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Science and technology in the British press, 1946-1990: a systematic content analysis of the press

Report

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**Science and Technology in the British press,
1946-1990**

A systematic content analysis of the press

Volume 1: Results
Volume 2: Methodology
Volume 3: Code Book
Volume 4: Coding Frame

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**Science and Technology in the British Press,
1946-1990**

Volume 1

Results

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Publications arising from this project [as at September 1998]

Bauer M (in print) The medicalisation of science news — from the 'rocket-scalpel' to the 'gene-meteorite' complex. *Social Science Information* [June 1998]

Bauer (in print) Content analysis: a bridge between quality and quantity. in: Bauer M & G Gaskell (eds) *Doing qualitative research*. London, Sage

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Bauer M (1995) The opening and closing of the window of science, 1820-1990, paper presented to the Chinese Association for Science and Technology, Public Understanding of Science Conference, 15-19 October 1995, Beijing

Bauer M (1995) The waxing and waning of science coverage in the British Press, Public Understanding of Science Conference, Science Centre Berlin, 30 November-2 December 1995

Bauer M (1996) Representing science in the British press, 1946-1990, paper to the 1st Swiss Conference on Science Communication: Scientists and Society: from misunderstanding to dialogue, Zurich, 8 May 1996 [invited]

Bauer M (1996) Opening and closing the window of science, 1820-1990, University College London. Department of Science and Technology Studies, 4th March

Bauer M (1996) Representing science in the British press, 1946-1995, Table Ronde - La promotion de la culture scientifique et technique. Paris, Universite Paris 7, 12-13 December [invited]

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1 Introduction

In 1993 the Science Museum was awarded a grant of a little less than £30,000 for a study of science and technology in the British press in the post-war period (grant ref: 037859/Z/93/Z). The proposed research represented a considerably scaled down version of an earlier proposal, which would have involved the collection and analysis of a random sample of 10,000 press articles representing science and technology coverage from 1945 through to the present. Scaling down was achieved in two related ways: first, the sample size (while still random and statistically representative) was reduced from 10,000 to 6,000; and second, the scope of the study was restricted to the period 1946-90. The resulting study is considerably more than a pilot study but somewhat less than the ideal, full-scale treatment of the subject under consideration.

This is the first of four volumes which together report and codify the final results of the project. Volume 1 presents in outline the empirical and theoretical results, while volumes 2, 3 and 4 present the technical and archival results of the research. Volume 2 describes the methodology, and provides details of the Media Monitor Archive which has been established in the Science Museum Library. Volume 3 is the code book containing the raw data that was the basis for the statistical analysis, and hence for the results described here. Finally, volume 4 provides the coding frame that was developed in order to obtain quantitative data from the press articles collected. While volumes 2-4 may appear to be of less immediate interest to historians of science, we should like to emphasize that they contain information essential not only to the proper evaluation of the results presented here but also to any future uses that may be made of the Media Monitor Archive.

It is probable that the nature of this research project, as illustrated by the very structure of this report, is significantly different from that of most other current Wellcome Trust-funded research projects in the history of science. Key features that may make this study appear somewhat unusual are: first, that it is concerned exclusively with popular representations of science; second, that its methodology is primarily quantitative; and third, that it is intended to yield a tangible, openly available resource (the Media Monitor Archive) for use by other scholars. In order to evaluate the results of this study, it is vital that these unusual features be recognised and understood; and for this reason, it may be helpful if we say a little more here by way of clarification of our research aims, as well as of the strengths

and weaknesses of the methods which we have employed in order to fulfil them.

First, it scarcely needs to be stated that ours is a project concerned with science in the mass media. We are concerned here, not with professional scientific activity in the post-war period, but rather with public representations of that activity as these may be discerned in national newspaper coverage. We make no comment here on the "accuracy" or "inaccuracy" of the public representations described, as judged from the independent perspectives of either the scientist or the historian. Naturally, there are important questions to be asked about the relationship between professional scientific activity and public representations of that activity. However, such questions cannot sensibly be addressed without first having a reasonably accurate account of both the professional and the public domains. Hitherto, there have been very few studies of media coverage of science and technology in the UK, and none at all which have attempted systematically to trace historical patterns or trends in such coverage in the post-war period. This, then, is very much a first step in what we hope will be a new direction for historical investigation.

For the most part, historians of science favour qualitative methods. Such methods are well suited to fine-grained analysis of particular episodes or events; but they are less well suited to the analysis of large-scale patterns and trends. In the case of the mass media, individual stories may be analysed qualitatively by means of detailed case studies; but overall patterns and trends are better handled by methods that allow large amounts of material to be integrated reliably into a single analysis. Ideally, of course, what one wants is a judicious combination of qualitative case-studies and quantitative pattern and trend analyses. For example, by revealing broad trends in newspaper coverage, quantitative analysis may suggest hypotheses that are best tested by finer-grained case-studies. Although our study has necessarily been largely concerned with quantitative data collection and analysis, it does point to the potential for complementary qualitative studies that may serve to test and extend some of its necessarily provisional conclusions.

Qualitative historical research is very rarely reproducible in the scientific sense; that is, it does not commonly lend itself to independent test by repetition under reasonably well controlled circumstances. Certainly, it is common for qualitative historical research to be the subject of debate amongst scholars who have common access to much of the relevant evidence; but in extreme cases such research may approach the condition of, for example,

some classical contributions to social anthropology, which appear to rest upon unrecoverable (and therefore ultimately untestable) empirical foundations. By contrast, quantitative historical research aspires to a form of openness in which results rest upon clearly defined and openly accessible empirical results. Ideally, the reliability of data should be open to general scrutiny, and the validity of generalisations drawn from this data should be open to independent confirmation.

When quantitative historical research yields a well-defined body of empirical data, such data can and should be made available for use by others not merely for the sake of checking existing claims but rather for the purpose of conducting entirely new (so-called "secondary") studies. It is a feature of quantitative data sets that they permit of an indefinitely large amount of statistical analysis. In the present context, it is important to note that one important aim of our research has been to establish an archive of newspaper science and technology coverage that may be used for secondary studies. All of our statistical analyses are open to checking by others who wish to make use of this archive; but at the same time, we are aware that a great deal more can (and in our opinion should) be done by way of analysis. By establishing an archive in the Science Museum Library, we hope to open the way for others to conduct their own studies of science and technology in the press in the post-war period.

This study, therefore, has been designed to yield a series of well-defined contributions to the analysis of British newspaper coverage of science and technology in the post-war period. In the first place, the study has produced an archive of around 6,000 randomly sampled newspaper articles. These articles have been collected according to a well-defined sampling procedure, so as to be statistically representative of all science and technology coverage in British national daily newspapers in a defined period (see volume 2). The articles have been photocopied and filed in the Science Museum Library. Following the upgrading of the present interim arrangements for storage and access, the archive will be made available for others to use.

All of the articles in the archive have been analysed by means of a rather detailed coding frame (see volume 4). This coding frame has been developed with a view to obtaining reliable quantitative information concerning both the form and the substance of each article. Encoded information concerning each article has been entered into a computer file, and the file has been extensively "cleaned" so as to enable the resulting data to be analysed. The

cleaned data produced from the encoded articles yields aggregate results which themselves constitute a useful product of the research (see volume 3). It is upon these aggregate results that all of our statistical analyses and higher order interpretations are based. Once again, these aggregate results will be made available (on computer diskette) to other researchers, in order to facilitate further secondary analysis.

The quantitative data obtained from the articles has been subjected to statistical analysis using a well-known social statistics software package (SPSS). Here, our aim has been to answer a series of what might be termed first order questions about British newspaper coverage of science and technology in the post-war period. These questions include: how much science and technology coverage has there been? how much coverage has been given to particular scientific subjects? how generally positive or negative has science and technology coverage been? how much attention has been given to controversial questions in science and technology? and what are the major stylistic features of the coverage? Elementary as these questions may seem, it is nevertheless the case that there are no reliable answers to them in the existing literature. At the very least, it would seem desirable to remedy this deficiency before proceeding to more complex and subtle matters.

The results of the statistical analysis have been used to construct a general account of the pattern of science and technology coverage. In our view, this account is much the most important result of the research project. However, it should not be taken for a mature history of science in the press in the post-war period. Such a history will need to deal very much more closely with the development of both post-war science and post-war British society. It would have been well beyond the scope of this study to attempt to deal systematically with these developments here; but we have indicated some of the key issues that seem to us to require attention in such a project. We hope that both the Media Monitor Archive itself and the results of our preliminary analysis of it as reported here will inform further work on changing public perceptions of science and technology in the 20th century.

This project has been a major team effort, and several other contributors are thanked in the acknowledgements in Volume 2. The role of the second author has been confined to matters of general advice and support, the authorization of expenditure and contributing to the preparation of the report.

2 Summary of Results

In this section we summarise the results of our study of science in the post-war British press. (Although the period specified for the study was 1946-1985, we have been able to obtain data up to around 1990.) The variables to be considered are: the quantity of science and technology coverage; the overall evaluation (positive or negative) of the coverage; the relative weight given to benefits and risks in the coverage; the scientific subjects represented in the coverage; the relative prominence given to the presentation of controversies; and stylistic changes in the presentation of science news and science-related stories throughout the period. The context for the consideration of each of these issues is a commonly made claim about science in the press. Although many of the claims that will be cited amount to allegations made by sections of the scientific community against the press, for us they serve as hypotheses concerning the nature and the contents of the facts of press coverage in the British press.

2.1 The Amount of Coverage

To judge from much that is said and written about science in the press, we might suppose that there has been a steady decline in the amount of science coverage in the post-war period. In fact, what we find depends on both the precise periods and the particular newspapers that are considered. The broadsheet newspapers (henceforth: quality press) and the tabloid newspapers (henceforth: popular press) have different cycles of science and technology coverage, which may be summarised as follows:

Quality Press	
post-war take-off	1946 - 1960 (400% increase)
1960s decline	1960 - 1974 (50% decrease)
recovery	1974 - 1990 (50% recovery)

Popular Press	
post-war take-off	1946 - 1962 (300% increase)
1960s stability	1962 - 1978 (rough stability)
1980s decline	1978 - 1990 (60% decline)

If there has been a decline in science coverage in the British press, the trend is certainly a long one and its starting point is located in the late-1950s/early-1960s. However, the pattern is more complex than simple talk of decline would suggest. Front page science in the quality press has clearly declined since its post-war peak in 1952; but overall levels of science and technology coverage in the quality press appear to peak somewhat later, around 1960, to decline through the 1960s, and then to increase again through the 1970s and 1980s. Based on similar results from Australia and Germany, this pattern of growth in coverage through the 1980s appears to be an international phenomenon.

Throughout the post-war period, an average of 5-6% of daily newspaper space is allocated to science news, with fluctuations over time. For the most part, the quality press carries more science news than the popular press. Although there was a significant fall in the area of quality newsprint devoted to science from a high point around 1960, it would seem that the proportion of newspaper space devoted to science has remained roughly constant since the mid-1960s.

