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An examination of the corporate social and environmental disclosures of BHP from 1983-1997

A test of legitimacy theory

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Abstract *This study examines the social and environmental disclosures of BHP Ltd (one of the largest Australian companies) from 1983 to 1997 to ascertain the extent and type of annual report social and environmental disclosures over the period, and whether such disclosures can be explained by the concepts of a social contract and legitimacy theory. This research is also motivated by the opportunity to compare and contrast results with those of Guthrie and Parker, in whose study the social and environmental disclosures made by BHP Ltd were also the focus of analysis. In testing the relationship between community concern for particular social and environmental issues (as measured by the extent of media attention), and BHP's annual report disclosures on the same issues, significant positive correlations were obtained for the general themes of environment and human resources as well as for various sub-issues within these, and other, themes. Additional testing also supported the view that management release positive social and environmental information in response to unfavourable media attention. Such results lend support to legitimisation motives for a company's social and environmental disclosures. A trend in providing greater social and environmental information in the annual report of BHP in recent years, and its variable pattern, was also evidenced.*

1. Introduction

This study examines whether an organisation, specifically BHP Ltd (one of Australia's largest diversified public companies), discloses social and environmental information in response to particular social expectations, expectations which typically change across time[1]. The research updates the work undertaken by Guthrie and Parker (1989) which studied the annual reports of BHP Ltd for the 100 years to 1985 and which has become a highly cited and respected paper in the area of social and environmental reporting. The current study examines the extent and type of corporate social and environmental reporting by BHP Ltd over a 15-year period from 1983-1997. As with Guthrie and Parker (1989), this study correlates social disclosure to a measure of public concern. However, this study uses a different measure of public concern than that used by Guthrie and Parker (1989). Specifically, this study uses the extent of media attention devoted to the activities of BHP Ltd

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over the period of the study. It does this on the basis of a belief that media attention reflects (or perhaps shapes) community concerns (see Smith, 1987; Zucker, 1978; Ader, 1993). In undertaking this study, we seek to establish if there have been changes in BHP Ltd's social and environmental disclosures over the period of the study and to investigate whether, consistent with legitimacy theory, specific social and environmental disclosures can be associated with specific societal concerns (as reflected by the media attention).

In contrast to the method used in this paper, Guthrie and Parker (1989, p. 347) used a "data bank of all major events and issues relating to BHP". This "data bank" came from the contents of 11 publications addressing BHP's, and its industry's history. One of the publications was compiled by BHP, whilst the other publications were produced by independent researchers. Guthrie and Parker sought to match peaks and troughs in corporate annual report disclosure with social events and issues identified by the various publications. As they state (Guthrie and Parker, 1989, p. 347):

For each major category of disclosure (environment, energy, human resources and community involvement), the timing of observed peaks of disclosure was compared with any apparently related BHP activities or socio-economic environmental conditions occurring immediately before or during peak periods. A majority of peak disclosures associated with relevant events is considered evidence of a legitimising explanation for BHP corporate social reporting.

In the Guthrie and Parker (1989) study the authors were unable to confirm legitimacy theory. However, as we would argue, and as they concede, this may have been due, at least in part, to deficiencies in the way they constructed their measure for community concern. As Guthrie and Parker (1989, p. 348) acknowledge, their measure of community concern may exclude some important events or activities in BHP's history. They also acknowledge the possibility that their testing procedures may have failed to detect disclosure reactions if those disclosure reactions lagged behind the various social and environmental events.

Whilst Guthrie and Parker failed to provide results to support legitimacy theory, many other papers have tended to support the theory (for example, Dowling and Pfeffer, 1975; Patten, 1992; Gray *et al.*, 1995a; Deegan and Rankin, 1996; Deegan and Gordon, 1996; O'Donovan, 1999; Brown and Deegan, 1998). We are left to wonder whether there is something different about BHP, or whether Guthrie and Parker's measure for community concern was mis-specified. As we show in this paper, using our method of defining community concern, there does appear to be a strong association between BHP's disclosure policies and community concern – a result consistent with legitimacy theory, but inconsistent with Guthrie and Parker (1989).

The balance of the paper proceeds as follows: the next section investigates the role of the media in either shaping or reflecting community concerns. Reference will be made to media agenda setting theory. Section 3 reviews literature which suggests that corporate social and environmental disclosures are reactive to community concerns. The development of hypotheses are

outlined in section 4, followed by details of the research method in section 5. Section 6 discusses the results of hypotheses testing, with some concluding comments presented in section 7.

2. The role of the media in shaping community concerns

As Brown and Deegan (1998) explain, media agenda setting theory posits a relationship between the relative emphasis given by the media to various topics (referred to as the "media agenda"), and the degree of salience these topics have for the general public (as reflected by the "public agenda") [2]. In terms of causality, increased media attention is believed to lead to increased community concern for a particular issue. The media are not seen as mirroring public priorities; rather, they are seen as shaping them, and in turn, shaping the public agenda. In further exploring the notion of the "public agenda", McCombs *et al.* (1995, p. 282) state:

Walter Lippmann (1965) defined the public agenda as that array of issues concerning which the well-being of numerous individuals is dependent upon mutual action, cooperation, or, at least, tacit consent. He also noted that this array of issues is largely beyond direct experience:

For the real environment is altogether too big, too complex, and too fleeting for direct acquaintance. We are not equipped to deal with so much subtlety, so much variety, so many permutations and combinations. And although we have to act in that environment, we have to reconstruct it on a simpler model before we can manage it. To traverse the world, men must have maps of the world (p. 16).

It is the news media, noted Lippmann, that provides these maps of the world. Through their selection and display of the daily news, journalists provide major cues about what are the important topics of the day. Over time, many of the issues receiving major emphasis in the news become the major issues on the public agenda. Although this agenda-setting role of the news media is a secondary and unintentional by-product of the necessity to select a few issues for attention, it is one of the most significant effects of mass communication.

McCombs *et al.* (1995) stress that public awareness is the first step in the formulation of public opinion and that the media clearly shapes this awareness. There have been numerous studies of media agenda-setting effects, many of which have adopted media agenda setting theory. Research indicates that the media influences the public's perceived salience for issues (Smith, 1987; Brosius and Kepplinger, 1990; Ader, 1993), and that the media agenda typically precedes public concern for particular issues (McCombs and Shaw, 1972; Funkhouser, 1973; Trumbo, 1995; Neuman, 1990). Research also shows that public concerns and the media agenda are not necessarily reflective of "real world" conditions (Funkhouser, 1973; Ader, 1993). For example, in a review of newspaper articles, a "real-world" pollution indicator [3], and opinion polls from 1970-1990, Ader (1993) found that the amount of media attention devoted to pollution influenced the degree of public salience for the issue, but the "real-world" pollution indicator was negatively correlated with the amount of media coverage. According to Ader (1993, p. 310), "the public needs the media to tell them how important an issue the environment is. Individuals do not learn this from real world cues."

A review of the literature suggests that a number of variables mediate the relationship between media activity and public salience of an issue. These variables include: the obtrusiveness of issues; how the issue is framed (as positive or negative); and associated time lags. Zucker (1978) defined the concepts of obtrusiveness (people's direct experience of an issue) and unobtrusiveness (people may not have direct experience of an issue). Studying six issues, he concluded that the less direct experience the public has with a given issue area, the more it will have to depend on the news media for information about that area. News media coverage preceded the rise of importance of an issue in public opinion polls for the unobtrusive issues, while for the obtrusive issues media coverage and importance to the public seemed to increase together. In a number of studies the environment has been deemed to be an unobtrusive issue, an issue about which the media appears very capable of influencing public concern (Blood, 1981; Eyal *et al.*, 1981; Zucker, 1978). Other issues, such as the ongoing activities of politicians, are also deemed to be unobtrusive. According to Lippmann (1965, p. 18), the world people have to deal with politically is out of reach, out of sight and out of mind. It has to be explored, reported and imagined. He argued that "the pictures in our heads . . . of things we have not experienced personally are shaped by the mass media"[4].

