and then discussed with particular emphasis on environmental concerns relevant to the South African context. Finally, the paper highlights areas for future research.

SOCIAL CONSTRUCTION, DISCOURSES AND THE ENVIRONMENT

Media messages help to form perceptions of the environment. Although perception does not impact the physical nature of the environment, it does affect the way in which problems are defined and the levels of acceptable risk (Hannigan 1995). For example, certain forms of pollution harm human health regardless of social beliefs. However, the levels of pollution which are socially acceptable is highly variable and dependent upon other socio-economic and cultural factors.

Social problems, including environmental ones, which hold the highest risk are not necessarily the most salient in public debates or addressed by government entities. Following the previous example, visible, odorous pollutants which may be relatively harmless are more likely to cause public outcry than chemicals which are difficult to detect (Hannigan 1995). The issues that receive public attention are dependent both upon innate characteristics and the manner in which they are framed (Hannigan 1995). Pollutants with relatively inexpensive alternatives, such as CFCs, were able to be banned relatively easily, whereas there has been much greater difficulty regulating carbon dioxide. In the United States, the framing of pollution as a racist action has brought significant attention to the issue.

The works of Fairclough (1989, 1995) emphasise that there are a range of options available for the framing of any news story. The selection of a frame is based on the

discourse which the writer wants to portray, either consciously or subconsciously. The discourse gives guidelines for what and how to talk about a certain topic, and social discourses tend reinforce the ideology of those in power (Fairclough 1995). Different discourses arise and compete with each other, although the powerful often attempt to limit the introduction of new discourses which threaten their status. Eventually, new discourses overtake or are defeated in the social environment (Kress 1989).

A range of environmental discourses have been introduced in recent decades. The environmentalism of the 1960s and 70s was viewed a threat to the status quo and generally encountered strong opposition, yet was unable to be defeated in the social environment. Environmental discourses are becoming commonly accepted, however, the very term 'environmentalism' represents not a single discourse but a set of interrelated, often competing discourses (Darier 1999).

Attempts have been made to classify these founding and emerging environmental discourses. Seemingly the most frequently cited system is that of Dryzek (1997). He developed four major categories and nine individual discourses which succinctly encompass a broad range of environmental ideologies (see Box 1). These discourses can be found in environmental groups, government policies and various forms of the media. It is an adapted version of these discourses that is used for the discourse analysis in this research.

**Box 1: Environmental Discourses
(Dryzek 1997)**

Problem-Solving Discourses
Administrative Rationalism
Democratic Pragmatism
Economic Rationalism
Sustainability Discourses
Sustainable Development
Ecological Modernisation
Green Radical Discourses
Green Romanticism
Green Rationalism
Survivalism and Promethean Discourses
Survivalism/Doomsayers
Promethean Response

MEDIA CONTEXT

Theories of the media have undergone significant evolution since the early 1900s (Anderson 1997). Early media studies defined the audience as a single homogenous receptor. The field now views the public as being composed of diverse individuals whose previous experiences impact the way they interpret the media. Further, contemporary research recognises the dual relationship between the media and society. The media both influences and reflects the priorities of society, and it is often impossible to separate the cause and effect in this relationship (Anderson 1997; Fairclough 1995; Hansen 1991; Thompson 1996). The agenda-setting model attempts to explain this relationship by

claiming that the media may not determine *how* people think, but effects *what* they think about (Gooch 1996).

One of the fundamental controversies which remains within academia and practitioners in the field is defining the norms of the media. There are various models which have been put forth describing the ideal role of the media, such as Siebert, Peterson and Schramm published in 1963 and McQuail in 1983 (Oosthuizen 2002). Oosthuizen (2002) describes models applicable to the South African context and labels the apartheid government ideology as *authoritarian theory*. This contrasts from the dominant model in the United States, the *libertarian theory*, which many South Africans have adopted. *Social responsibility theory* and *development theory* both argue that the concerns of society should be prioritised and that freedom of speech should be curtailed when it threatens the public.

This controversy was evident in the opposing viewpoints expressed at the 2004 EnviroMedia conference (EnviroMedia 2004). Editor Joe Thloloe claimed that there was sufficient coverage of environmental news, and editor Fiona MacLeod argued it is the job of environmental journalists to write stories which would be seen as newsworthy (EnviroMedia 2004). Thloloe, MacLeod and Peter Sullivan, the third editor present, all framed their positions within an economic perspective supporting the idea that the role of the press is to sell papers about issues readers find interesting. One of the NGO panellists supporting this perspective argued it is the role of the NGO to 'sell' themselves to the media (EnviroMedia 2004). This libertarian perspective strongly contrasted from the most commonly professed position of journalists who reported a sense of responsibility for informing the public about environmental issues. The ideology also strongly contrasts with the role of some environmental NGOs. For example, Khor (1993) claims NGOs must challenge the capitalist system which gives rise to environmental controversies.