2.2 The Evaluative Tone of the Coverage

It is a rather strong conclusion of the present study that the evaluative tone of science and technology coverage in the British press undergoes marked changes in the post-war period. Broadly, there appear to be two phases: a first phase (c. 1950-1965) during which the overall tone of science coverage is positive and celebratory; and a second phase (cc. 1965-1990) during which the overall tone is negative and critical. It should be noted that changes in the trend of the evaluative tone occur in the early-1950s (from negative to positive), in the late-1950s (from positive to negative), and in the late-1970s (from negative to positive). At the cut-off point of the present study (1990) the trend was still from negative to positive.

2.3 The Discourse of Benefits and Risks

A discourse of benefits dominates science coverage in the press until the end of the 1960s. During the 1960s a discourse of risk increases rather sharply. Risk and benefit stories achieve a rough balance after 1970, with around 45% of all stories containing either a risk or a

benefit argument or both. The linear trend throughout the period of the study shows a slight decline in benefit stories, a sharp increase in risk stories and a considerable increase overall in risk-benefit stories. We take this result to support the notion that in the post-war period Britain has moved steadily in the direction of what has been termed the "risk society".

2.4 The Subjects Covered

At the beginning of the period, scientific coverage in the press is dominated by the physical sciences. Thereafter, however, there is a steady shift away from the physical and towards both the social and the bio-medical sciences. In the popular press medical science and health issues clearly dominate after 1970. In the quality press the crossover between physical and bio-medical science coverage comes slightly later, but the underlying trend is the same. Social science coverage increases in the quality press after 1945, but not in the popular press.

We have identified civil nuclear power, space exploration, information technology and biotechnology as four strategic developments in post-war science. Analysis of the amount of press coverage devoted to each of these areas shows that these developments are covered successively in the 1950s and early-1960s (nuclear power), the 1960s and early-1970s (space), the late-1970s and 1980s (information technology) and the late-1980s (biotechnology). The successive emergence of these major strategic technologies is rich in potential for more detailed comparative analysis.

2.5 Coverage of Controversy

It is often claimed that newspapers dwell selectively on controversial aspects of science. Our results suggest, however, that so far as science is concerned controversy is by no means the only news value. On average, only around one quarter of all science stories in the press in the post-war period deal with controversy. In the quality press, two cycles are discernible: a peak in the late-1940s is followed by steady decline until 1958, after which the amount of controversy increases up until the early-1980s, after which it once again starts to decline.

Predominantly partisan science coverage follows a different pattern of variation in the quality

press and the popular press. We can identify periods of advocacy and of balanced coverage of science. Advocacy is more frequent in the popular press than it is in the quality press. The nature of these differences requires further analysis.

2.6 Stylistic Changes

The size of science stories remained roughly stable for a long period between the mid-1950s and the mid-1980s, but since then there has been a marked tendency towards larger articles in both the quality and the tabloid press. There has been a general increase in the proportion of feature articles within science coverage since 1945. Similarly, there has been a general increase in the use of expert citations in quality press science coverage. The use of so-called sensational newsplay has always been a characteristic feature of the popular press; but it is also increasingly seen in the quality press; in this sense, at least, the gap between the quality press and the popular press appears to be closing.

2.7 Coverage of British vs Foreign Science

More than two thirds of the science stories refer to science and technology happening in Britain rather than anywhere else. In this sense, newspaper coverage tends to celebrate national rather than international achievement. In general, however, non-British science is presented in rather more favourable terms. Possible explanations for this curious difference are that tales of foreign success are told to put British readers "on their toes", and that controversy and scandal are always more newsworthy when they concern local events.

2.8 Editorial Format of Coverage

During the 1980s., many British newspapers started special science sections. This trend reflected an international trend towards sectionalising newsprint according to life style interests. Some commentators have worried that the creation of science sections might "ghettoise" science within the newspaper. However, it is worth observing that the appearance of science sections has gone hand in hand with an increase in the absolute amount of science coverage in the press.

3 The Amount of Coverage

Two propositions concerning the amount of science coverage in the British press are worth considering here: (a) there is not enough coverage; and (b) there has been an absolute or relative decline in science coverage in recent years. To judge whether there is "enough" science coverage goes well beyond the scope of this project. Such judgement is inherently political, and different stakeholders in the scientific community and the media are likely to have different views. From the point of view of scientists wishing to use the media to influence the public it may well be the case that more is always better; but from the point of view of journalists wishing to interest and engage their readers, this is unlikely to be the case. It would be possible in principle to replicate the attempts of the Royal Commissions on the Press to compare systematically different areas of news coverage; and this might have been a way of coming to some relative judgement. However, such an effort is well beyond the remit of the present project, which focuses on science coverage alone. In order to assess the proposition concerning absolute or relative decline in science coverage, we simply observe the amount of coverage over time taking the period average as a baseline.

We use two measures for the amount of science and technology coverage in the press: first, the number of articles, either an absolute number or a percentage of the total number of articles (frequency of articles per annum); and second, a relative measure taking into account the number of articles, their size in square centimetres, and the average number of pages in the newspapers per year (relative cover = coverage per average page weighted by page size). Because the number of newspapers in the sample varies, the data is weighted so as to give an equal number of newspapers for each year.

Figure 1.1 gives weighted index of articles per year by type of newspapers. We distinguish between the quality press (in broadsheet format) and the popular press, which since the 1970s has appeared in tabloid format. (For details of the sample see volume 2 of this report.) Over the period 1946-1990 the quality press has contained about three times as much science and technology coverage as the popular press. At any time in the post-war period the quality press coverage always exceeded the popular press coverage; however, the gap is not stable. The gap is great in the late-1950s and early-1960s, and in the late-1970s, the early-1980s and the late-

1980s. As a trend, the gap in coverage between the quality press and the popular press has tended to widen over the period.

Figure 1.1 clearly shows that the coverage of science and technology is not a constant over the period. The quality press and the popular press have different cycles between 1946 and 1990. The quality press shows four clearly marked periods of peak coverage: 1960/62, 1970/72, 1980/82, and 1986-90. These peaks cover different events and developments. We find the most intense science coverage in the early-1960s. Coverage then declines until 1974, since when it has steadily increased again. The early-1960s and the mid-1970s are the turning points in the longer trends. The overall trend is described by a three step movement of up-down-up again.

The increase in coverage since the mid-1970s is in line with comparable international data. Kepplinger (1989) reports a changing trend to increased coverage for Germany at about the same time. An Australian (ADITC, 1991) study reports strongly increased science coverage some years later (since 1980). It seems reasonable to posit as an international trend an increase in the amount of science and technology coverage in the press from the mid-1970s onwards.

Figure 1.2 shows the fluctuations in science coverage in the popular press on a larger scale, in order to amplify the main features. The peaks in the popular press are less clearly marked, not least because we have rather fewer articles in the sample. We can recognize a relatively large amount of science and technology coverage during the 1960s, together with a clear peak in 1978. After 1978, there is a declining trend in the coverage. The overall trend is described by a three step movement of up-keep level-down.

One measure of the public importance of science and technology is the location of science news stories (frequency for page=1) in comparison to other types of news stories. The space of a newspaper edition is limited; hence decisions about which stories are to be given front page treatment reflect editorial judgements of relative newsworthiness or importance. Figure 1.3 shows an index of front page science in the quality and the popular presses over the post-war period. The number of front page items in the popular press is much smaller. Quality press front page science news increased from 1946 to 1952, and has since decreased to about 25% of the peak intensity in 1952. Front page science news is a robust indicator of a decline in science and

technology coverage in the postwar period, indicating perhaps the decreasing political significance attaching to scientific and technological developments.

All of the above measures are based on the absolute number of articles; that is, they treat smaller news items as being equivalent to larger feature articles. However, the available space for news has increased in British newspapers since 1946, while the average size of articles has also varied. For these reasons, it is advisable to look at other measures of science coverage. The total number of articles weighted by their size (in cm^2) and by the number of pages per issue, produces an index of the relative importance of science news. The assumption is that, within the available space, the perceived importance of science and technology is proportional to the amount of space allocated to them.

Figure 1.4 shows the total space (size) devoted to science and technology coverage in the quality press and the popular press over the study period. Photographs and illustrations become more frequent through the period, particularly in the popular press. For this reason, our measure of surface includes illustrations and graphs. Hence, our measure is likely to overestimate the writing space dedicated to science and technology in later years, particularly in the popular press.

Figure 1.5 shows the index of the proportion of news space allocated to science and technology. Measuring the potential news space is complicated by various changes in newspaper format over the study period. The popular papers changed from broadsheet to tabloid format in different years. Simply taking the number of pages as an indicator of potentially available space over the whole period tends to over-estimate the potential news space after the change to tabloid format, since this format has a considerably smaller page. We therefore divide the total surface of science news per annum by the potential surface for the sample in each year. The potential surface is based on the number of pages per issue, the page surface in cm^2 , and the sample size of 10 issues per year. The page size of newspapers varies as papers change from broadsheet to tabloid format (1 tabloid page = 1075 cm^2 ; 1 broadsheet page = 2 tabloid = 2150 cm^2). The number of pages per issue also changes with time. Our measure of potential news space includes advertising. As advertising space has increased over the years, the potential news surface is smaller than estimated, and hence the ratio over-estimates the "true" proportion of science news

the nearer we get to the present. Our index of relative coverage measures the proportion of science news in relation to all other types of news.

Our measure of relative coverage bears out the general picture obtained from the earlier measure of absolute coverage. Once again, it emerges that the quality press carries more science and technology coverage than the popular press. However, there are three periods when the relative surface devoted to science in the popular press exceeds that in the quality press: in the early-1950s, in the late-1960s, and in the early- and the late-1970s. These periods may be tentatively identified as high times for "popular science". Finally, it is worth noting that while our index of absolute coverage (fig. 1.4) shows a marked increase in science coverage in the popular press in recent years, our index of relative coverage (fig. 1.5) does not. This is because the size of the popular press (and thus the potential space available for science) has increased at a faster rate than that of the quality press. The total surface of science news in the popular press has tended to increase during the study period, but this is more than compensated by the increase in the number of pages per issue in the popular press. Much of this increase is due to the use of large illustrations, often going over double pages.

On average, 5-6% of newspaper space is allocated to science news, with fluctuations between 2% and 8%. Once again, the overall picture is confirmed: science in the quality press peaks in the late-1950s, troughs in the mid-1970s, and rises steadily thereafter. The peak of popular press coverage of science is at the beginning of the 1950s, since when it has declined to a fluctuating level of 2-4%. In relative terms the quality press generally covers more science news than the popular press, but there are several exceptions: the beginning of the 1950s, around 1968, and again around 1978. In each of these years the science coverage in the popular press is nearly double that in the quality press.