The intensity of the media coverage has also been found to affect the likelihood that particular media coverage will impact the public agenda, although it is not clear what extent of coverage is required before an agenda-setting effect is created (Brosius and Kepplinger, 1990). The way in which the media covers the issue can also affect the likelihood of whether it impacts public attitudes. Dearing and Rogers (1996, p. 64) found that an issue presented in a negative light is more likely to be regarded by the community as an important concern. That is, negative media attention is more likely to have an effect on the public's salience for a particular issue relative to positive, or favourable, attention.

According to McCombs and Shaw (1994, p. 380) any acceptance of the "agenda setting hypothesis" requires that a matching public agenda lags behind the media coverage of the issue. Such a lag has been found in many studies (including some of those referred to above). In relation to the issue of time lags, Stone and McCombs (1981) took the results of two public opinion surveys and compared them with a content analysis of the US national news magazines *Time* and *Newsweek*. As well as supporting the cumulative effect of mass communication on public perception, they demonstrated "a time lag in the movement of issues' salience from the media agenda to the public agenda" (Stone and McCombs, 1981, p. 53) of two to six months. In a similar vein, a content analysis of environmental news stories appearing in the three largest circulation newspapers in the Lansing Michigan area over a 239-day period, and measures of the public agenda from a number of surveys, led Salwen (1988, p. 100) to suggest that the public begin to adopt the media agenda from the five to seven week mark of a particular issue's coverage. This is also consistent with a review of the literature undertaken by McCombs *et al.* (1995). Other

studies indicate that an issue's salience for the public can commence from within four weeks of the media coverage (see for example, Winter and Eyal (1981) who studied the relationship between public concern about civil rights between 1954-1976 and related media coverage). Of course, it would be reasonable to expect that time lags will vary depending upon the issues in focus, but the evidence does suggest that lags do exist thereby suggesting that media coverage shapes community perceptions.

There are various forms of news-media, including newspapers, television and radio. Research supports the view that newspapers tend to have a greater ability to set the public agenda (McCombs, 1981). A survey undertaken by Bogart (1984) to establish the relative impact of daily newspapers and television on public perceptions documented that:

- half the public is exposed daily to both newspapers and television news;
- newspapers are part of the life of nearly nine out of ten Americans;
- newspapers touch two out of three on a typical day; and
- nearly four out of five readers report looking at any given page.

According to Bogart (1984, p. 719), "for a majority of the audience, the two media complement each other, and newspapers' ability to cover the news of the area in detail and in depth remains a major advantage". In a study of voting behaviour, Stempel and Hargrove (1996, p. 557) indicated that "it is newspaper reading, not TV news use, which relates most to voting". Such a result is also confirmed by McCombs and Shaw (1994, p. 382) who explain that by framing a story within a larger context, the print media is better able to point out its significance to a reader (as opposed to television news which is deemed to be more in the nature of a "headline service").

Related to some of the above studies, convergence in public opinion has also been attributed to media coverage. For example, Shaw and Martin (1992) studied the opinions of people with different demographic characteristics, namely men and women, young and old, educated and uneducated, and Caucasian and non-Caucasian. They found convergence on issues associated with education, pollution, housing and poverty as the exposure to related news items increased.

From the discussion above, and a review of other literature, it does appear that the media attention directed towards particular issues (particularly coverage included within newspapers) can shape and change community concern for many issues. Obviously, for corporate managers to react to media publicity (and in this study we are interested in corporate disclosures) they must perceive that the media publicity will impact community concerns and that the media is simply not a "passive transmitter of a reality that has an existence of its own" (Severin and Tankard, 1992). Managers are obviously not expected to be cognisant of the research undertaken within the context of media agenda setting theory. Nevertheless, consistent with the view that corporate managers do perceive that newspapers can impact public attitudes

(which is consistent with the findings of researchers working within the theoretical perspective of media agenda setting theory) it is common for corporations to subscribe to information services which provide daily information about how or whether the corporation has received media coverage in nominated national newspapers. Further, research by O'Donovan (1999), which we will consider in more depth later in the paper (which is embedded within the theoretical perspective provided by legitimacy theory), also shows that corporate managers consider previous newspaper coverage when determining the disclosures they will make in their subsequent corporate annual reports. This evidence is consistent with a view that not only is management aware of media coverage pertaining to their organisation, but that they feel a necessity to respond to it from a disclosure perspective. The next section will briefly consider the possible relationship between community concern and corporate disclosures[5]. Legitimacy theory will be utilised to explain how corporate disclosures might be used by management to change community perceptions about the disclosing corporations. Hence, whilst media agenda setting theory argues that the mass media can shape community perceptions about certain issues, legitimacy theory provides arguments consistent with the view that corporations can also impact community perceptions through their disclosure practices.

3. Corporate social disclosures as a reaction to community expectations

Studies which have examined social and environmental disclosure within annual reports indicate that it has been increasing across time, both in number of companies making disclosures and in the amount of information being reported (Ernst & Ernst, 1978; Harte and Owen, 1991; Gray *et al.*, 1995a; Deegan and Gordon, 1996). Reporting has been generally qualitative in nature and favourable to the company concerned, even to the point of increasing positive disclosures around the time of negative events (Deegan and Rankin, 1996; Deegan *et al.*, 2000).

In research specifically related to the current study, Hogner (1982, p. 249) accorded the growth, decline, and evolution of US Steel's social reporting over an 80-year period to a "concentration on the reporting of activities that society is perceived as valuing most at the time". While concluding that the matrix of forces affecting corporate reporting practice arose from a legitimation motive, he did not empirically test the proposition.

Guthrie and Parker (1989) undertook a study of the social and environmental disclosure practices of BHP Ltd between the years 1885-1985 and compared their observations to Hogner's (1982) examination of US Steel annual reports for a similar period. They observe a history of growth, decline and change in social disclosure over the period studied, rather than a period of growth and development. Human resource disclosures were found to be BHP's primary form of social disclosure, although it was quite inconsistent. The authors also observed a total absence of environmental disclosures until around 1950, with a

recurrence in the early 1970s and 1980s, although they remained at a relatively low level.

Guthrie and Parker sought to determine if disclosures were consistent with legitimacy theory and in doing so they compared the disclosure practices of BHP with major events and issues which affected BHP throughout its history as documented within the various publications they reviewed. The authors concluded that the peak in environmental disclosures in the 1970s was associated with a time when mining, steel and oil industries became targets for criticism by conservationists. However, legitimacy theory in relation to environmental activities was not supported in earlier periods when disclosures were rare and not a reaction to public pressure or other external events. The authors also concluded their evidence failed to support a legitimacy perspective for other categories of social disclosure. They acknowledged, however, that they may not have accurately captured the "events" in BHP's history which they were attempting to match with the company's reporting, and that the study may have also suffered from unidentified time lags.

In another study which sought to test legitimacy theory, Brown and Deegan (1998) adopted media coverage as a proxy for community concern. They found support for legitimacy theory in relation to their review of corporate environmental disclosures. In some industries the environmental disclosure strategies of management appeared to be tied to the extent of media attention devoted to environmental issues. Further, changes in media attention, not the level of media coverage *per se*, appeared to explain variations in corporate environmental disclosure strategies[6].

In a further study which considered the role of the media and its impact on corporate disclosures, O'Donovan (1999) conducted interviews with senior management of three major Australian corporations, including BHP, and found that the managers consider that they use the annual report to respond to perceived public concerns, with reports in news media affecting what information they disclosed. The corporate managers' responses were linked to a perception that media attention devoted to particular issues impacts the community's concern about such issues. Management perceived that media reports of a continuing nature, particularly negative or unfavourable reports, were most likely to result in a response in the annual report. O'Donovan's (1999, p. 82) data analysis suggested that "corporate management believe, to some extent, that the annual report is an effective way for informing and educating the public of the corporation's view about certain environmental issues".

As indicated above, in explaining the practice of corporate social reporting, many authors have adopted legitimacy theory (for example, Patten, 1992; Guthrie and Parker, 1989; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Neu *et al.*, 1998; Buhr, 1998; O'Donovan, 1999). Legitimacy theory is a theory that, as applied in the social and environmental reporting literature, is rather simplistic but nevertheless appears to be the theoretical basis most frequently used in attempts to explain corporate social and environmental disclosure policies[7]. Legitimacy theory relies upon the notion of a social contract and on

the maintained assumption that managers will adopt strategies, inclusive of disclosure strategies, that show society that the organisation is attempting to comply with society's expectations (as incorporated within the social contract).