ENVIRONMENTAL ISSUES IN THE MEDIA

A range of diverse studies have been conducted on the reporting of environmental issues. Key research indicates that in Western countries during the 1960s and 70s, the media typically followed social interest in environmental problems rather than instigating concern (Anderson 1997). Studies also show that the quantity of environmental stories is cyclical, and tends to be highest when the economy is stable and other major global events, such as wars and political instability, are not occurring (Anderson 1997). Existing social and news values impact which issues gain coverage. Sensational events, famous names,

and controversial opinions receive attention, whereas chronic problems often go uncovered unless there is an event around which a story can be structured (Anderson 1997). Hannigan (1995) composed a list of criteria which lead to the construction of environmental problems, including backing by authorities, scientific 'popularisers' and construction of the issue in terms of 'morality plays' with caricatures of 'good' and 'bad' actors.

The majority of environmental media studies focus on the global North, however, noteworthy insights about the South have been offered by Chapman *et al.* (1997) and Guedes (2000). The former highlights the underlying difference in ideologies between the UK and India and between different media institutions in each country. Chapman *et al.* (1997) found that the debate between environment and development and coverage of 'brown' issues was more prevalent in India, and coverage typically focused on local issues. The emphasis in the UK was on 'green' issues and environmental problems were typically portrayed as occurring in other parts of the world. Interestingly, environmental news stories in the urban English papers in India in many ways resembled such stories in papers from the UK. Guedes (2000) noted that in the Brazilian press, persons of authority are the sources and actors much more often than workers or those who suffered from environmental problems. The most common discourse found in the press is aligned with the predominant political view and supports technological solutions to challenges.

The South African environmental movement has itself been criticised for its elite nature and 'green' focus (Hallowes 1993). Berger (2002) has questioned whether or not 'bunny-hugging' environmentalists gain media attention while less attractive issues which are more relevant to the average South African are not framed as environmental problems and not covered by the media. McDonald (1997: 329) also succinctly poses the problem.

Unfortunately, mainstream media coverage of the environment in South Africa continues to be dominated by conventional, green issues. Relatively little is said or written about environmental problems in the townships so it comes as little surprise that people who get all of their environmental education from the media would develop similarly narrow perspectives.

However, neither of these academics cites empirical studies to support their suppositions. Although speculations have been made, uncertainty remains as to what is actually put forth in the media and how it is interpreted. Further, none of the research found by the author in the African context or internationally notes the gender or race of the sources and actors in

order to test the assumption that environmental issues are portrayed as primarily white concerns.

METHODOLOGY

In order to achieve the above aims and objectives, a range of methods were employed. Newspapers were selected because they are commonly assumed to cover a greater number of environmental stories and old issues are easily accessible. The audiences of South African newspapers are highly differentiated by race and class (Steenveld 2002), and it is likely they also differ by environmental content and discourse. Although using range of papers would have resulted in broadened conclusions, the purpose of this study is better achieved by gaining more precise results through a detailed analysis

of a single paper than by studying fewer issues of a range of papers.

The *Natal Witness (Witness)* was selected for study because of its provincial focus and because it is known to contain environmental stories. According to early 2004 statistics, the *Witness* has a readership of 166 527 and a broad audience in terms of race (see Figure 1). The sex of readers is roughly equal, with 54% male and 46% female. The audience of the *Witness* tends to be upper-middle class, as evident from

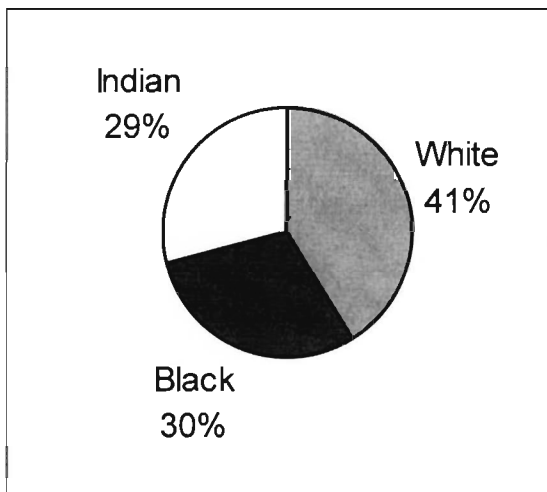


Figure 1: *Witness* Readership: Racial Distribution 2004A (Noot 2004 Pers Comm)

comparing Figure 2 with national statistics available for 2000 (Statistics South Africa). The census data can be used to calculate a mean monthly income of 1648 rand, with a median of 948 rand per month, for the country.

In order to give a detailed picture of the

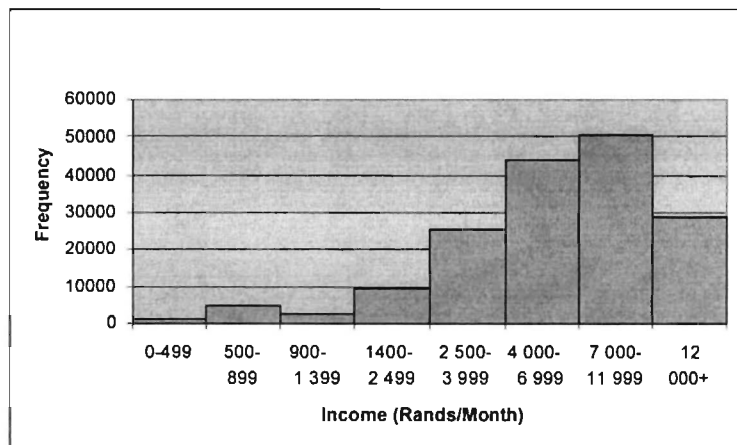


Figure 2: *Witness* Readership: Income Distribution 2004A (Noot 2004 Pers Comm)