Finally, therefore, what may be said about the charge that science coverage in the press is declining? Our results show that at the very least the situation is complex. To demonstrate decline, we need to show a trend towards decreased levels of coverage. Our indicators suggest that the picture we obtain depends to a great extent on the exact time period chosen for purposes of comparison. Previous trend claims have been based on a rather limited number of measurements. For example, Davies and Sklair (1972) conducted a time series analysis of one

month in each of the years 1949, 1959, 1969, on the basis of which Davies concluded as follows:

crude measures of column inches leave us in no doubt that the amount of coverage of science and science-related news in the mass media has increased considerably over the last few decades (Sklair, 1973, p. 200).

Our indicators show that Sklair's observation was correct, but only within certain rather strict limits: overall, the total surface, or column inches, devoted to science news in both the quality and the popular press increased up to 1970; but this generalisation does not hold in relative terms (see fig. 1.5), and furthermore, it masks a number of significant fluctuations which testify to a periodic waxing and waning of press interest in science and technology.

Statistically significant fluctuations in the amount of science and technology coverage in the press throughout the study period mean that it is possible to obtain different trend stories from the data by selecting different time periods for consideration. For example, the data show that taking the whole period 1946-1990 the linear trend of coverage is clearly rising in terms of the absolute numbers of articles. However, if 1960 is taken as the starting-point for purposes of comparison, then the linear trend in coverage is clearly declining. Again, taking the period 1974-1990 the linear trend in coverage is clearly rising once more. Considering front page news within the quality press, we showed a decline since the early-1950s; but if we take the period 1966-1990, the results for front page science news would show reasonable stability. We make these points in order to emphasize that without clear specification of relevant time periods any claim about trends in science coverage in the post-war period must be regarded as extremely dubious.

4 The Evaluative Tone of the Coverage

We have addressed the question of how science news stories evaluate scientific and technological events. In doing so, we have had in mind the complaint commonly levelled against the press by members of the scientific community that press coverage of science and technology is unduly "negative". Indeed, one major social scientific study of press coverage of science in Germany has endorsed this complaint by claiming to find evidence that science coverage is dominated

by a negative assessment of events and achievements (Kepplinger, 1989).

In order to measure the "degree of negativism" in science stories we used a simple rating scale (see volume 2 of this Report). Coders read the article and rated the text as a "discourse of promise" or a "discourse of criticism", without further specifying any criteria. Such rating scales are very useful when a large number of articles need to be analysed in a simple way. Studies of political news have shown that simple ratings like ours correlate well with more complex measures of the valuation tone of press articles.

Figure 2.1 shows the index for the evaluative tone of science news over the whole study period. As coders may have worked with different baselines, we standardized the measure for each coder (mean=0, sd=1). The 'O' line shows the average rating over the whole period for all articles read. Once again, we avoid a difficult discussion of criteria for what constitutes a negative or a positive evaluation of science and technology in a news article by focusing upon the trend of a large number of judgements over time. The sample size was n=6031. We take the empirical trend as a baseline for the identification of changes in editorial judgement, and we avoid questions concerning objectivity and "bias".

Figure 2.1 shows a striking two-phase pattern of evaluation of science in the post-war British press. Up until the late-1960s, science coverage is generally positive - at times, one might say that it is almost triumphalist; but after 1970 the tone becomes more negative or critical. Within this overall picture we are able to mark the turning points in the trend in evaluative tone. Changes from positive to negative tone occurred in 1948-1950, 1958-60, and again in 1972-74. Changes from negative to positive tone occurred in 1952-54, 1968-70, and again in the late-1970s. These trends are open to further analysis. For example, we could determine the kinds of science issues that contributed to these changes in evaluative tone. At this stage, however, we confine ourselves to general comments on the overall trends themselves.

Without doubt, these trends in the evaluative tone of science coverage in the press are to be understood in the wider context of the changing relationship between science and the public in the post-war period. In the immediate post-war period, it would seem that science was widely regarded with considerable optimism; it was seen as an authoritative source of solutions to many

of the world's most pressing problems. During the 1960s, however, this optimism began to be undermined as scientific and technological issues such as civil nuclear power and environmental pollution came onto the public agenda. Through the late-1960s and 1970s, it would appear that the authority of science came to be increasingly questioned. Gradually, science came to be viewed as one social enterprise among others, and as such it was subjected to public scrutiny and public criticism in the same way as other powerful professional interests.

One of the most interesting features of our results is the apparent recovery of a more positive tone in science coverage in the 1980s. This may be a consequence in part of the changing climate of economic and political opinion in Britain; but it is interesting to speculate to what extent it also reflects the activities of the scientific community under the label of "the public understanding of science". The early-1980s saw the emergence of a renewed interest amongst scientists in the public standing of their work; and the publication in 1985 of a Royal Society Working Party Report on public understanding of science heralded the launch of a wide range of practical programmes. Our results show that by 1985, the trend towards more positive press coverage of science was already under way; but it would be interesting to conduct further analysis in order to discover how far scientific activity may have contributed to it.

5 The Discourse of Benefits and Risks

A specific claim which relates to the general charge of negativism within press science coverage concerns the discourse of risks and benefits. We distinguish here two aspects of this charge: (a) most science news is biased in terms of risks/benefit arguments (counter-evidence here would show that news stories maintain a balance between risk and benefit arguments); and (b) science news stories emphasize the risks rather than benefits of science and technology developments (counter-evidence here would show that science news stories carry a benefit rather than a risk argument).

To measure the presence of risk and benefit arguments we coded science stories according to whether they contain an argument about the beneficial [q48a] or risky/costly [q53a] consequences of a scientific event. We also assessed whether any probability argument was associated with

either argument. As a result, we can analyse the proportion of articles that contain: only a risk argument; only a benefit argument; or both a risk and a benefit argument. 52% of all articles contain an argument about beneficial or positive consequences of some scientific event; 42% of all articles contain an argument about risky/costly consequences of some scientific event; and 10% of all articles use some kind of probability estimate in connection with either benefits or risks.

Figure 3.1 shows the annual proportion of all articles which carry a risk argument or a benefit argument - some of the stories will carry both - and the difference between these two (bar chart). The content of science stories in terms of risks and benefits divides the post-war period into two phases. In the first phase, up until the end of the 1960s, the "discourse of benefits" clearly exceeds the "discourse of risk and costs" with a difference of over 20% in favour of benefit stories for most of the period. In the second phase, from the late-1960s onwards, the gap between benefit and risk arguments is closing. This change in trend occurs rapidly as a result of benefit arguments remaining stable and risk/cost argument gaining ground during the 1960s. To date only in 1974 and 1980 do we observe a tip of the balance of the number of arguments in favour of risk.

Further detailed analysis is required in order to explain to which areas of science coverage this sudden change in the risk-benefit balance of arguments may be attributed. The 1960s is the great time of space exploration and moon expeditions. Did the coverage of the moon race, for example, change the discourse of science and technology in the British press? With a further analysis of our data this as well as other hypotheses can be tested.

Figure 3.2 shows the the annual proportion of stories that carry only a risk argument, only a benefit argument, and both a risk and a benefit argument. The larger picture can be seen more clearly if we concentrate on the linear trend for the entire study period. This reveals that stories carrying solely a benefit argument decrease by about 25%, whereas stories carrying solely a risk argument increase and double their relative importance. On the other hand news stories carrying both a risk and a benefit argument also increase over this period, with an exceptional peak of risk-benefit stories (47%) in 1972. The scatter of the points shows that the high-water marks of the benefit argument are the 1950s, the 1960s and the late-1980s; whereas the high-water marks

of the risk argument are the mid-1970s and the mid-1980s.

Although the trend lines between risk and benefit discourse have not yet crossed, it seems possible that they may have done so over the past five years, for which we have no data. If such a crossover is taking place, it may be highly significant. The preponderance of risk arguments over benefit arguments about science and technology in the British press is in line with Beck's diagnosis of a "risk society" (1992). Beck proposes a social process in which the successes of technological and industrial development lead to unintended and uncontrollable social consequences. For example, in several areas large-scale industrial risks are now uninsurable. In the risk society, Beck suggests that the traditional social conflict over a just distribution of income comes to be paralleled by a second social conflict over the just distribution of large-scale risks. The predominance of a risk over a benefit discourse in press coverage of science may be a useful indicator of the emergence of the risk society in modern Britain. By coincidence, we would expect the crossover point to have occurred at just about the time (1992) that Beck's book was translated into English.

6 The Subjects Covered

It is intuitively plausible that certain scientific subjects have a disproportionately large place in the press. So far as the literature is concerned, Sklair has claimed that medical science and health issues are the prime anchors and news values for science in the media. Sklair concluded that "medical news and matters pertaining to health constitute a very substantial part of the total" (Sklair, 1969, p. 200). In a cross-sectional study of the British press, Hansen and Dickinson (1992) have shown that medical stories occupy the major part of the coverage, particularly in the popular press. On the basis of a national survey conducted in 1988, Durant and Evans (1992) argue that we may regard medical science as paradigmatic for a social representation of science in Britain. This converging evidence on the prominence of medical science in the public domain today raises the historical questions: has this always been the case? and if not, when did medical science come to assume such great importance in the public domain?

In order to address these issues we classified press articles according to which academic

disciplines were alluded to in the story. The classification of scientific disciplines is not straightforward. For our purposes, we chose the classificatory scheme used by the Encyclopaedia Britannica (see volume 2 of this Report). We used both a reduced and an extended classification. The former distinguishes between physical, bio-medical, and social sciences; and the latter provides a series of sub-categories within each of these three main areas.

Figure 4.1 shows the relative frequency of the three main areas of science coverage by 8-year periods. The graphs show the percentages for each area of science in each period. The total in each period is the sum of all three areas together. Over the whole period the physical sciences lead, followed by the social sciences and the bio-medical sciences. Our data allows us to compare the changes in the relative significance of scientific areas for science news over time. The distribution of stories shifts from a dominance of the physical sciences (> 50%) in the 1940s and 1950s to a more equal representation of scientific activity in the 1980s. From the point of view of the physical sciences, this constitutes a decline and the loss of a clearly dominant position in immediate post-war coverage. From the point of view of the social and bio-medical sciences, this constitutes a gain in terrain.

Figure 4.2 shows the changing frequency of science areas as a scatter plot with linear trend lines since 1946. We separate the quality from the popular press because the results are very different in each case. For the quality press the linear trend in the number of articles since 1946 shows how the physical sciences increase their coverage slightly in absolute terms, while their relative importance declines from 55% in the first to 45% in the last 8-year period. The coverage of the social sciences increases both in absolute numbers of articles and in relative terms from 28% to 35% of all stories in the last 8-year period. The coverage of the bio-medical sciences also increases both in absolute numbers and in relative terms from 17% to 25% in the last 8-year period. Notice that the linear trend for all science coverage is increasing in the quality press throughout the study period.

Figure 4.3 shows the changing frequency of science areas for the popular press. When fitting a linear trend to the popular articles a most interesting picture emerges. The physical sciences clearly lose ground, while the bio-medical sciences gain massively. The crossover point of the trend lines is in the late-1960s or early-1970s. Unlike the quality press, the popular press gives

least attention to the social sciences over the entire period.