Pursuant to legitimacy theory, managers' choices of legitimising strategies are based on the perceptions of the particular managers involved, and different managers will be likely to have different ideas about what society expects (that is, what the terms of the social contract are), and whether the organisation is perceived by community members as complying with these expectations. Nevertheless, when significant events such as a major environmental disaster occur, or when there is sustained mass media interest, then it is reasonable to assume that most managers would perceive that the organisation's ongoing legitimacy is threatened. Conceivably, there will also be different views about appropriate strategies to adopt when legitimacy is threatened (and of course, some managers might perceive a problem when in fact none might exist, and vice versa). Working out the effects of all the various judgements and perceptions with any precision is a difficult if not impossible task. Consequently, researchers have used simplifying assumptions: for example, that events such as the *Exxon Valdez* disaster (Patten, 1992) or proven environmental prosecutions (Deegan and Rankin, 1996) are assumed to create legitimacy problems for an industry, and that the managers will use disclosure strategies to reinstate damaged legitimacy (as inferred by increasing disclosures around the time of the events).

In this paper we also make assumptions, grounded in media agenda setting theory, that media attention directed at corporations can impact society's views of such corporations. Also, we make the explicit assumption, based on previous research such as O'Donovan (1999), that managers also perceive that the media can impact community perceptions, and that the annual report is perceived by managers to be one means to shift community perceptions back in favour of the organisation. Hence, we predict that if the mass media is focusing upon particular attributes of the organisation's operations then this is potentially legitimacy threatening and therefore likely to provoke a reaction by management – specifically, a disclosure reaction.

As noted above, legitimacy theory posits that organisations seek to ensure that they act, or at least appear to act, within the boundaries and norms of the societies in which they operate. The "social contract" (also frequently referred to as the "community licence to operate") is an implicit agreement between an organisation and society (Shocker and Sethi, 1974)[8]. Failure to act in accordance with the social contract is construed as being detrimental to the ongoing operations of the entity. Community expectations are not considered static, but rather, change across time thereby requiring organisations to be responsive to the environment in which they operate. An organisation could, accepting this view, lose its legitimacy even if it has not changed its activities from activities which were previously deemed acceptable (legitimate). Because community expectations will change across time it is argued that the organisation must also make disclosures to show that it is also changing (or

perhaps to justify why it is not changing). Changing activities without communicating such changes is considered to be insufficient. In relation to the dynamics associated with changing community expectations, Lindblom (1994, p. 3) states:

Legitimacy is dynamic in that the relevant publics continuously evaluate corporate output, methods, and goals against an ever-evolving expectation. The legitimacy gap will fluctuate without any changes in action on the part of the corporation. Indeed, as expectations of the relevant publics change the corporation must make changes or the legitimacy gap will grow as the level of conflict increases and the levels of positive and passive support decreases.

Again, organisational legitimacy (a perceived state) is deemed to occur when there is congruence between what the community expects of an organisation, and whether they believe the organisation is basically complying with those expectations[9].

Using the report *Tomorrow's Company* as a reference, Solomon and Lewis (2001, p. 7) identify eight "forces" which impact community perceptions about whether an organisation is complying with its social contract. Whilst not emanating from the mass media literature, one such "force" is considered to be the media[10]. Given a perspective that business organisations exist as a result of compliance with their social contract, the argument is that they must establish congruence between "the social values associated with or implied by their activities and the norms of acceptable behavior in the larger social system of which they are a part" (Dowling and Pfeffer, 1975, p. 122). Legitimacy, which is deemed to exist when the entity's value system appears to be congruent with the value system of the larger social system of which the entity is a part (Lindblom, 1994) is, in a sense, treated like a resource provided by parties outside the organisation, much like financial capital or labour (Dowling and Pfeffer, 1975). Pursuant to legitimacy theory, management are deemed to use disclosure media, such as the annual report, to allay community concerns, or more particularly, what they perceive to be the community concerns (Lindblom, 1994). Indeed, Hurst (1970) argues that one of the functions of accounting and related reports is to legitimise the existence of the organisation. Further, the annual report has been deemed to be an important document for an organisation seeking to shape its own "social imagery" (Gray *et al.*, 1995b).

According to legitimacy theory, the disclosures might be made to show that the organisation is conforming with community expectations, or alternatively, they might be made to alter societal expectations. Of course, studies which argue that disclosures can change, or perhaps are perceived to change, community perceptions (many such studies being grounded in legitimacy theory) are based upon an assumption that corporate disclosures, such as those in annual reports, do actually impact community concerns. This assumption is consistent with the views held by senior managers interviewed by O'Donovan (1999) who, when interviewed, responded that annual report disclosures are used as a strategy to change perceptions about the organisation[11].

In summary, to this point we have argued that the media agenda impacts society's level of concerns for particular issues (from media agenda setting

theory) and we have provided evidence that managers believe that the mass media has the ability to shape community expectations. We have also argued that the extent and type of corporate social disclosure, in the annual report, is likely to be directly related to management's perceptions about the concerns of the community (from legitimacy theory). The next section of the paper develops the hypotheses of this study.

4. Hypotheses development

The importance that the public ascribe to an issue is influenced by the amount of media attention it receives (for example, see McCombs and Shaw, 1972; Funkhouser, 1973; Ader, 1993). Public salience for an issue increases with the number of media articles between "takeoff" and "tapering" thresholds (Neuman, 1990). A certain "critical" number of articles are required to move an issue to one of public concern, and the pattern of evolving public awareness varies for different types of issues (Neuman, 1990, p. 159). The response function varies according to the issue covered, but there is consistent evidence of a relationship between the volume of media coverage and the level of public concern.

To this point, a varying pattern of social disclosures across both companies, and time, has been displayed (for example, see Pang, 1982; Guthrie, 1982; Guthrie and Parker, 1990; Deegan and Gordon, 1996). If management perceive that in the opinion of the "relevant publics" the organisation is not meeting its "social contract" with society, it is likely that the organisation will take steps to demonstrate its legitimacy and relevance to society and so avoid potential constraints and sanctions. Research has shown that management consider that the media can influence community concern, and that management will use the annual report to counter unfavourable media coverage (O'Donovan, 1999).

The discussion above has focused on establishing that disclosures, inclusive of social and environmental disclosures, are likely to be made to legitimise corporate behaviour in response to public concern, and that public concern is impacted by the media agenda, as expressed by the print media. The underlying proposition is that changes in society concerns, reflected by changes in the themes of print media articles, will be mirrored by changes in the social and environmental themes disclosed, and to the extent of the disclosure made. Applying this specifically to BHP leads to the development of the following hypothesis.

- H1.* Higher (lower) levels of the print media coverage given to specific attributes of BHP's social and environmental performance will be associated with higher (lower) levels of specific social and environmental disclosures made by BHP in its annual reports.

The above hypothesis does not address whether the media coverage and annual report disclosures are favourable or unfavourable in nature. As noted previously, the framing of an issue in the media as positive or negative influences its salience for the public (Schoenbach and Semetko, 1992; Dearing and Rogers, 1996). The managers in O'Donovan's study indicated that they

were most likely to respond to media coverage that depicted their companies in an unfavourable light. Other studies indicated an increase in positive or self-laudatory disclosures around the time of events that depicted the organisation in an unfavourable light (Patten, 1992; Deegan and Rankin, 1996).

In circumstances where media attention is of a negative or unfavourable nature, organisations have a greater incentive to provide more positive disclosure (Brown and Deegan, 1998) to affirm or re-establish their legitimacy. This is consistent with the disclosure strategies described by Lindblom (1994). One way to convince society that the organisation is meeting its social contract is to furnish positive perspectives of its activities. Accordingly:

H2. Higher (lower) levels of unfavourable print media coverage given to specific attributes of BHP's social and environmental performance will be associated with higher (lower) levels of specific positive social and environmental disclosures made by BHP in its annual reports.

5. Research method

Content analysis is used in this study to measure both media attention and corporate social disclosure. Krippendorff (1980) defines content analysis as "a research technique for making replicable and valid inferences from data to their context". The success of the process depends on the reliability and validity of the procedures employed. While there are a number of measures of reliability, Krippendorff's (1980) alpha[12] will be used to assess the replicability of the results. The coding rules are developed in detail to yield standard classifications over each of the 15 annual time-periods of this study.