environmental reporting in the *Witness*, textual analysis was performed based on Hansen, *et al.* (1998) and the examples provided by Guedes (2000) and Chapman, *et al.* (1997). The one-year period of August 2003 to July 2004 was selected so as to avoid seasonal variations in coverage. A nine day cycle was selected so that a reasonable number of newspapers were examined, although every two weeks an eleven day time lapse was necessary so that days of the week are equally represented (Hansen *et al.* 1998). Advertisements and sports pages are not included in the content analysis. Headlines were used to indicate environmental stories, and all reasonably potential stories were skimmed in order to ensure that environmental articles were not missed. External events such as those highlighted above by Anderson (1997) which may have impacted the quantity of coverage were not taken into consideration in the analysis.

CONTENT ANALYSIS

The first method employed in the study is a content analysis. The selection of categories is a subjective exercise, and the relative frequencies are highly dependent upon the delineations. Categories were based on Guedes (2000) and Chapman *et al.* (1997) and adapted to the South African context. The location of the texts within the newspaper was included in order to determine whether or not environmental stories are placed prominent parts of the paper. The geographic location of the story was noted so as to determine whether or not the paper emphasised local or international coverage. These statistics should be seen as giving context to the other factors categorised.

Stories were classified by the issues addressed and then grouped into larger themes. Stories which discussed multiple issues were placed into multiple categories, thus the total number of issues is greater than the number of stories. However, each story was placed into a single theme category. Organising the issues into themes presented significant challenges, particularly when determining a label. The delineation of 'green' and 'brown' environmentalisms is commonly used and accepted, but with varying meanings. For this research, narrow definitions of 'brown' and 'green' were applied and other themes added for issues which do not neatly fall into these groups. All labels are noted to be subjective and applied simply because more appropriate terms could not be determined.

Classification of race and gender of sources and actors was also performed to show which social groups are portrayed most often in the *Witness*. Although recognising that racial classification is a highly sensitive subject and in many ways itself a social construct, the goal of this component of the research is to test the veracity of existing social

perceptions, such as those highlighted by Berger (2002) and McDonald (1997) above. The terms used for classification are those most commonly accepted used in South African society: black, white, and Indian. Because there is no way of differentiating coloured individuals based solely on a text unless the race is explicitly referenced, this group has not received a unique category. Close attention was paid to lexical choice and the framing of actors and sources in relation to each other and the environment. In line with the social constructionist ideology, the important factor is not the *actual* race or gender, but that which would be *assumed* by a ‘reasonable’ reader. The data was collected and analysed so as to highlight which races are portrayed most often in particular roles.

DISCOURSE ANALYSIS

A discourse analysis, based on the categories defined by Dryzek (1997), was used to identify the underlying ideologies in the texts. Since Dryzek’s discourses identify the perceived cause and solutions to environmental problems, additional discourses were needed for this analysis so that less explicative articles could still be classified. The names of these discourses were created by the researcher for this analysis. The other discourse added is that termed ‘Southern Critique’, a discourse critical of the environmentalism and therefore not included by Dryzek, but relevant to the articles in the press. The definition of this discourse is based on Lweis (2000). Multiple discourses were on occasion evident, sometimes posed in opposition to each other, and each discourse in the article was counted. Box 2 identifies the discourses added to Dryzek’s classification.

Box 2: Environmental Discourses Added to Dryzek 1997 for *Witness* Analysis

- *Humans are Disrupters of Nature*: description of the negative impacts humans have had on the environment
- *Nature is Untame, Unpredictable and/or Dangerous*: nature is a powerful force which cannot be controlled by humans; humans are victims of natural phenomena
- *Recreational/Tourism*: environmental resources should be used and protected for the enjoyment of society
- *Legal/Rights*: questions not what should or should not happen but argues for the need to follow existing regulations
- *Other/Unidentifiable*: stories with discourses which not be identified
- *Southern Critique*: argues that the North has developed by degrading the environment and now seeks to control/disrupt Southern development by forcing environmental protections

INTERVIEWS

Finally, interviews were held with Craig Bishop, Senior Reporter in Environment, Land and Agriculture, and deputy editor Yves van der Haeghen at the *Witness* offices in Pietermaritzburg on 9 November 2004. Information from journalists and

environmentalists was also obtained at an environmental journalism conference held in Johannesburg from 5 to 7 October 2004.

RESULTS

The results of this research give a picture of environmental news in the *Natal Witness*. They must be seen as indicative not of the 'real world' but as illuminating the picture created for the audience by the *Witness*.

STORY TYPE

'Hard news' articles located on general news pages, combined with news 'snaps' (short briefings about hard news), make up over half of the articles. Another 5.2% are stories found in the 'Environment' section, which occurs most Thursdays. Nearly one quarter (23.8%) of the stories are found on the 'Opinion & Analysis' page, including letters to the editor, weekly columns and guest writers. Six and a half percent are found on the 'Insight' or 'Inside Story' pages as features, and another 11.0% on the 'Conservation and Tourism', 'Great Outdoors', or 'Gardening and Birds' pages of the Weekend *Witness*.