The claim that medical science has a paradigmatic status in the public domain may be more precisely contextualised by these findings. A dominant position for bio-medical science in recent years, particularly in the popular press, is confirmed; but this has clearly not always been the case. In fact, we appear to be dealing with a significant change through the post-war period; a change in which the social representation of science in the popular press moves from a physical paradigm in the 1950s to a bio-medical paradigm in the 1980s. The same trends may be observed in the quality press; but here, the cross-over between physical and bio-medical stories has yet to occur. An update of our data set to the present would be extremely useful in order to verify this specific expectation.

The change from a physical to a medical paradigm for science coverage in the press is clearly a social fact that requires a sociological explanation. A possible interpretation for this overall picture lies in what sociologists refer to as the "medicalisation of everyday life". Medicalisation refers to a process detectable in many advanced industrial societies in which more and more life problems are transferred into the domains of expertise of medics and para-medics. In the extreme case, it is argued that medicine, and health as the associated value, comes to take on some of the functions of social control that are the traditional preserve of religion. Where religion exercises control over daily life through concepts such as sin and repentance, medical science does so through concepts such as personal health, personal hygiene, life expectancy, etc. (Conrad, 1992). It may be that the trend towards increasing dominance of bio-medical subjects within press science coverage through the study period reflects the medicalisation of everyday life in post-war Britain.

We can address the question of the type of science coverage from a different angle. One of our content variables identifies those articles that cover one of the major strategic areas of scientific and technological developments in the post-war period. We are particularly interested in public debates on nuclear power, space exploration, information technology and biotechnology. Together articles on these areas make up 57% of our total sample. Each article is identified with only one of these areas, if the variable is at all relevant (see volume 4 of this Report). These four strategic technological developments over the post-war period have all been accompanied

by considerable public interest and debate, and it has been suggested by one of us (Bauer, 1995) that the fora and structures in one area of debate may continue to influence the ways in which subsequent debates in other areas unfold. Press coverage is an indicator of the intensity of public debate about new technology. Our data allows us to locate the peak years of these debates and to order these debates clearly in time.

Figure 4.4 shows the changing coverage of military and civil nuclear power, space and astronomy, information technology and computing, and biotechnology and genetic engineering in the quality press only. (The numbers for the popular press are too small to achieve meaningful time-series data.) For each area we show an indexed time series. The peak year for each strategic area is given the index number 100. This allows us to compare the trajectory of coverage for these areas of strategic importance independent of their overall frequency. The later technologies are less frequent in our sample.

Our press sample contains 502 nuclear stories, which amounts to 8.3% of the total sample. The peak of the nuclear debate falls at the end of the 1950s; we expect that this coverage concerns the public discussions on "nuclear fallout" and the emergence of "atoms for peace" and related counter-movements. Our measure does not distinguish between military and civil nuclear events. A second peak can be observed in the late-1970s, probably related to the anti-nuclear mass protest in Britain and all over the world. A further in-depth analysis of the material could elucidate the particular aspects of this nuclear coverage.

About 2.8% of the total press sample is on space technology or astronomy. The peak year is clearly in the early-1960s, although three minor peaks follow in 1970-72, 1978 and 1982. There is some indication that in recent years the space and astronomy coverage has been recovering somewhat.

276 articles or 4.5% of the data base relate to information technology. The coverage of information technology has two clear peaks: an early, lower peak in the mid-1960s (1966) and a second, higher peak in the mid-1980s (1986) in the aftermath of the notorious "Orwell year", which coincided with the large-scale arrival of the personal computer or PC.

A smaller proportion of our sample is related to biotechnology and genetic engineering (1%), the most recent of the strategic technologies of the post-war period. However, the data clearly shows the development of the trend. Biotechnology coverage persists at a very low level throughout the period, but "takes off" rather spectacularly after 1984. The peak coincides with the end of our data collection, which makes it impossible to determine whether its peak has already been reached. There are obvious reasons to speculate that press coverage of biotechnology will continue at a high level for the foreseeable future.

Our indicator confirms a clear pattern in press coverage of strategic technologies in the post-war period. Public interest focuses in turn upon nuclear technology, space technology, information technology and biotechnology. This provides a clear empirical basis upon which to investigate the extent to which experience in the public domain with earlier strategic technologies has helped to shape experience in the public domain with later ones.

7 Coverage of Controversy

The Royal Society Report on Public Understanding of Science (1985) explored the significance of controversies for media coverage of science. We may identify two obvious hypotheses: (a) since controversy is a major news value, most science news will report some kind of controversy; and (b) since by definition controversy has two sides voicing arguments, the press will tend to give equal weight to both sides of the argument. If these hypotheses are correct, we may expect the media to over-report marginal or maverick science: first, because it is by definition controversial; and second, because in this case the controversy is unequal from the point of view of the scientific community.

We recorded for each article whether it referred to some controversy in relation to the scientific event. We also recorded whether the article was reporting opposing views, and if it did so whether the arguments were balanced or whether the report took a partisan position. 22% of the articles mention some controversy, of which 12%, or 55% of all controversy stories, had balanced coverage while 7%, or 32% of all controversy stories, had partisan reports (in the remainder, the issue was undecided). We did not record directly any further details of the

controversies. However, various aspects of these controversies could be explored by considering other variables in the analysis.

With only slightly more than one fifth of all stories being categorised under the heading of controversy, we do not appear to have confirmed the expectation that controversy is a predominant news value for science and technology in the post-war press. In this sense, the concern of the Royal Society in 1985 is apparently not substantiated by our study. We may ask, however, whether the situation has changed over time. Figure 5.1 shows the proportion of controversy stories per annum for the quality press and the popular press. Note first that controversy is not a stable feature of science news stories; and second, that the quality and the popular press do not have the same cycle. Controversies in the popular press are fairly stable at around 20% of articles; but controversies in the quality press go through two cycles - there is a first peak around 1948 and a second one around 1982. It may be that the prominence given to this issue by the Royal Society Report of 1985 reflects the relatively high level of controversy in the press in the early 1980s. However, between 1982 and 1990 its significance appears to have declined.

Figure 5.2 adds a linear trend into the data. Looking at the whole post-war period we see that the significance of controversy for science-related stories is decreasing rather than increasing. This is true for both the quality and the popular press, but more so for the latter. That this may be a counter-intuitive result does not imply that it is invalid; rather, it points to the need for more detailed analysis in order to explore the nature of the controversial science stories that are covered by the press.

An indicator of the role of the press in public controversies is the position news writing takes in such controversies. We have recorded a rating of whether the reporting is balanced or unbalanced with respect to the public controversy]. Unbalanced coverage could be an indicator of the press's adoption of what is termed an "advocacy role". On this basis, we can identify periods when the press takes such an advocacy role and periods when its coverage is more balanced. Figure 5.3 shows the proportions of all science news in the quality press for balanced and unbalanced reporting (proportions are percentages of all articles in the sample, not simply those that cover controversial issues). Not surprisingly, we find both types of writing in most

years; but we can identify the years in which unbalanced writing is more frequent than balanced writing. In the quality press, partisan writing with respect to scientific controversies is not the normal practice. For most years balanced reporting prevails, in particular during the 1960s. In four periods over 45 years partisan writing dominates: 1948 (large excess), 1952 (small excess), 1974 (small excess), 1982 (medium excess). All these years deserve further analyse with a view to identifying the nature of the controversies involved.

Figure 5.4 shows the analogous picture for the popular press. Here, the pattern of reporting is less clearly ordered. Periods of more balanced and more partisan reporting alternate frequently. Partisan periods are 1948, 1954, 1962-64, 1974, 1982 and 1988-90. The overlap with the quality press is best in 1948, 1974 and 1982; these are clearly years that deserve further in-depth analysis.

8 Stylistic Changes

A commonly voiced criticism of science reporting is its alleged sensationalism. Scientific discoveries and events, it is claimed, are "hyped" by exaggerated headlines and inflationary use of terms such as "breakthrough". We recorded a number of formal features of the science stories to describe the way in which newspapers formally present stories. Layout parameters such as the page on which the article is placed, the location on the page, the size of the headline, and the use of illustrations are important elements for attracting and holding the attention of the reader, for highlighting certain aspects of the story, and for documenting the editorial importance that is given to a particular item of news.

The size of articles in cm^2 , as shown in figure 6.1, indicates the length of stories (assuming that the font remains unchanged); the larger the stories, the greater is the potential for deeper treatment. Taking into account the increased use of illustrations and photos in recent years, we over-estimate the size of the actual written text particularly in the popular press. Overall we can see how the average size of science articles in the quality press remains fairly stable from 1954 to 1982, at around 200 cm^2 , after an increase in the early 1950s. In the second half of the 1980s the average size of articles increases sharply, both in the quality and the popular press. It is

unlikely that the fluctuation in the size of articles is characteristic of science news alone; rather, it is probable that this reflects a general increase in the space allocated to single items. The size of articles in the popular press fluctuates more. Articles in the popular press were even larger than those in the quality press for much of the 1950s, and again in the 1980s. The gap in average size may be due to larger headlines and to the use of photography and pictures in the popular press. (We included illustrations in our measure of size.)

The Royal Society report of 1985 was much concerned with the number of feature articles on science in the press. We counted the frequency of feature articles on science and technology over the years, and the results are shown in figure 6.2. The graph shows a peak of around 24% of all articles being features in the late-1950s. Over the period the proportion of feature articles on science remains fairly stable at around a fifth of all articles. The trend is towards an increase in the proportion of feature articles. The Royal Society's 1985 plea for more feature articles is well in line with the long-term trend towards more feature articles on science. This increase of feature coverage is in line with the general trend of US newspapers, in connection with which Bogart (1985) found that, "the ratio of hard news to features has decreased".

A changing stylistic element of science news is the use of expert citations. Anchoring their claims in a direct expert citation is a changing feature of journalistic practice. Having been identified as a characteristic feature of USA journalism, the question arises: how has British science journalism taken up this practice? Figure 6.3 shows the percentage of articles that make use of expert citations as a linear trend for both the quality and the popular press. Over the whole period about 40% of all articles use one or more citations. There is a strong trend towards the increased use of expert citations in the quality press; but the situation in the popular press is roughly stable. This leads to a crossover point in the early-1970s, when the quality press overtakes the popular press in the use of expert citations. Over 50% of quality press science stories use expert citations in the late-1980s.

Our analysis allows us to characterise the usage of citations further. The features measured were: whether the citation is verbatim or not; whether the citation is congruent with the writer's position or not; and, where several citations are used, whether they bring to bear consistent or inconsistent views. It is a matter for further detailed analysis to use these measures to explore

citation practice in more detail.