Ingram and Frazier (1980) state that categories used in content analysis should result from a systematic application of a set of rules to identify exhaustive and mutually exclusive categories. Accordingly, in order to draw valid and reliable inferences from the measurement process, the method suggested by Weber (1985) to create and test a coding scheme has been followed.

First, the recording units are defined. The reliability of different measures of social disclosure has received much attention in the literature. Ingram and Frazier (1980) suggest the sentence as the unit of analysis, as it is easily identified and is less subject to intercoder variation than other measures, such as words and pages. The advantages of sentences are in not needing to standardise words, in obtaining more reliable intra- and inter-rater coding, and in allowing more detailed analysis of specific issues and themes. "Sentences are to be preferred if one is seeking to infer meaning" (Gray *et al.*, 1995b, p. 84). Whilst we use sentences in this study to measure the amount of annual report disclosure it should be noted that many other studies use measures such as words, or proportion of pages. These different measures have been found to be highly correlated (Hackston and Milne, 1996), hence the results should not be greatly influenced by the choice of sentences instead of words, or proportion of pages.

Second, the categories to be classified are defined to allow an item to be allocated to a particular category. They are intended to be mutually exclusive

to avoid confounding of the subsequent statistical analysis. This study primarily employs the content classifications of Hackston and Milne (1996), which are based on earlier schemes developed by Ernst & Ernst (1978), Guthrie (1982), and Gray *et al.* (1995b). Accordingly, the dimensions of the content analysis for both media articles and BHP's annual reports broadly embrace the classifications of environment, energy, human resources, community involvement and other.

Third, test coding is undertaken on a sample of the texts by one team member. This reveals some ambiguities in the proposed coding rules, and suggests some minor, but helpful, revisions of the classifications. Fourth, the accuracy or reliability of the coding is assessed by a test-retest, by the same team member, of a sample of the data at different times, and by supplying the coding rules and data samples to a second reviewer for analysis. Fifth, the coding rules are revised to increase the expected reliability of the coding of all texts, and sixth, all relevant text is coded.

Finally, the second reviewer again codes samples of the data to assess achieved reliability and accuracy, using Krippendorff's (1980) alpha. The results of our testing indicate that our coding procedures appear reliable (using the guidance provided by Krippendorff (1980)).

Societal pressure/community concern is measured by the number of relevant articles in the print media. Previous discussion has suggested that coverage of issues in the print media parallels exposure in the overall communication media. Summaries of all articles in the CD-ROM index, the Australian Business Index database (ABIX), mentioning BHP for the period 1983 to 1997, are obtained[13]. The index provides an up-to-date and accurate guide to published information from a wide cross-section of business, finance and trade resources by indexing approximately 85 newspapers and journals (Brown and Deegan, 1998). The number of those newspapers and journals in the ABIX database has steadily increased during the 15-year period. To enable a consistent comparison across the years 1983-1997, only print media services present in the database for those years, and which are available for review in the authors' home university library, are selected. The papers used had the largest circulations of major newspapers in Australia and included *The Age*, *The Australian*, *The Australian Financial Review*, *Westralian*, *The Bulletin*, *Business Review Weekly*, *Courier Mail* and *The Sydney Morning Herald*. It is proposed that this selection includes an adequate number of national and regional papers in Australia to reflect adequately media attention to, and public concern with, the issues of this study.

Following selection of the articles mentioning BHP in the Corporate Name/ Subject area of the ABIX search menu, the abstract of each article is examined for information concerning any of the themes outlined in the previous section. Relevant articles are then examined from microfilm records of the publications, and where relevant, are coded according to the categories or themes provided in the Appendix.

This classification is sufficient to test *H1*, but additionally, to test the *H2*, and following the definitions of Hogner (1982) and Brown and Deegan (1998), each print media article is categorised as:

- unfavourable: where the content indicates that the operations/strategies/performance of BHP are detrimental to, or not in harmony with, the social environment;
- favourable: where the content indicates that the operations/strategies/performance of BHP are beneficial to, or in harmony with, the social environment;
- other: where the content does not indicate that operations/strategies/performance of BHP are beneficial or detrimental to the social environment.

Each media article is then given a score of 1, and allocated to the specific issue within each general theme, with an attendant favourable, unfavourable, or "other" classification[14].

As noted in a previous section, measurement of corporate social disclosure has largely focused on information provided in companies' annual reports. This medium is considered the preferred information source for a number of stakeholder groups (Tilt, 1994; Deegan and Rankin, 1997). Use of the annual report enables comparisons to previous studies (Hogner, 1982; Guthrie and Parker, 1989; Brown and Deegan, 1998), and allows examination of whether managements' perceptions (O'Donovan, 1999) of using information in the annual report to respond to public concerns is supported.

The annual reports of BHP are examined for the years 1983-1997. The content themes and issues, and reasons for the selection of sentences as the recording unit, have already been presented. Positive and negative disclosures are defined similar to Hogner (1982) and Brown and Deegan (1998) as:

- positive: referring to information about corporate social activities which have a positive or beneficial impact on society;
- negative: referring to information about corporate social activities which have a negative or deleterious impact on society;
- neutral: referring to information about corporate social activities whose impact on society cannot be determined as either positive or negative.

The positive/negative measurement is central to the testing of *H2*.

6. Results and interpretation

6.1 Print media coverage and levels of corporate social disclosure

In examining this association, media articles were collated by year for each of the 49 issues shown in the Appendix, and compared to the corresponding annual report sentences on the same issues in the same years[15]. The data are now described for all of the categories of the study.

Summary aggregated totals over the 15-year period from 1983-1997 are displayed in Table I for each theme. Human resources, environment and

Theme	Total annual report sentences	Total media articles	Positive annual report sentences	Unfavourable media articles
Environment	347	87	276	48
Energy	11	8	11	0
Human resources	403	460	382	400
Community involvement	95	31	79	16
Other	36	2	36	0
Total	892	588	783	464

Notes: Spearman's rank-order correlation between total annual report sentences and total media articles = 0.9000 ($p = 0.019$); Spearman's rank-order correlation between positive annual report sentences and unfavourable media articles = 0.9747 ($p = 0.002$); Spearman's rank-order correlation coefficient (one-tailed) expresses the correlation of the number of annual report sentences on the five general themes, with the number of media articles on the same five themes, for 15 years

Table I.
Total social and
environmental
disclosure by general
themes – 1983-1997

community involvement rank in that order in both the print media and the annual reports, with the categories of "energy" and "other" receiving minimal attention in both media. At this aggregated level the results are consistent with the hypotheses in this paper. The two issues attracting the most media attention (human resources and environment which together account for 93 percent of the media coverage) account for 84 percent of the total corporate social and environmental disclosures.

The results in Table I are generally consistent with Guthrie and Parker (1989). They found limited disclosures in relation to community involvement. They also found that human resource disclosures accounted for the highest proportion of total disclosures across the period of their study (1885-1985).

In considering the trends in the disclosure of different categories of social and environmental information, we found that environment related disclosures made by BHP were fairly minimal (one or two sentences) until 1989. This is consistent with Guthrie and Parker who found fairly minimal disclosures across the period of their study (with the period of their study ending in 1985). In 1989, environmental disclosures increased to 11 sentences and then tended to increase in each year to 1997, wherein total environmental disclosures amounted to 140 sentences (in only two years during this period was there any downturn in environmental disclosures, but even then, disclosure did not return to 1989 levels). The disclosures in relation to energy were fairly minimal throughout the period of observation, which again was consistent with Guthrie and Parker. Disclosures pertaining to human resources, community involvement and "other" tended to increase and decrease from period to period with no discernible trends (of continued growth, or otherwise) being apparent. Again, this is generally consistent with the results provided by Guthrie and Parker.

Table I demonstrates the association between public concern (as measured by the proxy of media attention) and annual report social and environmental disclosures, by five themes over the 15 years from 1983-1997. This correlation of total media attention and corporate disclosures produces a correlation coefficient

of 0.900, $p < 0.05$, while positive annual report disclosures and unfavourable media articles provides a correlation coefficient of 0.9747, $p < 0.01$.

A view of the overall pattern of attention, in both the media and the annual report, to the sum of the social and environmental issues of this study, is presented in Table II.