STORY LOCATION

Seven of the stories were placed on the front page, and the first five pages of the paper included 47.7% of the total number of stories. Environmental stories occurred more often in the *Weekend Witness* than any other day, averaging 5.4 stories per issue. The paper is longest on this day, and hence there is more space for all types of stories. A number of feature pages occur fairly regularly in this edition, including 'Conservation and

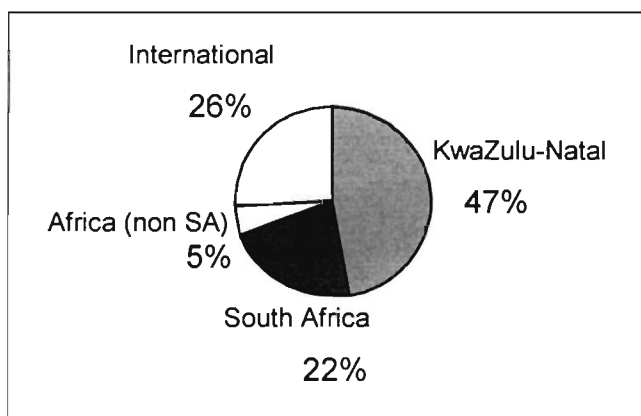


Figure 3: Location of Environmental Stories

Tourism' and 'Gardening', which emphasise the leisure aspect of the environment. Half of the environmental stories in the *Weekend Witness* are in these featured sections. The next most common day for environmental news is Thursday, in part because a special 'Environment' section is typically included on this day.

The geographic locations of the stories are highlighted in Figure 3. The majority of articles discuss provincial events, and many have a national focus. Very few refer to other parts of the continent.

CONTENT ANALYSIS OF ARTICLE ISSUES AND THEMES

The issue frequencies are given in Table 1. The issues which are most frequent are ecological disasters, wildlife and tourism/recreation. The stories were also grouped by themes based on the main issue discussed in the article, and the results are highlighted below.

‘Green’ Environmental Theme

‘Green’ themes are the most commonly found themes in the *Witness* articles (see Figure 4). They contain the second most common issue, wildlife, which is 15.4% of the total issues. Wildlife stories covered a range of types of animals. Nine of the forty references are to birds, the most commonly

references sub-category. Turtles and elephants tied as next most common, with only three references each. The combination of other charismatic animals (bears, leopard, monkeys, and whales) composed another seven references. Only four stories include reference to insects (one butterflies, one dragonflies and the other two references are negative in connotation). Another seven included vague references to wild animals.

The next most common issue was ‘Tourism and Recreation’. The majority of the stories under this theme were located in the province, and were rarely written as hard news. ‘Species Protection’ and ‘Protected Areas’ tied as the next most common issues. The total number of references to ‘Green’ issues is 102, or 38.8%. However, the number of stories with ‘Green’ themes is 77, or 49.7% of the total.

Table 1: Frequency of Environmental Issues

Issues	Frequency	Percentage
Agriculture/Biotech	9	3.5%
Apartheid	2	0.8%
Climate Change	3	1.2%
Consumption	2	0.8%
Deforestation	4	1.5%
Eco Disaster	44	17.0%
Economic Dev	5	1.9%
Energy	3	1.2%
Equity	5	1.9%
Fishing	3	1.2%
Gardening	6	2.3%
Industry	8	3.1%
Legal	6	2.3%
Local Community Impacts	5	1.9%
Meeting/Deafation	5	1.9%
Morals	8	3.1%
Natural Resources	2	0.8%
Other	16	6.2%
Pollution	7	2.7%
Protected Areas	20	7.7%
Species Protection	20	7.7%
Tour/Recreation	22	8.5%
Urban Issues	4	1.5%
Waste	10	3.9%
Wildlife	40	15.4%
Total	259	100.0%

Ecological Disasters Theme

The most common theme in the stories listed is 'Ecological Disaster', 15.9% of the total number of calculated themes. The majority (25 out of 44) of these themes were found within the Earthweek Diary, a feature in the Opinion & Analysis page on most Tuesdays. Most stories in this theme were small in size and of international location. However, the other articles with this theme were fairly evenly dispersed regarding the size and location of the disaster. Most local

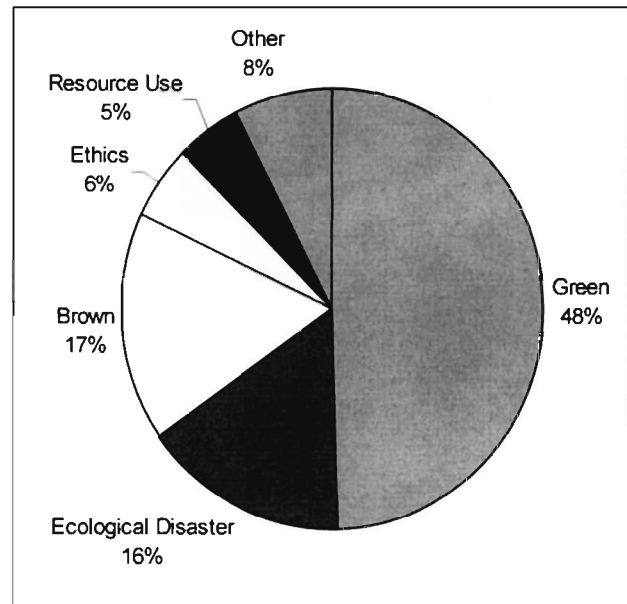


Figure 4: Theme Percentages

news is about the drought, but the range of international disasters includes storms, hurricanes, wild fires and earthquakes.