Editors and page designers use various techniques to mark the significance of a news item and to sensationalise it. The "newsplay" combines various parameters of newspaper layout in order to direct readers' attention to a news story. An attempt to measure the newsplay is commonly called the Budd score (Budd, 1964). Our version of the Budd score combined: (a) extension of headline; (b) location of an article in upper half of the page; (c) being on a prominent page, i.e. page 1-3 or back page of folder; and (d) use of illustrations. These characteristics are scored into an additive measure of newsplay. An article with a large headline and a picture on the upper half of the front page scores a maximum score, which indicates that the article is designed and placed to give prominence to the story and to attract the readers' attention. We take the Budd score as a measure of sensationalism.

Figure 6.4 shows the average values for newsplay for the quality and the popular press over the entire study period. Not surprisingly, the popular press is more sensational than the quality press in its treatment of science news. However, over the long term (and particularly since the beginning of the 1980s) the trend is towards a closing of the gap between the popular and the quality press. One might anticipate an ever smaller difference between the quality and the popular press in the 1990s.

9 British vs Foreign Science

For each story, we recorded whether the scientific event reported happened in Britain or in other countries. This allows us to study the shifting geographical focus of science coverage. As one would expect, the bulk of the stories (68%) refer to scientific and technological events in Britain. Around 5% of stories could not be identified in this way. So another 27% of the stories report science from elsewhere in the world (7.5% from Continental Europe; 9.6% from the USA; and 1.5% from Russia).

Our analysis allows us to compare the coverage of British and other countries' science with respect to valuation and "scientificity"; the latter being a simple rating of the technical style of

writing (see volume 4 of this Report). Figure 7.1 compares the valuation tone of science news for British and other countries' science. Strikingly, non-British science (taking into account that it represents only a small proportion of all science news) is presented in a much more favourable way. The trend is declining in parallel with the valuation of British news since the early-1960s. There are two periods when British science is more favourably presented than non-British science: 1946-1955; and again at the end of the 1980s.

This result may reflect a larger trend in popular science. A significant amount of science popularisation may serve to mobilise national resources in the context of international economic competition. To the extent that this is the case, we would expect to find: first, a bias in the amount of coverage towards British rather than non-British scientific achievements, as a means of celebrating national achievements; and second, a more positive valuation of British over non-British science. Our index allows us to test these expectations.

Another indicator of the different treatment of British and non-British science in the press is writing style. We measured the degree of "scientificity" of the articles on a rating scale. Scientificity is defined by the use of technical language, discussion of method and other features one would expect of professional scientific writing. Figure 7.2 shows the results for British and non-British science items standardized for each coder. British science goes through periods of more and of less technical coverage. A more technical style declines until the end of the 1950s, but increases thereafter. A sharp fall can be found in the late-1970s, after a peak in the mid-1970s. In the 1980s science writing becomes more technical again. Overall, non-British science receives more technical coverage than British science. This gap increases after the early-1960s. The latest figures for the 1990s seem to indicate a reversal of this trend. But to verify this turning point, it will be necessary to collect more data from the 1990s.

10 Editorial Format of Coverage

In the following tables we document the appearance of special sections dedicated to science and technology in various British newspapers. Each table lists the title of the section, the main editor, the day it appears, the starting date, and the ending date. Special science sections are

found mainly in the quality press and in the main they appear to be a feature of the late-1980s. The exceptions are Kenneth Owen's "World of Technology" section in the Times on Fridays after March 1968, and Tim Radford's "Futures: the world of science and technology" in the Guardian on Thursdays between 1979 and 1986. All other special science sections appeared during the 1980s or even more recently. An increase in special sections of newspapers according to life style interests took place in the early-1980s in the USA (Bogart, 1985). Similarly, in the USA the creation of special science sections is a more recent trend (Garfield, 1991).

A characteristic of special science sections is that they come and go very frequently; typically, they are discontinued after a few years or replaced by a similar section with a different title. In line with Bader's (1990) result, we can confirm that the emergence of special science sections does not appear to relegate science to the "ghetto" by reducing overall the amount of science coverage. On the contrary, special science sections are part of the trend towards increasing science coverage, at least in the quality press, since the early-1980s. In short, the emergence of special science sections in British newspapers during the 1980s reflects the international trend towards sectionalising newsprint according to life style interests; and it has achieved an increase in the total amount of science coverage in the press.

The Independent (Circulation 290 000; Monday to Friday)

section name	section editor	day runs	start date	finish date
Health	Celia Hall	Tues	Oct 1986	present
Science and Technology	Tom Wilkie	Mon	Mar 1987	Apr 1990
Science	Tom Wilkie	Mon	Apr 1990	Oct 1994
Science	Tom Wilkie	Tues	Oct 1994	present
Computerlink	?	Mon	May 1993	Jan 1994
Computing	?	Mon	Sept 1994	Oct 1994
Network	?	Mon	Oct 1994	present

Additional information:

[?] indicates section editor not named
 present indicates March 1995

Comment:

Dates are to nearest month

Circulation figures were provided by The Independent's circulation department

There is no policy on the proportion of health, medicine, environment or computing news reported, according to Tom Wilkie

Regular contributions are accepted from freelance journalists John Emsley and Heather Couper, who write regular slots; there is no formal arrangement to employ other section writers

The Independent was launched in October 1986

At least one week was checked in every six months from launch to present

The Daily Times (Circulation 609 153; Monday to Saturday)

section name	section editor	day runs	start date	finish date
World of Technology	Kenneth Owen	Fri	Mar 1968	Sept 1970
Health	?	Thurs	Feb 1987	Dec 1993
Body and Mind	?	Tues	Dec 1993	present
Body and Mind	?	Thurs	Dec 1993	present
Technology	?	Thurs	Jan 1989	Dec 1989
Science and Technology	Nigel Hawkes	Thurs	Jan 1991	Dec 1993
Mind and Matter	Nigel Hawkes	Mon	Oct 1994	present
Infotech	?	Fri	Feb 1992	present

Additional information:

[?] indicates section editor not named
present indicates March 1995

comment:

Dates are to nearest month

Circulation figures were provided by The Times's circulation department

There is no policy on the proportion of health, medicine, environment or computing news reported, according to Nigel Hawkes.

There is no policy on who writes for the science page, according to Nigel Hawkes

The actual start date of the World of Technology page is 29 September 1968

At least one week was checked in every year from 1960 to 1972; one week was checked in 1976 and one week in every six months from 1986 to present

The Guardian (Circulation March 1995: 410 836; Monday to Saturday)

section name	section editor	day runs	start date	finish date
Futures: the World of Science and Technology	Tim Radford	Thurs	Sept 1979	by Jan 86
Futures	Tim Radford	Fri	by Jan 86	by Jun 89
Science	Tim Radford	Fri	by Jan 90	present
Micro	Jack Schofield	Thurs	by Jan 84	by Jan 87
Computer	Jack Schofield	Thurs	by Jan 87	present
Health	John Illman	Thurs	by Jan 89	present
Environment	John Vidal	Fri	by Jan 90	present

Additional information:

present indicates March 1995

Dates are to nearest six months; Circulation figures were provided by The Guardian's circulation department

There is no policy on the proportion of health, medicine, environment or computing news reported, according to Tim Radford; he personally prefers to use scientists rather than journalists. There is no policy on employing other section writers, according to Tim Radford; the Health page changes the day on which it runs from Wednesday in Jan 1989 to Friday in Jan 1990 to Tuesday in Jan 1993; it currently runs on a Thursday

source: At least one week was checked in the years 1967, 69, 70 and 76; one week was checked in every six months from 1979 to present

The Daily Telegraph (Circulation 1 075 000; Monday to Friday)

section name	section editor	day runs	start date	finish date
Specialists	?	Mon	Jan 1987	Aug 1988
Science and Technology	Roger Highfield	Mon	Sept 1988	Nov 1989
Science	Roger Highfield	Weds	Nov 1989	present
Health	Christine Doyle	Tues	Nov 1989	present
Business Technology	Christine McGourty	Mon	Nov 1989	Sept 1993
Innovations	Christine McGourty	Tues	Sept 1993	present

Additional information:

[?] indicates section editor not named
 present indicates March 1995

Dates are to nearest month

Circulation figures were provided by The Telegraph's circulation department

Specialists included articles on science, technology, health, computers, aviation, industry, law, sailing, archaeology and wine.

There is no policy on the proportion of health, medicine, environment or computing news reported, according to Roger Highfield.

There is no policy on who writes for the science page, according to Roger Highfield

source: At least one week was checked in the years 1965, 66, 67, 69, 76, 82 and one week in every six months from 1986 to present.

The Daily Mirror (Circulation 2 496 000; Monday to Saturday)

section name	section writer	day runs	start date	finish date
Your Health	Jill	Weds	Apr 1990	present
(part of the Mirror Woman supplement)	Palmer			
Doctor	Sarah	Mon	May 1993	present
Sarah	Brewster			

Additional information:

present indicates June 1994

Dates are to nearest month.

Circulation figures were provided by The Mirror's circulation department

There is no health reporting policy, according to Jill Palmer.

Source: At least one week was checked in the years 1963, 66, 67, 68, 69, 76, 82, and one week in every six months from 1986 to present.

The Sun (Circulation 4 710 797; Monday to Saturday)

section name	section writer	day runs	start date	finish date
Health Matters	Vernon Coleman	Thurs	Apr 1988	Feb 1990
Doctor Vernon Coleman's Weekly Surgery	Vernon Coleman	Weds	Mar 1990	Dec 1990
Health	Vernon Coleman	Thurs	Jan 1991	Feb 1991
Well Woman	Louise Williams	Weds	Oct 1991	May 1992
Well Woman	Carol Cooper	Weds	June 1993	Nov 1993
Doctor Rosemary	Rosemary Leonard	Weds	Nov 1993	present

Additional information:

present indicates July 1994

Dates are to nearest month

All section writers are GPs

All sections appear in Sun Woman supplement

Circulation figures were provided by The Sun's circulation department.

There is no health reporting policy, according to Jane Moore, Features Editor

Source: At least one week was checked in the years 1965, 67, 70, 78, 82 and one week in every six months from 1986 to present.

The Express (Circulation 1 350 000; Monday to Saturday)

section name	section writer	day runs	start date	finish date
HealthLine	?	Thurs	Feb 1987	by Jan 88
Staying Alive ?		Weds	by Jan 90	by Jun 90
Health	?	Thurs	by Jan 94	by Jun 94

Additional information:

Dates are to nearest six months.

Staying Alive was a supplement devoted mainly to health and fitness; other supplements which preceded and followed this supplement were on fitness and beauty and hence excluded from this study

Circulation figures were provided by The Express's circulation department

I was unable to discover whether The Express have a policy on the reporting of health and medicine as they do not have a health correspondent at the moment

Source: At least one week was checked in the years 1966, 69, 71, 76, 82 and one week in every six months from 1986 to present.