For the annual report, there is a general trend of increasing total social and environmental disclosure over time, with comparatively few such disclosures in the 1980s, followed by pronounced upward shifts in 1989 and 1996. Whilst Table II aggregates various social and environmental disclosures and media coverage of different issues it does show that total social and environmental disclosures, which have remained predominantly voluntary within Australia, are generally increasing across time. In noting the general increase in the extent of media coverage (with various peaks and troughs across time), 1989, 1995 and 1997 represented major peaks. In 1989 and 1995 the media concerns are primarily related to employee health and safety issues. In 1995, particular attention was directed to the Moura mine disaster in which a number of BHP employees were killed. The higher level of media attention in 1997 arises primarily from attention directed at the Newcastle plant closure. The Newcastle plant was a major employer of people from the Newcastle area and had been in operation for many years. Overall, the associations between total annual report sentences and total

Year	Total annual report sentences	Total media articles	Positive annual report sentences	Unfavourable media articles
1983	16	20	11	18
1984	36	15	36	15
1985	41	11	40	8
1986	27	0	25	0
1987	21	5	18	5
1988	20	1	20	1
1989	51	47	51	47
1990	43	7	39	6
1991	49	1	49	1
1992	74	3	74	2
1993	54	19	52	6
1994	39	29	37	26
1995	69	139	61	123
1996	148	57	142	35
1997	204	234	128	171
Total	892	588	783	464
Minimum	16	0	11	0
Maximum	204	234	142	171
Mean	59	39	52	31

Table II. Aggregated social and environmental disclosure and media attention by year

Notes: Spearman's rank-order correlation between total annual report sentences and total media articles = 0.5201 ($p = 0.023$); Spearman's rank-order correlation between positive annual report sentences and unfavourable media articles = 0.4508 ($p = 0.046$); Spearman's rank-order correlation coefficient (one-tailed) expresses the correlation of the number of annual report sentences by year, with the number of media articles in the same years

media articles; and positive annual report sentences and unfavourable media articles, is strong, with correlation coefficients of 0.520, $p < 0.05$, and 0.450, $p < 0.05$, respectively. While this year-by-year correlation is interesting, it may be that specific issues in the media generate a greater corporate annual report response than other issues covered by the media. This issue will be investigated shortly.

6.2 Results of testing H1

The first hypothesis posits a relationship between the total print media coverage given to attributes of BHP's social and environmental performance and the total levels of corporate social disclosure in their annual reports. Table III provides the results of the testing of the hypothesis for each of the five major themes.

The above table presents results of tests for the correlation across each of the 15 years for each general theme. *H1* is supported in the themes of environment (correlation coefficient 0.644), and human resources (correlation coefficient 0.578), both with $p < 0.05$. These are the two issues with the greatest level of media attention and annual report disclosures.

A measure of correlation was also obtained for 15 of the 49 specific issues under examination (see the Appendix for details of each of the issues identified under each of the five major themes). These 15 issues recorded 694 of the total annual report sentences (78 percent of all sentences), and 570 media articles (97 percent of the total). With hindsight, the application of 49 categories to this one company was excessive, and as a result, a number of issues could not correlate. Perusal of the 34 issues which attracted no, or very minimal, media attention indicated that, with only three exceptions [16], they received no, or minimal annual report disclosure. This is what would be expected in terms of the hypothesis – with limited concern (as proxied by media attention) there is an expectation that there is limited incentive to provide disclosures. Table IV presents the relationship and level of significance for each of the specific issues for which a correlation statistic was calculated.

Environment. There was a modest rise in media attention and annual report disclosures in the years 1989-1995, and a pronounced rise in both occurring from 1996. A correlation of 0.6441, significance 0.005, is found for the environment category.

	Spearman rank-order correlation coefficient	Significance (one-tailed test)
Total	+0.9000	0.019
Environment	+0.6441	0.005
Energy	+0.3236	0.120
Human resources	+0.5786	0.012
Community involvement	+0.0481	0.432
Others	-0.3270	0.117

Note: This table correlates the number of annual report sentences over the 15 years of the study, with the number of media articles in the same years, for each of the five themes

Table III.
Correlation by theme between annual report sentences and media articles – *H1*

Individual issues	Spearman rank-order correlation coefficient	Significance (one-tailed test)
<i>Environment</i>		
Pollution (issue no. 1)	+0.3850	0.078
Standards and regulations (issue no. 2)	+0.7787	0.000
Prevent/repair damage (issue no. 4)	+0.6235	0.006
Awards (issue no. 9)	+0.1722	0.270
Review/impact studies (issue no. 14)	+0.3660	0.090
<i>Energy</i>		
Conservation awards (issue no. 24)	+1.0000	0.000
<i>Human resources:</i>		
Employee health and safety (issue no. 27)	+0.5786	0.012
Employment of minorities (issue no. 28)	-0.2709	0.164
Employee training (issue no. 29)	+0.3484	0.102
Employee remuneration (issue no. 31)	+0.0628	0.412
Employee morale (issue no. 34)	-0.3347	0.111
Industrial relations (issue no. 35)	+0.2752	0.160
Other (issue no. 36)	+0.0576	0.419
<i>Community involvement</i>		
Donations (issue no. 37)	-0.3359	0.096
Aid or compensation (issue no. 47)	+0.9898	0.001

Table IV.

Correlations between annual report sentences and number of media articles for individual issues – *H1*

Note: This table correlates the number of annual report sentences over the 15 years of the study, with the number of media articles in the same years, for each individual issue that recorded a correlation in testing

Within the environment theme, Table IV shows that four specific sub-issues correlate with values of $p < 0.10$, these relating to pollution, standards and regulations, prevention or repair of damage, and review or impact studies. In considering the respective levels of media attention it is interesting to note that issues associated with the prevention or repair of damage, pollution, and review or impact studies attracted the greatest level of media attention from among the 16 environment sub-issue disclosure categories. The fourth issue with a significant correlation, standards and regulations, ranked as number six in terms of media attention. These four sub-issues within the general theme of environment were also the four issues that attracted the highest level of annual report disclosure (issues associated with repair or damage to the environment attracted the highest level of media attention as well as representing the environmental issue with the greatest amount of annual report disclosure).

These results, for the environment theme in total, and for four of its issues, support *H1* in that these categories record positive correlations ranging from 0.366 to 0.778, with values of $p < 0.10$. Those environmental issues not directly supporting the hypothesis are those with minimal media coverage and minimal annual report disclosures. Interestingly, whilst the company dedicated some space in the annual report to environmental awards, the awards attracted little media attention, perhaps reflecting a view that the media tends to focus on

negative attributes of corporate performance (or perhaps, that the media considered the awards to be trivial).

Energy. The theme of energy attracts minimal attention, with media articles appearing only from 1995 and an annual report response in 1996 alone. The Spearman's Rank-order correlation coefficient of 0.3236 (significance 0.12), results entirely from the information on energy conservation awards in 1996. While the general lack of attention to the overall energy theme is interesting, the general absence of data over the years for the theme does not allow a conclusion which supports the first hypothesis.

Human resources. The data for human resources resulted in a Spearman's rank-order correlation coefficient between total media articles and total annual report sentences of 0.5786 at a significance level of 0.012. The sub-issue associated with employee health and safety also produced an association significant at the 10 percent level. The analysis of the total result offers evidence to support *H1*, with further confirmation supplied by health and safety issues. Employee health and safety attracted the greatest level of media attention within the human resources theme as well as representing the human resources issue with the greatest amount of annual report disclosure.

Community involvement. Media articles mentioning BHP's involvement with the community are infrequent, with the majority of the 1995 and 1996 articles arising from compensation and support considerations for the people of the Fly River who were severely affected by the mining operations of Ok Tedi, an organisation in which BHP has an ownership interest. The sporadic pattern of media attention and annual report disclosure led to an absence of an overall association (correlation coefficient 0.048, $p = 0.432$). However, disclosure of aid and compensation issues to communities affected by corporate activities correlated strongly (coefficient 0.989, $p < 0.001$) in the years when the Ok Tedi operations were receiving adverse media exposure. A conclusion supporting *H1* cannot be drawn from the results obtained in this theme, although there is a significant association for the disclosures relating to the aid and compensation issues – the issues attracting the greatest level of media attention within the theme of community involvement.