'Brown' Environmental Themes

'Brown' issues are much less frequently found. Ten stories (3.8%) are concerned with waste, and all of these were in an urban context. Concerns about street litter are most frequently commented upon, as well as the related topic of plastic bags. A single article discusses recycling, noting the lack of facilities and that a local recycling effort was financially unviable. Other urban concerns are less frequently discussed, but stories about urban revitalisation, sustainability and environmental change were found. It is notable that only 2.7% of the stories reference the issue of pollution. The issue of industry, although extremely broad in scope, represents only a small fraction (2.9%) of the issues tallied.

Ethical Themes

Ethical questions found in the stories include a wide range of topics, such as financial access to environmental areas, treatment of animals, rights to permits for limited natural resources, and where to place the blame for environmental problems. Ethical questions are raised through diverse issues, such as air pollution (apartheid planning resulted in some communities being more effected than others) or fishing (permits being

unequally distributed). The five stories which reference economic development offer a range of alternative perspectives on the ‘environment versus development’ debate.

CONTENT ANALYSIS OF RACE AND GENDER

The results for this section were obtained by determining in which role the percentage of a certain race or gender is most disproportionately represented. The majority of individuals were able to be classified according to both race and gender. A total of 4.1% were unable to be classified by race. The details of the results are given in Figure 5. In the single instance

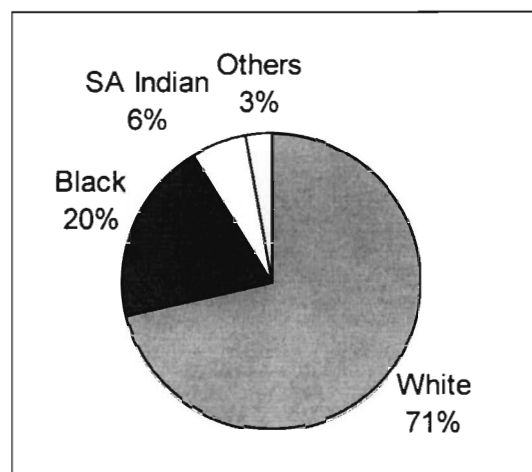


Figure 5: Percentage of Source and Actor Races

in which a photograph indicated a coloured individual, the tally was placed in the ‘Other’ category. This category was otherwise used for individuals in international stories, such as coverage of events in Brazil and Bengal. A total of 3.6% of the individuals were unable to be classified by gender. Of those able to be classified, 70.9% were male, 20.9% female.

Race

The vast majority of sources and actors were white. The percentage of black individuals was highest in the classification of workers, followed by government representatives. The percentage was lowest in environmental groups, followed by business and industry. The highest percentage of white representation occurred in the ‘Scientist/Expert’ category, followed by both ‘University’ and ‘Industry/Business’. South African Indians were infrequently referenced, but their percentage of representation is

Table 2: Racial Categorisation of Sources and Actors by Role

	Black	Percent of	White	Percent of	SA Indian	Percent of	Other	Percent of	Total	Percent
	Category	Category	Category	Category	Category	Category	Category	Category	Category	Category
Government	12	32.4%	21	56.8%	3	8.1%	1	2.7%	37	19.7%
Government:	6	24.0%	14	56.0%	4	16.0%	1	4.0%	25	13.3%
Environment or Conservation										
Scientist/Expert	2	10.5%	17	89.5%	0	0.0%	0	0.0%	19	10.1%
University	2	15.4%	11	84.6%	0	0.0%	0	0.0%	13	6.9%
Environmental Group	1	6.3%	13	81.3%	2	12.5%	0	0.0%	16	8.5%
Industry/Business	2	7.7%	22	84.6%	0	0.0%	2	7.7%	26	13.8%
Public	4	12.1%	26	78.8%	2	6.1%	1	3.0%	33	17.6%
Worker	2	66.7%	1	33.3%	0	0.0%	0	0.0%	3	1.6%
Famous Names	1	20.0%	4	80.0%	0	0.0%	0	0.0%	5	2.7%
Other	3	27.3%	8	72.7%	0	0.0%	0	0.0%	11	5.9%
Total	35	18.6%	137	72.9%	11	5.9%	5	2.7%	188	100.0%

highest as environmental government representative (all four of these are references to the Indian minister) and in environmental groups.

Gender

The same methodology was applied for analysis of gender. Discounting the category of ‘Other’, the percentage of men is highest in the roles of ‘University’ and ‘Government: Environment or Conservation’. It is lowest in the category of ‘Environmental Groups’ and ‘Scientist/Expert’.