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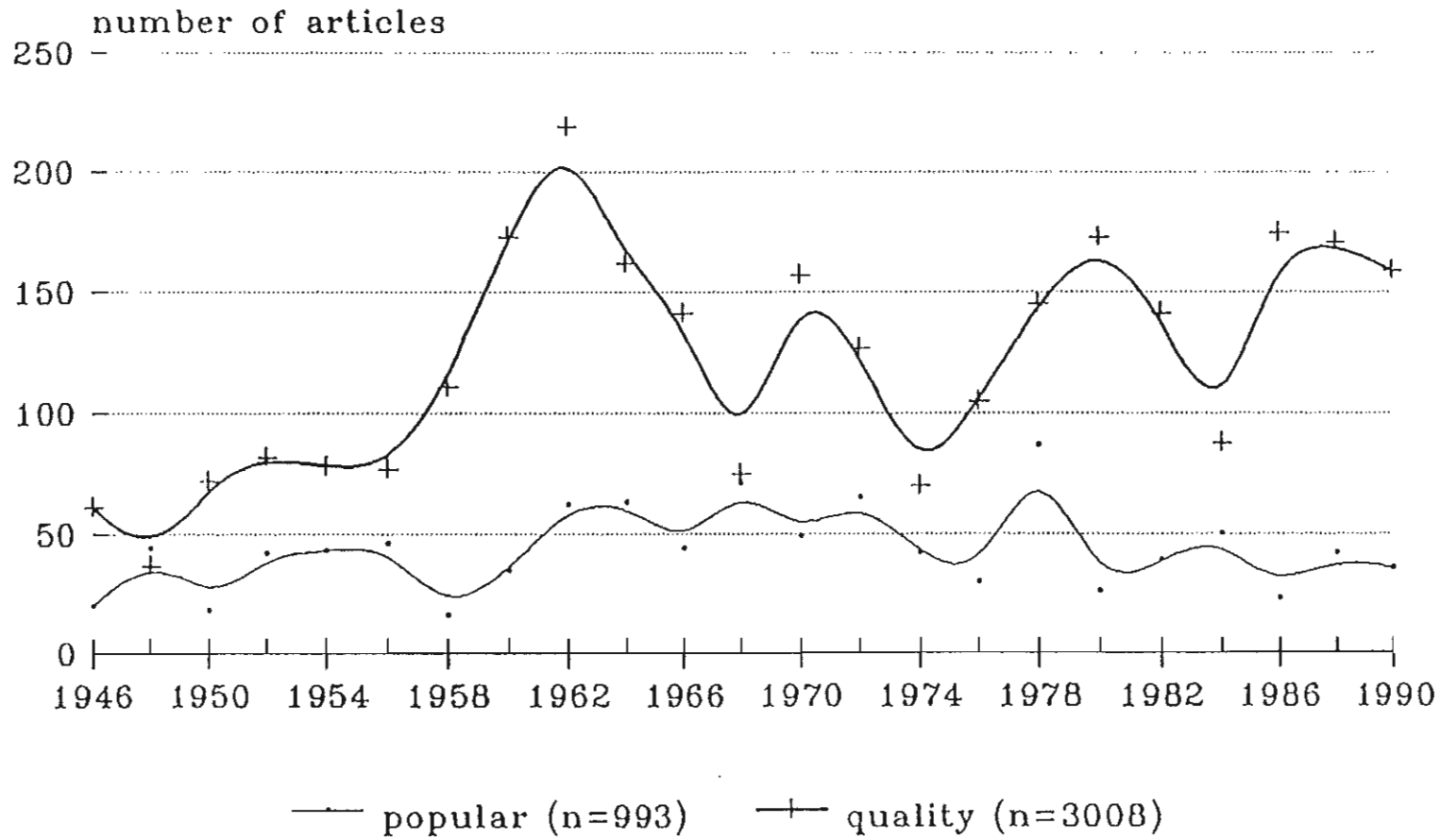
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Table 8.1: The newspaper sample; science news articles per newspaper per year

Year	Daily Mirror	Daily Telegr.	Daily Express	The Times	Guardian	Independent	The Sun	Quality papers	Popular papers	Total papers	Quality papers wgt	Popular papers wgt	Total papers wgt
1946	16	21	23	68	94			183	39	222	61 1/3	20 1/2	81
1948	44	37						37	44	81	37 1/1	44 1/1	81
1950	15	45	21	98				143	36	179	72 1/2	18 1/2	90
1952	42	82						82	42	124	82 1/1	42 1/1	124
1954	43	78						78	43	121	78 1/1	43 1/1	121
1956	19	85	73	85	60			230	92	322	77 1/3	46 1/2	123
1958	16	111						111	16	127	111 1/1	16 1/1	127
1960	27	182	43	164				346	70	416	173 1/2	35 1/2	208
1962	62	219						219	62	281	219 1/1	62 1/1	281
1964	63	162						162	63	225	162 1/1	63 1/1	225
1966	47	124	41	127	173			424	88	512	141 1/3	44 1/2	185
1968	71	75						75	71	146	75 1/1	71 1/1	146
1970	59	149	38	165				314	97	413	157 1/2	49 1/2	206
1972	65	127						127	65	192	127 1/1	65 1/1	192
1974	42	70						70	42	112	70 1/1	42 1/1	112
1976	37	91	22	121	104		31	316	90	406	105 1/3	30 1/3	135

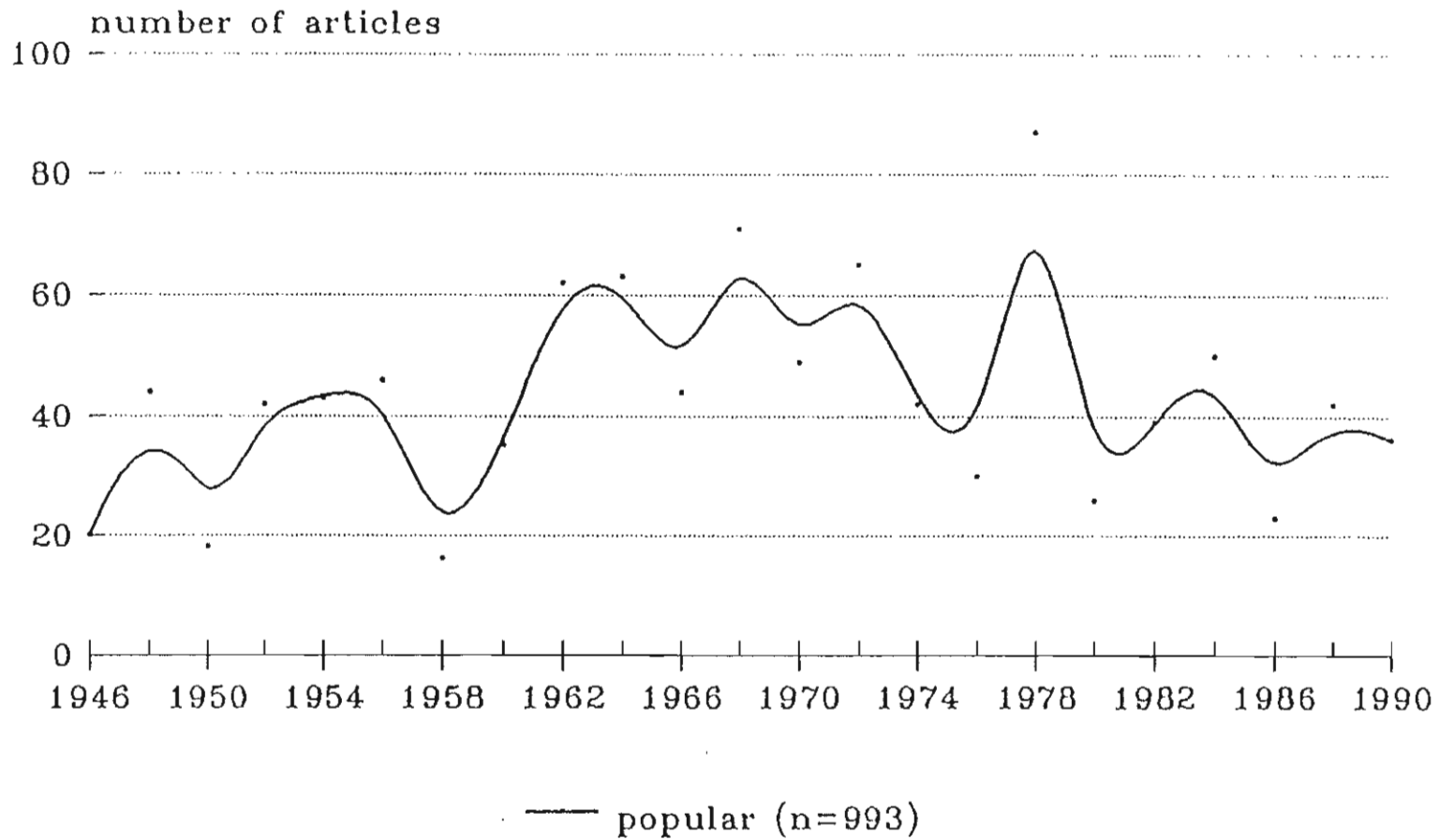
1978	87	145						145	87	232	145	1/1	87	1/1	232
1980	28	124		222			24	346	52	398	173	1/2	26	1/2	199
1982	39	141						141	39	180	141	1/1	39	1/1	180
1984	50	88						88	50	138	88	1/1	50	1/1	138
1986	25	138		211			20	349	45	394	175	1/2	23	1/2	198
1988	42	171						171	42	213	171	1/1	42	1/1	213
1990	29	158				159	43	317	72	389	159	1/2	36	1/2	195
Total	968	2623	261	1261	431	159	118	4474	1347	5821					