Other. Under the "other" theme, two media articles on the subject of corporate governance, and an average of 3.5 sentences for ten of the 15 annual reports on BHP's general social responsibility were recorded. Testing did not reveal an association between media articles and annual report disclosures for this theme.

As a concluding comment in relation to *H1* the results show that the specific issues attracting the greatest level of media attention were also generally the issues which had the greatest amount of annual report disclosure.

6.3 Results of testing H2

H2 predicts that higher levels of unfavourable media attention given to BHP's social and environmental implications will result in higher levels of positive social and environmental disclosure in the annual reports. Of the total 892

annual report sentences collated for the study, 783 were positive in nature, as compared to 464 of 588 media articles portraying an unfavourable impact on society or the environment (or both)[17]. Table V presents the results of the aggregate testing of the two variables across the five general themes, where the overall relationship resulted in a Spearman's rank-order correlation coefficient of 0.4508, significance 0.046.

The results for the total, and the environment and human resources themes, are significant ($p < 0.05$). Additionally, nine of the individual issues produced an association, of which five were significant ($p < 0.10$), as shown by Table VI. These nine issues recorded 401 (51 percent) of the positive annual report sentences and 457 (98 percent) of the unfavourable media articles.

Table V.
Correlation by theme between positive annual report sentences and unfavourable media articles - H2

	Spearman rank-order correlation coefficient	Significance (one-tailed test)
All themes	+0.9898	0.046
Environment	+0.6640	0.003
Energy	-	-
Human resources	+0.4604	0.042
Community involvement	-0.4901	0.032
Others	-	-

Note: This table correlates the number of annual report sentences over the 15 years of the study, with the number of media articles in the same year, for each theme; Sufficient data were not available to produce a correlation for the themes of energy (zero unfavourable media articles) and others (zero unfavourable media articles)

Table VI.
Correlations between positive annual report sentences and number of unfavourable media articles for individual issues - H2

Individual issues	Spearman rank-order correlation coefficient	Significance (one-tailed test)
<i>Environment</i>		
Pollution (issue no. 1)	+0.3684	0.088
Standards and regulations (issue no. 2)	+0.8126	0.000
Prevent/repair damage (issue no. 4)	+0.5179	0.024
Review/impact studies (issue no. 14)	0.3167	0.125
<i>Energy</i>		
<i>Human resources:</i>		
Employee health and safety (issue no. 27)	+0.4188	0.060
Employment of minorities (issue no. 28)	-0.1590	0.286
Industrial relations (issue no. 35)	+0.3367	0.110
Other (issue no. 36)	+0.0577	0.419
<i>Community involvement</i>		
Aid or compensation (issue no. 47)	0.6274	0.006

Note: This table correlates the number of annual report sentences over the 15 years of the study, with the number of unfavourable media articles in the same years, for each individual issue

Environment. At the general level of environment a Spearman's rank-order correlation coefficient 0.6640 is produced, significance $p = 0.003$. Three specific sub-issues are also strongly correlated ($p < 0.10$), namely:

- (1) pollution (Spearman's rank-order coefficient of 0.3684, significance 0.088);
- (2) standards and regulations (Spearman's rank-order coefficient of 0.8126, significance 0.000);
- (3) prevention or repair of damage (Spearman's rank-order coefficient of 0.5179, significance 0.024).

The above three issues attracted the greatest amount of negative media attention and were also the issues within the theme of environment that recorded the greatest amount of positive annual report disclosure. The theme's results, and those of three major categories, offer support for *H2*.

Energy. Only 11 annual report sentences were provided in total across all years (all positive). Consistent with the hypothesis (and the minimal corporate disclosures) there were no negative media articles on the theme of energy for BHP, and consequently no association was derived. Hence, for this theme, there was no statistical support for *H2*.

Human resources. Prominent over the period were safety issues in the oil industry (1989), the Moura disaster (1995), and the proposed Newcastle plant closure (1997). Significant results were obtained for the overall total of the human resources theme (correlation 0.4604, significance 0.042) and health and safety issues (correlation 0.4188, significance 0.060). Health and safety issues attracted the greatest amount of negative media attention within the human resources theme as well as providing the greatest amount of positive annual report disclosures within the theme. The aggregate result for the human resources theme and the result for the sub-issue of health and safety support *H2*.

Community involvement. Similar to the overall total for this theme, unfavourable media articles and positive annual report responses are very infrequent, only occurring in a limited number of years. For eight of the 11 sub-issues within the community involvement theme there was no unfavourable media attention recorded in any of the years, with these same eight issues each attracting a maximum of one sentence of positive annual report disclosure across all the years of the study. The resulting association between the unfavourable media attention and the positive annual report disclosures is negative and hence not in accordance with *H2*. Despite the total theme result, the issue associated with aid or compensation to local communities affected by operations (e.g. Ok Tedi), produced a Spearman's rank-order correlation coefficient of 0.6274, significance 0.006. Issues associated with aid or compensation attracted the greatest amount of negative media attention within the community involvement theme. Hence while the results pertaining to the sub-issue of aid or compensation issues provides results consistent with *H2*, the results of the theme in total do not support *H2*.

6.4 Time lags

As prefaced earlier, one objective of this study is to examine the possible existence of time lag effects in social and environmental disclosure. Both Brown and Deegan (1998) and O'Donovan (1999) suggest that there could be time lags from media attention to eventual annual report disclosure, and this is explained on the basis that managers react to media attention. This is also consistent with media agenda setting theory which proposes that media attention precedes shifts in the "public agenda". Accordingly, testing was conducted again, relating media attention in time t , to annual report disclosure in time $t + 1$. The statistical results are presented in Tables VII and VIII[18].

For both hypotheses, the statistical relationship for human resources declined markedly, while the environment theme retained a comparatively stable relationship. However, the absence of significant relationships, and declines in the levels of association for the individual sub-issues of the environment, would suggest that, as for the human resource theme and issues, time lag effects are not in operation.

The community involvement theme now records associations in the expected direction for both hypotheses, with the $H1$ correlation of 0.364 significant, $p < 0.100$. However, this is entirely due to the aid and compensation issues reported in the 1997 annual report, relating to the (1996) Ok Tedi situation.

The finding that time lags did not operate appears quite reasonable. As indicated earlier in this paper, the annual reports of Australian companies

	Spearman rank-order correlation coefficient	Significance (one-tailed test)
Total	+0.3652	0.100
Environment	+0.6089	0.010
Human resources	+0.1881	0.260
Community involvement	+0.3642	0.100

Table VII.
Test results by theme for time lags - $H1$

Note: This table correlates the number of annual report sentences over the 15 years of the study at time $t + 1$, with the number of media articles in the same years for time t , for each of the above themes

	Spearman rank-order correlation coefficient	Significance (one-tailed test)
Total	+0.3458	0.113
Environment	+0.5929	0.013
Human resources	+0.2616	0.183
Community involvement	+0.2129	0.232

Table VIII.
Test results by theme for time lags - $H2$

Note: This table correlates the number of annual report sentences over the 15 years of the study at time $t + 1$, with the number of unfavourable media articles in the same years for time t , for each of the above themes

typically are not released for approximately ten weeks after balance date. As this study has recorded the media articles by financial year, this gives the companies at least ten weeks (and up to 62 weeks) to make social and environmental disclosures within the annual report in relation to the media attention.

7. Conclusions and implications

The results presented in the preceding section display the variable pattern of BHP's social disclosure over the period 1983 to 1997, the trend to providing greater levels of social and environmental information in recent years, and the disposition to provide mainly positive information. These results are in line with findings of previous research, as is the finding of a predominance of disclosure on the themes of human resources and environment. Marked increases in social disclosure occurred from 1989, and again from 1996.

The empirical testing supported the first hypothesis. The second hypothesis, proposing that management would release positive information in response to unfavourable media attention, was also confirmed. Support for both hypotheses was also found for many sub-issues within the various disclosure themes[19] (seven of the individual issues supported *H1*, and five supported *H2*). Generally speaking, those sub-issues which attracted the largest amount of media attention were also the issues which provided the greatest amount of annual report disclosures. These results, then, lend support to legitimation motives for a company's social disclosure and also support O'Donovan's (1999) conclusions that management make annual report disclosures in response to newspaper coverage[20].