Table 3: Gender Categorisation of Sources and Actors by Role

	Male	Percent of Male Category	Female	Percent of Female Category	Total	Percent
Government	31	83.8%	6	16.2%	37	19.6%
Government: Environment or Conservation	21	95.5%	1	4.5%	22	11.6%
Scientist/Expert	13	68.4%	6	31.6%	19	10.1%
University	11	84.6%	2	15.4%	13	6.9%
Environmental Group	10	58.8%	7	41.2%	17	9.0%
Industry/Business	21	84.0%	4	16.0%	25	13.2%
Public	24	75.0%	8	25.0%	32	16.9%
Worker	4	80.0%	1	20.0%	5	2.6%
Famous Names	4	80.0%	1	20.0%	5	2.6%
Other	12	85.7%	2	14.3%	14	7.4%
Total	151	79.9%	38	20.1%	189	100.0%

DISCOURSE ANALYSIS OF ARTICLES

Within the five discourse categories, a total of 214 discourses were identified for the 189 units of analysis. Twelve of the articles (5.6%) were unable to be placed into categories. The two most commonly found discourses, *Nature is Untame, Unpredictable and/or Dangerous* and *Recreation/Tourism*, fall outside the realm of Dryzek’s classifications. *Administrative Rationalism* and *Democratic Pragmatism* are the two most frequently cited of Dryzek’s discourses and are the third and fourth most commonly identified in the *Witness* texts. In roughly one third of these instances, the two discourses were posed in opposition to each other in a single article. The typical argument in such articles, implicit or explicit, is that the government *should* be the one acting to solve environmental problems, but that the general public should take responsibility if this fails.

The majority of stories identified as *Green Romanticism*, representing 7.5% of the discourses, refer to the need for a new level of empathy and humane treatment towards animals and make this appeal for emotional reasons. The ten (4.7%) *Green Rationalist* stories encompass a much broader range of issues, including animal rights, environmental justice, social equity, and arguments for using

Table 4: Discourse Frequencies

Group	Discourse	Frequency	Percent
Non-Explicative	Legal	7	3.3%
	Nature is Untame, Unpredictable and/or Dangerous	59	27.6%
	Other/Unidentifiable	12	5.6%
	Humans are Disrupters of Natural Systems	10	4.7%
	Recreation/Tourism	34	15.9%
	<i>Subtotal</i>	122	57.0%
Problem Solving	Administrative	19	8.9%
	Democratic Pragmatism	18	8.4%
	Economic Rationalism	8	3.7%
	<i>Subtotal</i>	45	21.0%
Sustainability	Ecological Modernisation	5	2.3%
	Sustainable Development	10	4.7%
	<i>Subtotal</i>	15	7.0%
Green Radicalism	Green Rationalism	10	4.7%
	Green Romanticism	16	7.5%
	Southern Critique	4	1.9%
	<i>Subtotal</i>	30	14.0%
Survivalist	Survivalism	1	0.5%
	Promethean	1	0.5%
	<i>Subtotal</i>	2	1.0%
Total		214	100.0%

resources rationally, scientifically and with integrity. All these articles use the environmental discourses in a positive tone, and do not question the underlying assumptions on which they are based. Other radical texts labelled *Southern Critique* argue for indigenous solutions, claim that increasing prosperity is not the answer for the global South, or support access to resources, whether threatened or not, for indigenous cultural celebrations and employment.

DISCUSSION

A range of observations can be made from these results. This discussion lets many of the statistics speak for themselves, such as the low percentage of coverage of other African nations and the relatively high percentage of stories on the front pages of the newspapers. The data should be seen to contextualise the findings emphasised below. The results which are discussed in the following section are emphasised because they help to illustrate social concerns rather than media constraints.

THEMES

One of the most noteworthy findings supports both Berger and McDonald's suppositions that environmental reporting primarily has 'Green' themes. The number of stories in this group of themes far exceeds others. This emphasis parallels the results found by Chapman, *et al.* (1997) for the British papers and the Indian papers printed in English. According to the agenda-setting hypothesis (Kwansah-Aidoo 2001), it is these 'Green' environmental issues which are put onto the public agenda by the media.

Most of the stories with 'Green' themes coincide with what Hannigan (1995) terms 'morality plays', characterised by unambiguous 'good' and 'bad' actors. The word 'save', highly evocative and with strong positive moral connotations, is frequently used to describe the actions of the conservationists. Despite Bishop's (2004) comment that a classically 'Green' environmental story must include a community voice, none of the stories found include perspectives of individuals from local communities, (although occasionally abstractly mentioning tourism benefits) and few cite non-environmental opinions.

Poachers are unequivocally portrayed as the wrong-doers, and the rationale for their actions is never explicated. One article linking a traditional African church to poachers does quote a churchman who claims it is God's intention for them to use the animals. However, it is not clear whether or not the poachers themselves sought payment from the church acted on religious motives. Regardless, the churchman's words are woven in the middle of the text and the preceding and succeeding text strongly praises the apprehension of the poachers. This villainisation of poachers and the unquestioningly positive portrayal of the benefits communities receive from wildlife and protected areas presents only one, simplified and polarised side of what remains a very complex dynamic in South African society. Somewhat contrasting to this, individuals who protect others from threatening animals are portrayed as heroes, whereas the errant animals are themselves outside the realm of morality.

Stories with 'Green' themes, arguably, bear little or no direct relevance to the every day lives of most South Africans. The indirect linkage such as human dependence on natural resources such as biodiversity and the ecological services provided by protected areas are rarely mentioned and never a focal point. Further, there is little that an individual South African can do to impact the situation aside from political activism or financial support to a green organisation.