Science in the British Press 1946 to 1990



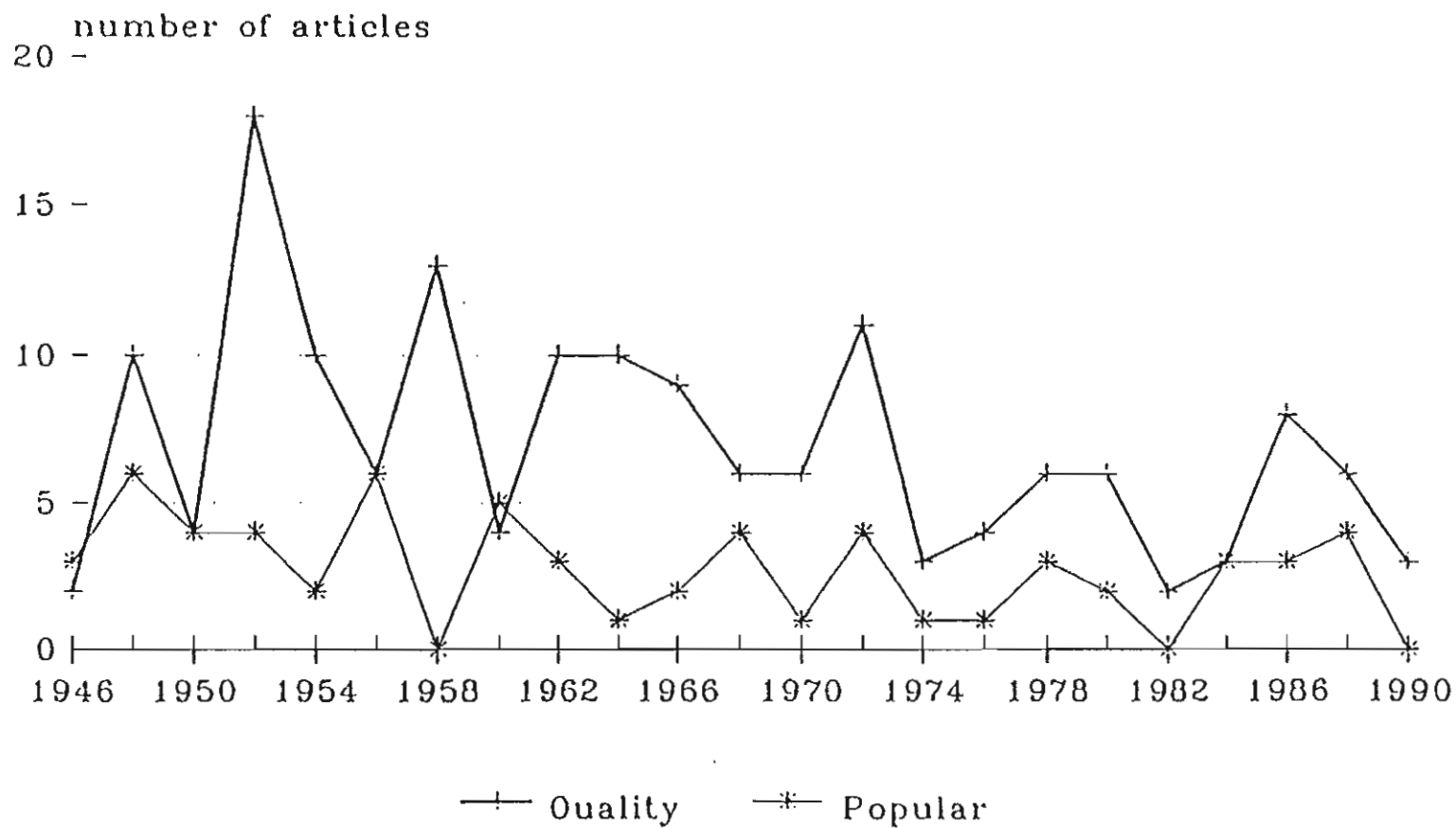
papers weighted; n=4001

Science in the Popular Press 1946 to 1990



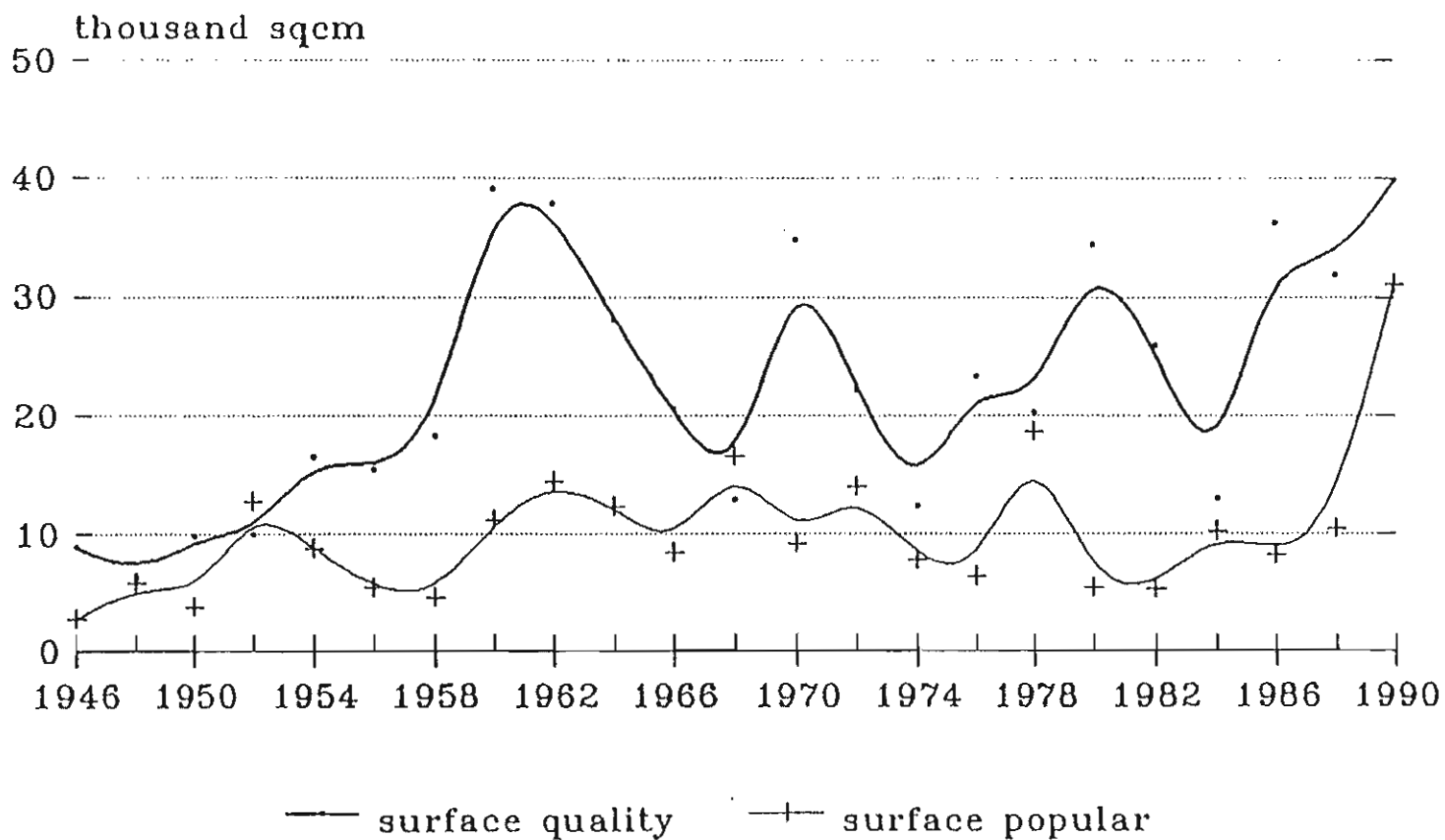
papers weighted; n=993

S&T News on Front Page 1946 to 1992



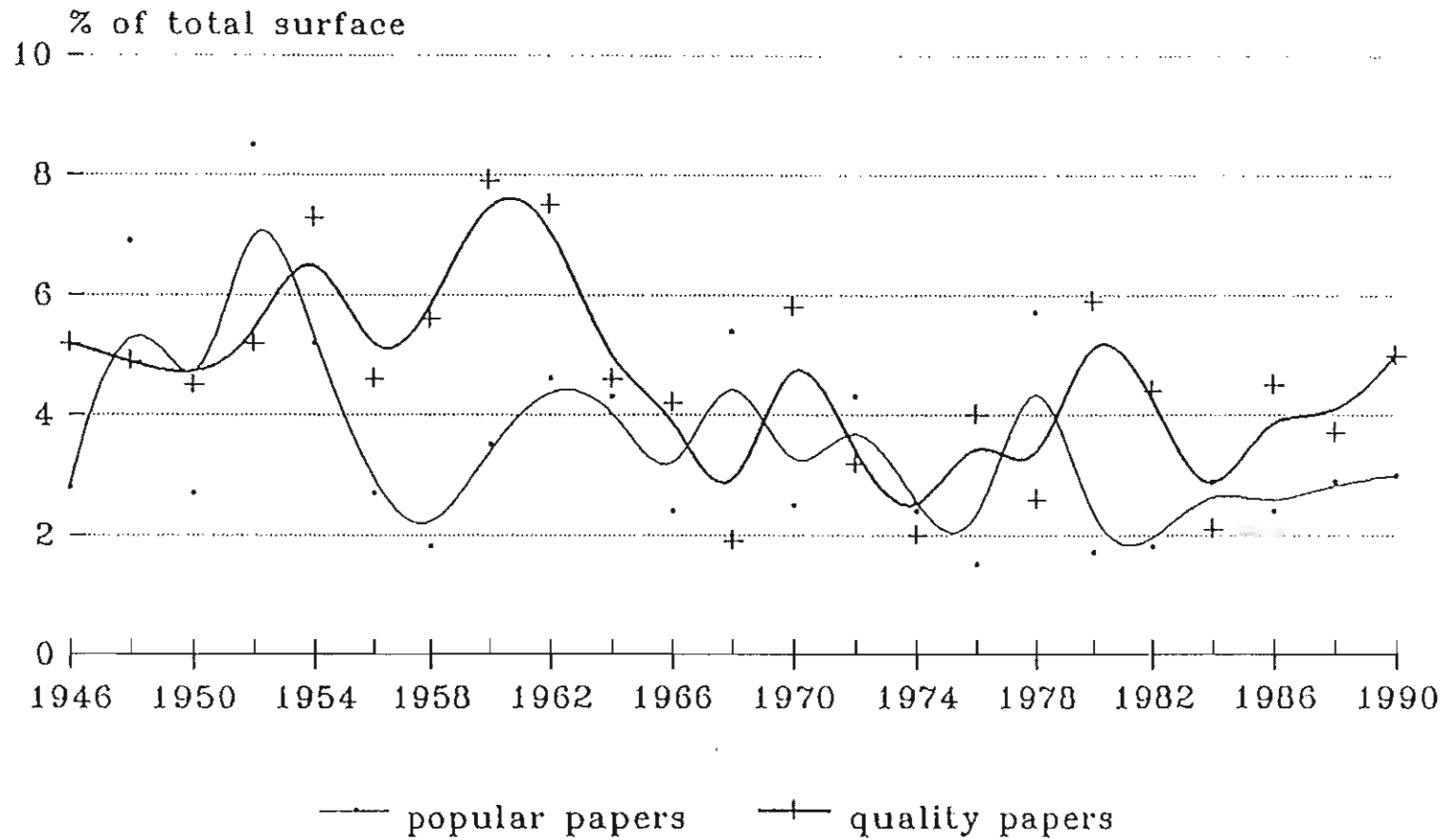
papers weighted.