The results appear to support the theorising of Hogner (1982) on US Steel's reporting, and also suggest that the limiting comments by Guthrie and Parker (1989) on the results of their study of BHP have foundation. In addition, results of the current study support conclusions of other recent studies of the relationship between community concern and corporate social disclosure (for example, Brown and Deegan, 1998), and offers evidence that the findings of O'Donovan (1999) on the perceived responses of management to media attention, is translated into actual social disclosure by the corporate management of BHP.

The findings described above, allied with those of O'Donovan (1999) and Brown and Deegan (1998) suggest some companies provide social disclosure information in their annual reports in response to perceived community concerns, as measured by media attention. Further studies, using similar variables to this one, would provide understanding of the extent to which these results are generalisable across other companies and industries. Research which investigated the impact of all forms of media on corporate social disclosure, would also be a contribution to the literature. Associated with that, it may be possible to examine corporate responses in communications other than the annual report.

In concluding the paper we can perhaps reflect on the implications of the findings. This paper, and a number of others, have provided evidence that managers disclose information to legitimise their organisations' place within

society. This paper also provides evidence consistent with a view that greater media attention stimulates greater corporate disclosure. More specifically, when there is perceived to be adverse public opinion, reporting media such as the annual report are used in an endeavour to bring public opinion back in support of the company. Whether this strategy actually works is not something that we directly consider. There is a vast body of literature which shows that the media can shape community perceptions but there is a general absence of literature on how annual report disclosures, especially those relating to social and environmental issues, impact community concerns. This is an avenue for future research. Further research might consider whether particular disclosures are more successful in altering the opinions of some groups relative to others. Clearly, corporate management must believe that the disclosures make a difference (as O'Donovan's 1999 interviews indicate). Another avenue for research is to determine whether management considers that some stakeholder groups are more readily influenced by corporate disclosures. Are these groups the ones with which managers are seeking, through annual report disclosures, to establish legitimacy? Further, do managers tend to consider that some groups are more readily impacted by the mass media?

Whilst the paper to this point has been of a positive nature, seeking to provide explanation of particular disclosure practices, we can conclude the discussion by considering a normative issue. A broader point we can consider is whether legitimising activities, such as those relating to annual report disclosures, are beneficial to the community. Legitimising disclosures mean that the organisation is responding to particular concerns that have arisen in relation to their operations. The implication is that unless concerns are aroused (and importantly, the managers perceive the existence of such concerns) then unregulated disclosures could be quite minimal. Disclosure decisions driven by the desire to be legitimate are not the same as disclosure policies driven by a management view that the community has a right-to-know about certain aspects of an organisation's operations. One motivation relates to survival, whereas the other motivation relates to responsibility.

Arguably, companies that simply react to community concerns are not truly embracing a notion of accountability. Studies providing results consistent with legitimacy theory (and there are many of them) leave us with a view that unless specific concerns are raised then no accountability appears to be due. Unless community concern happens to be raised (perhaps as a result of a major social or environmental incident which attracts media attention), there will be little or no corporate disclosure.

We can return to the earlier point about the lack of evidence to show whether corporate disclosures actually impact or shape public perceptions. If they do, perhaps we can reflect upon whether that would necessarily be a good thing? Cooper and Sherer (1984) argue that legitimising disclosures simply act to sustain corporate operations which are of concern to some individuals within society. To the extent that the corporate social and environmental disclosures reflect or portray management concern as well as corporate moves towards actual change,

the corporate disclosures may be merely forestalling any real changes in corporate activities. Some researchers see legitimising behaviour as potentially quite harmful, particularly if it legitimises activities that are not in the interests of particular groups within society. For example, Puxty (1991, p. 39) states:

I do not accept that I see legitimation as innocuous. It seems to me that the legitimation can be very harmful indeed, insofar as it acts as a barrier to enlightenment and hence progress.

Legitimising disclosures are linked to corporate survival. In jurisdictions such as Australia, where there are limited regulatory requirements to provide social and environmental information, management appear to provide information when they are coerced into doing so. Conversely, where there is limited concern, there will be limited disclosures. The evidence in this paper, and elsewhere, suggests that higher levels of disclosure will only occur when community concerns are aroused, or alternatively, until such time that specific regulation is introduced to eliminate managements' disclosure discretion. However, if corporate legitimising activities are successful then perhaps public pressure for government to introduce disclosure legislation will be low and managers will be able to retain control of their social and environmental reporting practices.

Notes

1. To put BHP Ltd in its broader context, as at 31 May 1997 BHP Ltd had total reported assets of A\$36,735 million and employed in excess of 61,000 employees (BHP Ltd 1997 Annual Report). In 2001, BHP was party to a merger and became BHP Billiton.
2. According to McCombs and Shaw (1994, p. 378) the dominant view in the mass communication literature prior to media agenda setting theory being embraced in the 1970s and thereafter, was that the media merely reinforces pre-existing attitudes. Since that time, however, agenda setting studies numbering in the hundreds (Shaw and Martin, 1992) have been undertaken and media agenda setting theory still remains a dominant theory in the mass communication literature.
3. This indicator was constructed by Ader (1993) from measures of air pollution, oil spills and solid waste disposals per year and was derived by reference to the publications *Environmental Quality and Characterization of Municipal Waste in the United States 1960-2000*.
4. Arguably, one might expect that many of the activities of large corporate entities, and the implications thereof, would be unobtrusive to the majority of people within a particular country (although this might not be the case in smaller "company towns") thereby enabling the media to shape opinions about large corporations.
5. Whilst we have explained the proposed linkage between the media agenda and the public agenda we have not explored the important issue of what actually drives the media agenda in the first place (for example, who are the "gatekeepers?"). This interesting issue is deemed to be outside the scope of this paper.
6. A major limitation of the Brown and Deegan (1998) study, and one that we attempt to overcome in this study, was that rather than considering specific environmental issues the authors identified all organisation-related environmental media articles and all annual report environmental disclosures of the sample companies and thereafter examined the association between the two. Specific environmental issues (such as pollution, and environmental awards) were not separately considered.

7. But of course, all theories of human behaviour can be expected to represent simplifications of reality given the complexity that is typically associated with human decision making processes.
8. Whilst the social contract is considered to be an implicit agreement, some of the expectations held by society, and therefore embodied within the "contract", will be codified in law and therefore explicit. As indicated previously, different managers will have different perceptions about what is embodied within the "social contract" and this different perception might, at least in part, explain why different policies are adopted by different organisations.
9. Consistent with the previous discussion in this paper, it should be acknowledged that legitimacy theory, as applied in the social and environmental reporting literature, generally suffers from an underdeveloped degree of resolution. Discussions of the relationship between societal values and perceptions of corporate operations implicitly assume that there is some form of unified public or societal opinion. This is a simplifying theoretical assumption, given that it is reasonable to accept that society is made up of different groups (or stakeholders) with different views and different abilities or powers to have their views "heard". Whilst we effectively maintain this simplifying assumption in this paper, we make a further assumption (untested) that the media will have an impact on people from different groups (consistent with Shaw and Martin, 1992), or perhaps more to the point, that managers believe that the media can impact a variety of audiences (towards the conclusion of this paper we raise this issue as one worthy of further research).
10. The other forces were: legal/regulatory requirements; industry and market standards; industry reputation; political opinion; pressure group attention; attitudes of customers, consumers, employees, investors, and the community.
11. Like a number of studies which have preceded this work, we also focus on the disclosures being made by the organisation and not the reactions of the readers of the information. Whilst we are not directly concerned with whether the disclosures have any actual impacts on community concerns it is nevertheless believed that this is an important area of research which has received relatively scant attention. As Ashforth and Gibbs (1990, p. 177) correctly state, "despite the problematic nature of legitimacy, most research on the construct has been confined to the means of legitimation and has overlooked the conditions under which such means are or are not successful. Previous work has implicitly assumed that the means indeed produce the desired effects."
12. For a discussion of this, see Krippendorff (1980, pp. 129-53). This measure expresses the level of agreement achieved among coders regarding the assignment of units to categories.
13. Choosing 1983 as the starting point of the analysis was fairly arbitrary and was dictated by the fact that we wanted to collect data across a reasonable number of years. We decided to collect data for 15 years, hence we started in 1983. As it turned out, the ABIX data was only available electronically for periods from 1982, hence for practical purposes we have used all the media data that was available, other than for 1982.
14. That is, a score of one was given to each media article that related to a specific issue regardless of the location or prominence of the article. No explicit consideration was given to whether the respective articles were on the front page, the back page, or in the middle of the paper/magazine, and further, no explicit consideration was given to the size of the headline, or the size of the article. It has also been assumed that all the papers/magazines used in the analysis have the same ability to impact community expectations. Whilst the above assumptions might be considered to be simplistic there is little available guidance from the mass media literature upon which to develop a weighting scheme. Future research might consider this issue.
15. The "years" referred to the financial years of BHP Ltd, which run from 1 June to 31 May. As annual reports are generally released up to ten weeks after balance date this gives the organisation up to ten weeks to determine what they will include in the annual report. For issues that are raised by the media early in the financial year the company has more time to determine how it will respond. This does raise the point that where particular issues