The second most commonly found theme is 'Ecological Disaster'. Reporting in the *Witness* generally emphasises sensational incidents, often with high death rates or physical damage. These tend to be uncontroversial events, for the direct cause is non-human. Thus, there is little need for attributing blame and no chance for offending corporate entities. A key word used in the majority of articles is 'victim', implying that innocent individuals were hurt by an oppressive external entity. This phrasing implicitly denies human accountability for living in areas known to be prone to flooding, earthquakes, and other naturally occurring ecological disasters. Only one of the articles refers to the fact that natural disasters have a significantly larger impact on the poor, and this reference is indirect.

Most articles report ecological disasters in isolation. Occasionally, events are compared to previous disasters. No reference was made as to whether or not such events were becoming more frequent. Further, despite Bishop (2004) noting that a single phone call could likely produce a quote linking anthropogenic climate change to an increase in environmental disasters, none of the articles referred to the possibility that erratic weather patterns might have anthropogenic roots.

This trend is also evident in the articles which mention climate change. Interestingly, the texts discuss the impacts of climate change without explicitly linking it to anthropogenic industrial activities, and only one notes any possible solution. This can be positively interpreted to indicate acceptance of the phenomena and awareness amongst the audience of its causes. Alternatively, this framing frees the writer from attributing blame or discussing the controversial aspects of solutions or mitigations.

Neither are the climate change articles linked to energy stories. Of the three environmental stories mentioning energy, two were about nuclear power and the third simply mentioned high energy consumption as an urban problem. Despite South Africa being an energy intensive country highly dependent upon coal with strong potential for renewable energy, no local stories discussed the theme of energy.

The articles with 'Brown' environmental themes did not follow the patterns noted for 'Green' themes. Rather than unambiguous 'morality plays', both sides of the debates regarding air quality, South Durban industry, plastic bags, and timber are given space. Interesting, only a single text strongly opposed to the Wild Coast development was found. This article was categorised as 'Brown' because it explicitly mentions effects of the road on the "trucking industry" and "impoverished people" and makes no reference to

ecological impacts. However, despite the wording of this particular text, the issue of the toll road often considered a 'Green' rather than 'Brown' theme. It is noted that the research is likely to have missed further elaborations on this topic because not every issue of the paper was examined. However, the collected texts support the conclusion made above that only one side of the environmental debate tends to be presented in articles related to 'Green' themes.

In only one case is there a strong correlation between issue, theme and discourse; most often the discourses were used to explain a range of themes and issues. The relationship occurred between the *Nature is Untame, Unpredictable and/or Dangerous* discourse and the 'Ecological Disaster' theme and issue. All 44 of the disasters frame nature as being an untamed, uncontrollable entity, and this is the major reason why this is the dominant discourse found in the selected texts.

GENDER AND RACE

The results regarding gender and race show that environmental issues are portrayed as predominantly the concern of white individuals and men. However, one of the limitations of this study is that there is no control data to which these statistics can be compared; it may simply be that white and male individuals are disproportionately represented in all news types. Although formal data collection was outside the scope of this study, the general impression gained by the researcher while performing the research was that the racial and gender disproportionality was much more significant in the environmental stories than in other texts.

Two key statistics from the gender data confirm common social perceptions. First, the majority of the 'Government: Environment and Conservation' sources and actors represent conservation concerns. The disproportionate representation of men in this role supports the perception that conservation is predominantly a masculine concern. Further, a large number of the environmental groups are based around proper treatment of animals. Humanitarian non-profit organisations, particularly those emphasising concerns like animal welfare, are often considered to be dominated by women. Although still represented less often, the proportion of women is highest in this category.

The results of the gender study which show high frequency in the scientist role and low frequency in the university role is likely due to the fact that individuals were often cited as members of both categories. However, in order to not inaccurately represent the totals, individuals were classified according the organisation with which they were most

strongly affiliated in the article. Therefore, it is doubtful that the calculated statistic indicated significant over- and under-representation.

The results of the racial data support the social perception that the environment in South Africa is predominantly a concern of the white population. The presence of black individuals most frequently as workers further supports the perceptions. However, the total number of workers is quite low, and when mentioned they are equally often nameless entities. Therefore, these results are based on a very low sample size and must not be taken as highly significant. Nonetheless, the infrequency of worker representation may itself be cause for concern.

DISCOURSE ANALYSIS

The most commonly identified discourses are those grouped as 'Non-Explicative'. The discourses in this group are the most incomplete, compiled because so many stories did not give sufficient detail as to causes and solutions to be classified according to Dryzek's system. The predominance of such discourses indicates that most stories either rely on the reader's outside knowledge to identify causes and solutions or simply leave the reader with an incomplete story. It is acknowledged that the role of the newspaper is not to always provide comprehensive, detailed texts. However, the reason for this frequency is worth future examination. It is likely that stories are 'Non-Explicative' because of some constraint, be it space, time for the journalist to investigate, or the need for additional training in order to fully understand the issues and ideology behind the story.