- have been raised by the media early in the financial year then the company may wish to make a more timely response in media other than the annual report. However, in this study we have restricted our focus to annual reports. Nevertheless, further research might consider this issue.
16. Employee profiles recorded 55 annual report sentences (average 3.6 per year), employee share schemes 43 (average three per year), and other social responsibility disclosures 36, primarily from occasional mission statements.
 17. This again supports the view that the media is more likely to write a story that is critical of the company, rather than one that is positive in attitude. If this is the case and represents an actual bias then this is somewhat of a pity because just as bad performance should be criticised, good performance should arguably be praised.
 18. Energy and "Other" were not considered given the low amount of media attention and disclosure.
 19. Of the total 49 issues being examined, 15 provided a measure of correlation. The remaining 34 issues only attracted 18 media articles over the 15-year period for BHP, and in line with the hypotheses of this study, a correlation with annual report sentences was therefore not expected.
 20. This in itself potentially shows that individuals or groups seeking greater corporate disclosure should, as one strategy, explore the possibility of trying to influence the media agenda. As noted previously, however, how the media agenda is "controlled" is not an issue we investigate in this paper.

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Appendix. Categories of social and environmental disclosure used in this study (49 in total)

A. Environment

Environmental pollution

1. pollution control in the conduct of the business operations; capital, operating and research and development expenditures for pollution abatement;
2. statements indicating that the company's operations are in compliance with environmental laws and regulations; *recognition of the need to comply with society standards and regulations*;
3. statements indicating that pollution from operations has been or will be reduced;
4. prevention or repair of damage to the environment resulting from processing or natural resources, e.g. land reclamation or reforestation, *e.g. OK Tedi and its results*;
5. conservation of natural resources, e.g. recycling glass, metals, oil, water and paper;
6. using, *or researching*, recycled materials;
7. efficiently using materials resources in the manufacturing process;
8. supporting anti-litter campaigns;
9. receiving an award relating to the company's environmental programmes or policies;
10. preventing waste.

Aesthetics

11. designing facilities harmonious with the environment;
12. contributions in terms of cash or art/sculptures to beautify the environment;
13. restoring historical buildings/structures.

Other

14. undertaking environmental impact studies to monitor the company's impact on the environment; *conducting reviews of performance, employing specialist consultants*;
15. wildlife conservation;
16. training employees in environmental issues.

B. Energy

17. conservation of energy in the conduct of business operations;
18. using energy more efficiently during the manufacturing process;
19. utilising waste materials for energy production;
20. disclosing energy savings resulting from product recycling;
21. discussing the company's efforts to reduce energy consumption;
22. disclosing increased energy efficiency of products;
23. research aimed at improving energy efficiency of products;
24. receiving an award for an energy conservation programme;
25. voicing the company's concern about the energy shortage;
26. disclosing the company's energy policies.

C. Human resources

27. Employee health and safety. This broad category includes issues associated with:

- reducing or eliminating pollutants, irritants, or hazards in the work environment;
 - promoting employee safety and physical or mental health;
 - disclosing accident statistics;
 - complying with health and safety standards and regulations;
 - receiving a safety award;
 - establishing a safety department/committee/policy;
 - conducting research to improve work safety;
 - providing low cost health care for employees;
 - *compensation, litigation or enquiries, related to safety;*
 - *providing information on industrial action related to health and safety.*
28. Employment of minorities or women. This broad category includes issues associated with:
- recruiting or employing racial minorities and/or women;
 - disclosing percentage or number of minority and/or women employees in the workforce and/or in the various managerial levels;
 - *employment of youth or local community personnel;*
 - *information on apprenticeship schemes;*
 - establishing goals for minority representation in the workforce;
 - programme for the advancement of minorities in the workplace;
 - employment of other special interest groups, e.g. the handicapped, ex-convicts or former drug addicts;
 - disclosures about internal advancement statistics.
29. Employee training. This broad category includes issues associated with:
- training employees through in-house programmes;
 - giving financial assistance to employees in educational institutions or continuing education courses;
 - establishment of trainee centres.
30. Employee assistance/benefits. This broad category includes issues associated with:
- providing assistance or guidance to employees who are in the process of retiring or who have been made redundant;
 - providing staff accommodation/staff home ownership schemes;
 - *providing scholarships for employees' children;*
 - providing recreational activities/facilities.
31. Employee remuneration. This broad category includes issues associated with:
- providing amount and/or percentage figures for salaries, wages, PAYE taxes, superannuation;
 - *disclosing workers compensation arrangements;*
 - any policies/objectives/reasons for the company's remuneration package/schemes.
32. Employee profiles. This broad category includes issues associated with:

- providing the number of employees in the company and/or at each branch/subsidiary;
 - providing the occupations/managerial levels involved;
 - providing the disposition of staff – where the staff are stationed and the number involved;
 - providing statistics on the number of staff, the length of service in the company and their age groups;
 - providing per employee statistics, e.g. assets per employee and sales per employee;
 - providing information on the qualifications of employees recruited.
33. Employee share purchase schemes. This broad category includes issues associated with:
- providing information on the existence of or amount and value of shares offered to employees under a share purchase scheme or pension programme;
 - providing any other profit sharing schemes.
34. Employee morale. This broad category includes issues associated with:
- providing information on the company/management's relationships with the employees in an effort to improve job satisfaction and employee motivation;
 - *expressing appreciation or recognition of the employees;*
 - *seeking employees' opinions and input to planning;*
 - providing information on the stability of the workers' jobs and the company's future;
 - providing information on the availability of a separate employee report;
 - providing information about any awards for effective communication with employees;
 - providing information about communication with employees on management styles and management programmes which may directly affect the employees.
35. Industrial relations. This broad category includes issues associated with:
- reporting on the company's relationship with trade unions and/or workers;
 - *reporting on agreements reached for pay and other conditions;*
 - reporting on any strikes, industrial actions/activities and the resultant losses in terms of time and productivity;
 - providing information on how industrial action was reduced/negotiated.
36. Other. This broad category includes issues associated with:
- improvements to the general working conditions – both in the factories and for the office staff;
 - information on the re-organisation of the company/discussions/branches which affect the staff in any way;
 - the closing down of any part of the organisation, the resultant redundancies created, and any relocation/retraining efforts made by the company to retain staff;
 - *reporting industrial action associated with a reduction in employees;*
 - information and statistics on employee turnover;
 - information about support for day-care, maternity and paternity leave.

D. Community involvement

37. Donations of cash, products or employee services to support established community activities, events, organisations, education and the arts.
38. Summer or part-time employment of students.
39. Sponsoring public health projects.
40. Aiding medical research.
41. Sponsoring educational conferences, seminars or art exhibits.
42. Funding scholarship programmes or activities.
43. Other special community related activities, e.g. *providing civic amenities, supporting town planning.*
44. Supporting national pride/government sponsored campaigns.
45. Supporting the development of local industries or community programmes and activities.
46. *Recognising local and indigenous communities.*
47. *Providing aid or compensation to communities around their operations.*

E. Others

48. Corporate objectives/policies: general disclosure of corporate objectives/policies relating to the social responsibility of the company to the various segments of society; *disclosing corporate governance practices.*
49. Other disclosing/reporting to groups in society other than shareholders and employees, e.g. consumers, any other information that relates to the social responsibility of the company.

(Adapted from Hackston and Milne (1996), with changes in italics).