That the most commonly found explicative discourses are *Democratic Pragmatism* and *Administrative Rationalism* indicates that both are accepted mechanisms used and expected in South African environmental management. Their close association within the texts strongly correlates with Dryzek's analysis which argues that *Democratic Pragmatism* formed primarily as a response to the failure of *Administrative Rationalism*. However, each of the other discourses was found, illustrating that the *Witness* gives voice to a broad range of environmental ideologies. It is interesting to note that *Green Romanticism* arguments are more frequent than *Green Rationalism*, despite environmental justice concerns being classified as the latter. Although rare in quantity, the four *Southern Critique* articles represent a key group of environmental thinkers in the global South, and their presence in the main stream press is worth noting.

Contrary to traditional news values, few of the articles show contrasting opinions or discourses. This is particularly evident in 'Green' stories, and least frequent in stories with a 'Brown' theme. Although different opinions are expressed in different articles, there is little comparison or synthesis of these ideas done by the journalists.

CONCLUSION

This research is intended to raise questions and create debate surrounding the portrayal of environmental news in the South African media. It is intended to lay the groundwork for future research in a number of key areas. Similar research for other newspapers, radio and television is critical to fully understanding the media's portrayal of environmental issues. Does the target audience impact the quantity, themes and discourse of environmental issues? Does environmental news help sell a paper? Should this impact the quantity and kind of coverage? What strategies are employed by environmentalists to gain media coverage? How do stories impact the way the audience sees the environment? Answers to these and many further questions are crucial to our understanding of public perceptions of the environment.

The lack of racial and gender diversity found in the *Witness* should be highly disconcerting to all South Africans concerned about the environment. Whether or not these statistics are representative of actual differentiation in concerns, *Witness* readers are likely to perceive this dichotomy. Pressure on the government for increased development has brought into question the merit of environmental regulations. Limited government resources and the high costs of environmental measures have placed environmental management in a precarious position in South Africa. Environmentalists are being called to justify their cause and make it relevant to the nation as a whole. It is the perspective of this author that presenting the issues through the media as white and male concerns, explicitly or implicitly, only increases this challenge.

Rather than addressing what should or should not be done differently, this paper recognises enduring controversy over the role of the media and has instead focused on a description of environmental coverage. It is hoped that the description itself will raise the awareness of those in the environmental field, including journalists, activists and academics, of the picture that is being created.

The predominance of 'Green' themes, which are portrayed so as to be of remote interest to much of the population, is likely to create a feeling of distance between people and environmental concerns. This alienation is enhanced by the representation of white

individuals and men as the most common sources and actors, creating the impression that only such individuals show concern for the environment. The range of discourses represents diverse perspectives on the environment; however, more explicative coverage would help create a more comprehensive understanding of issues. Further, giving space to different discourses within the same article would likely enhance debates, foster understanding and help achieve resolution.

Whether or not these concerns should be addressed from within the media industry or through changed practices of environmentalists depends on how one views the role of the media. But if the goal of protecting the environment is to be achieved in a democratic South Africa, it is critical that environmental protection gains broader support. The media can either hinder this through limited portrayal of environmental concerns, or enhance it by making environmental concerns more inclusive.

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This research discusses the results of discourse and content analyses of environmental reporting in the *Natal Witness*. It shows that coverage primarily focuses on 'green' environmental issues and that white individuals and men are the most common sources and actors in environmental news.

Keywords: *discourse analysis, content analysis, South African media*

APPENDIX: JOURNAL GUIDELINES

Communicatio: South African Journal for Communication Theory and Research

Medium for practitioners in the fields of the press, radio, film television, advertising, public relations, media science and diplomacy.

The following guidelines are taken directly from the journal.

EDITORIAL POLICY

Communicatio's aim is to promote the science of communication by publishing original research articles, review articles and important conference papers. Articles which comply with the requirements set out below will be submitted for selection to the editorial committee or experts in the field. Only those which are deemed to be of a suitably high standard will be published.

EDITORIAL REQUIREMENTS

Contributions may be e-mailed to: fouripj@unisa.ac.za.

Apart from the e-mail version, the original typewritten manuscript plus two clear copies should be submitted. Type on A4 format on one side of the paper only, using double spacing with generous margins. Indent all paragraphs, and avoid breaking words at the end of a line, except where a hyphen occurs.

A disk of the article must be provided, together with a note identifying the type of word-processing package and the file name. Without a disk the article will not be considered for publication.

Contributions may be submitted in English or Afrikaans. Each article must be preceded by an abstract in both English and Afrikaans (maximum length of each: 200 words). The abstract should give the content of the article factually and concisely, and should be both suitable for separate publication and adequate for indexing. In addition to the abstracts, articles written in Afrikaans should carry an extended English summary (500± 1 000 words) to facilitate information retrieval by international abstracting agencies.

The title must be short but sufficiently informative for use in title lists or in coding for information storage and retrieval.

The first page should contain the title of the article, the author's (authors') name(s), the name and address(es) of the author to whom correspondence should be addressed, and the abstracts. Start the article itself on a new page.

Selected articles from Unisa journals are now being published electronically on Internet. In addition to the above requirements, authors are therefore requested to provide a concise indication of the content, 2 to 3 lines in length, and 6 to 7 keywords for their article, both of these to be placed in a box at the end of the article.

References: The Harvard method should be used. References in the text are indicated by the surname(s) of the author(s), the year of publication and page number(s) in parentheses, for example (Prince 1982:50). When reference is made to an entire publication, the page number(s) should be omitted.