Total Surface of S&T Articles 1946 to 1990

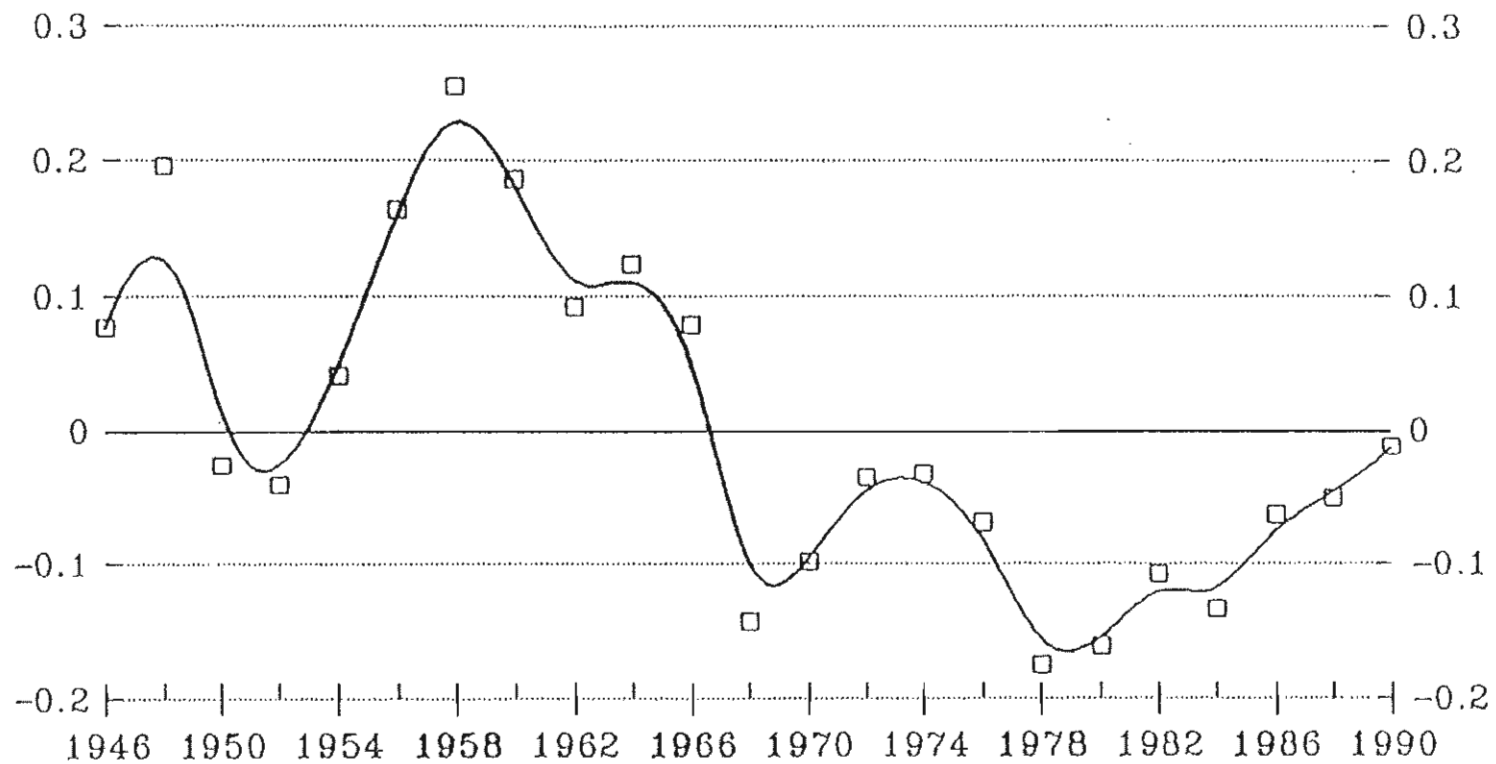


number of articles*average size
papers wgt. average size (means)

Relative Coverage of S&T Articles 1946 to 1990



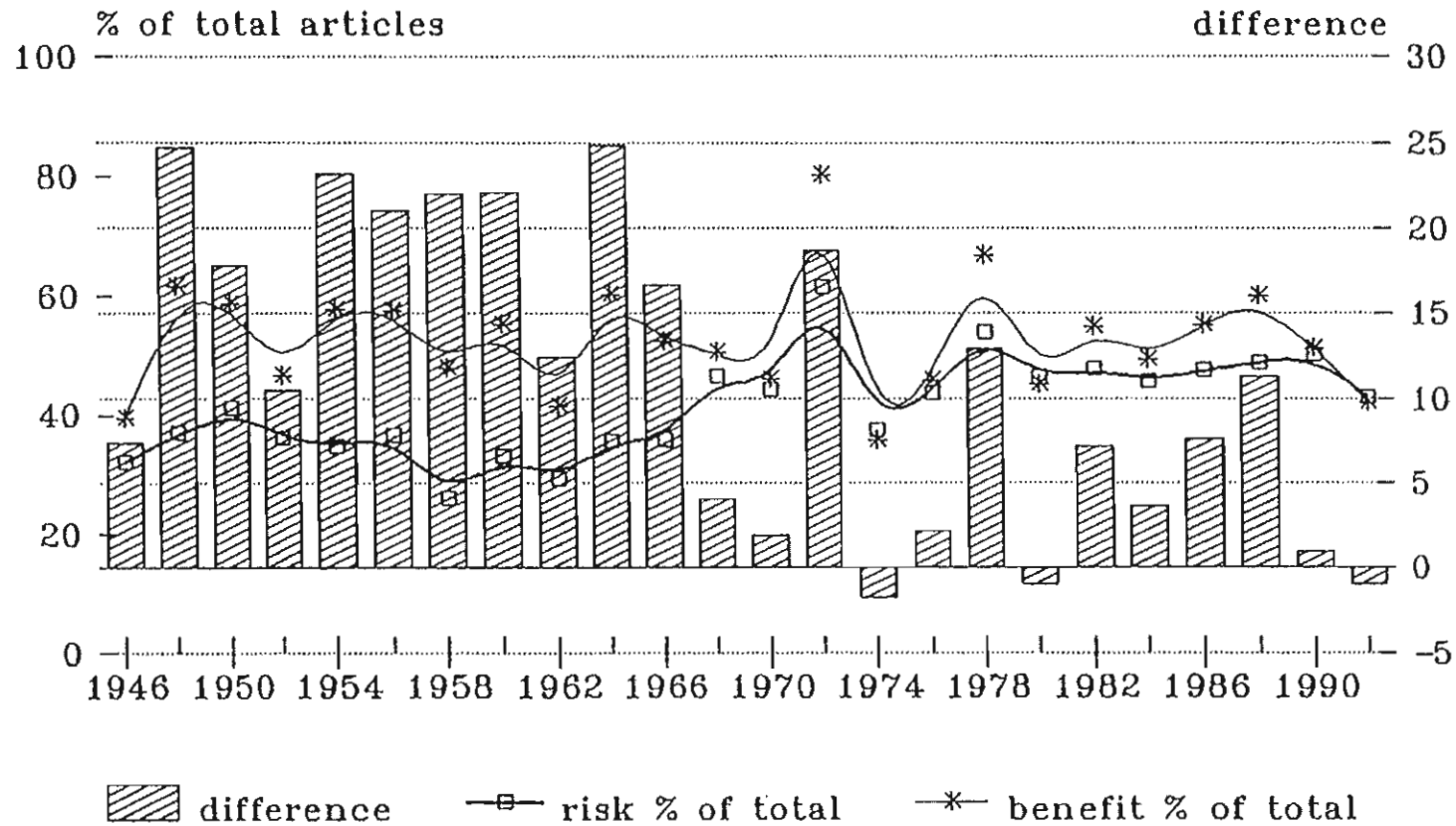
Valuation Tone in S&T Articles 1946 to 1990



—□— std val (neut=3)

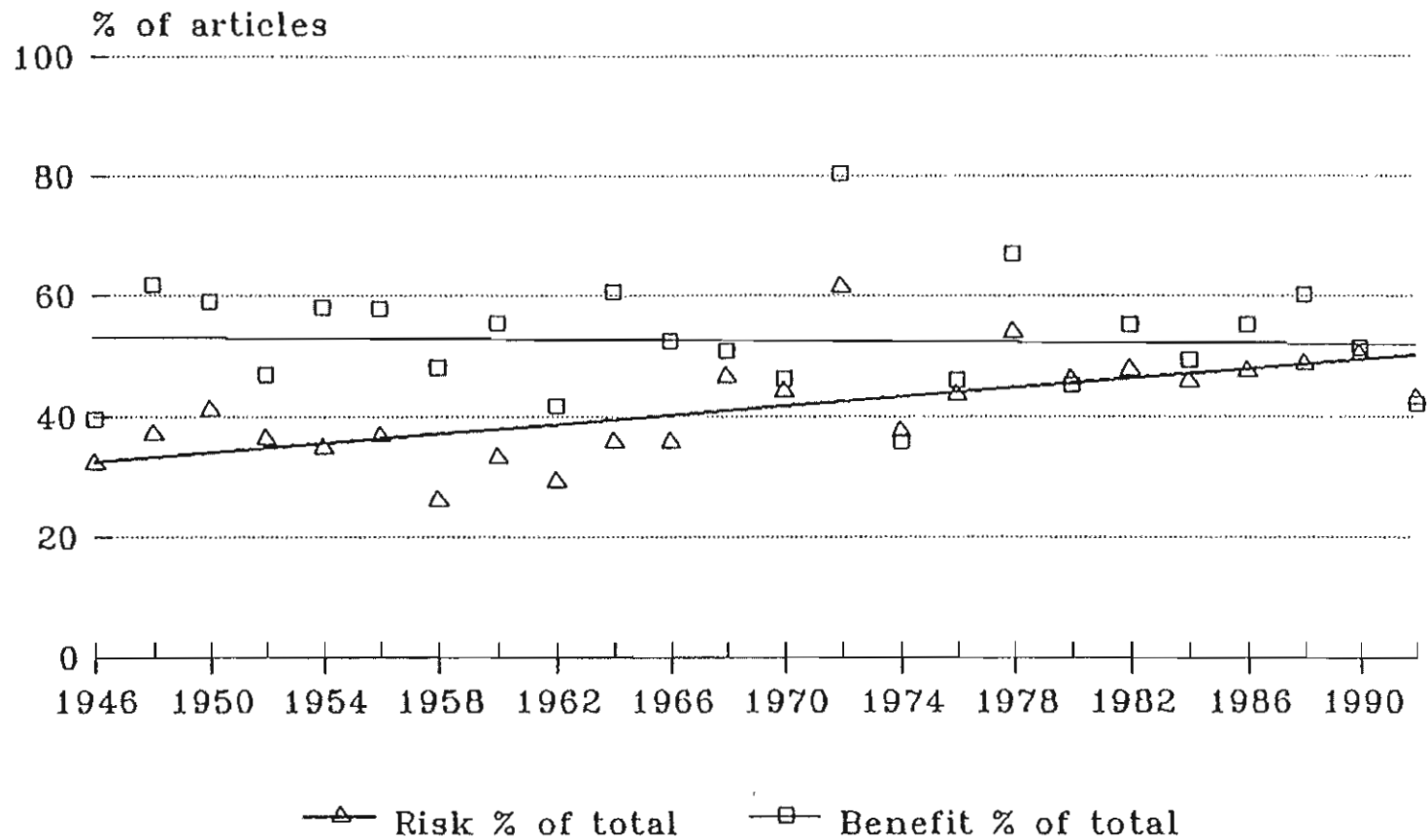
standard scores by coder; n=6031

Balance of Benefit Over Risk Discourse 1946 to 1990



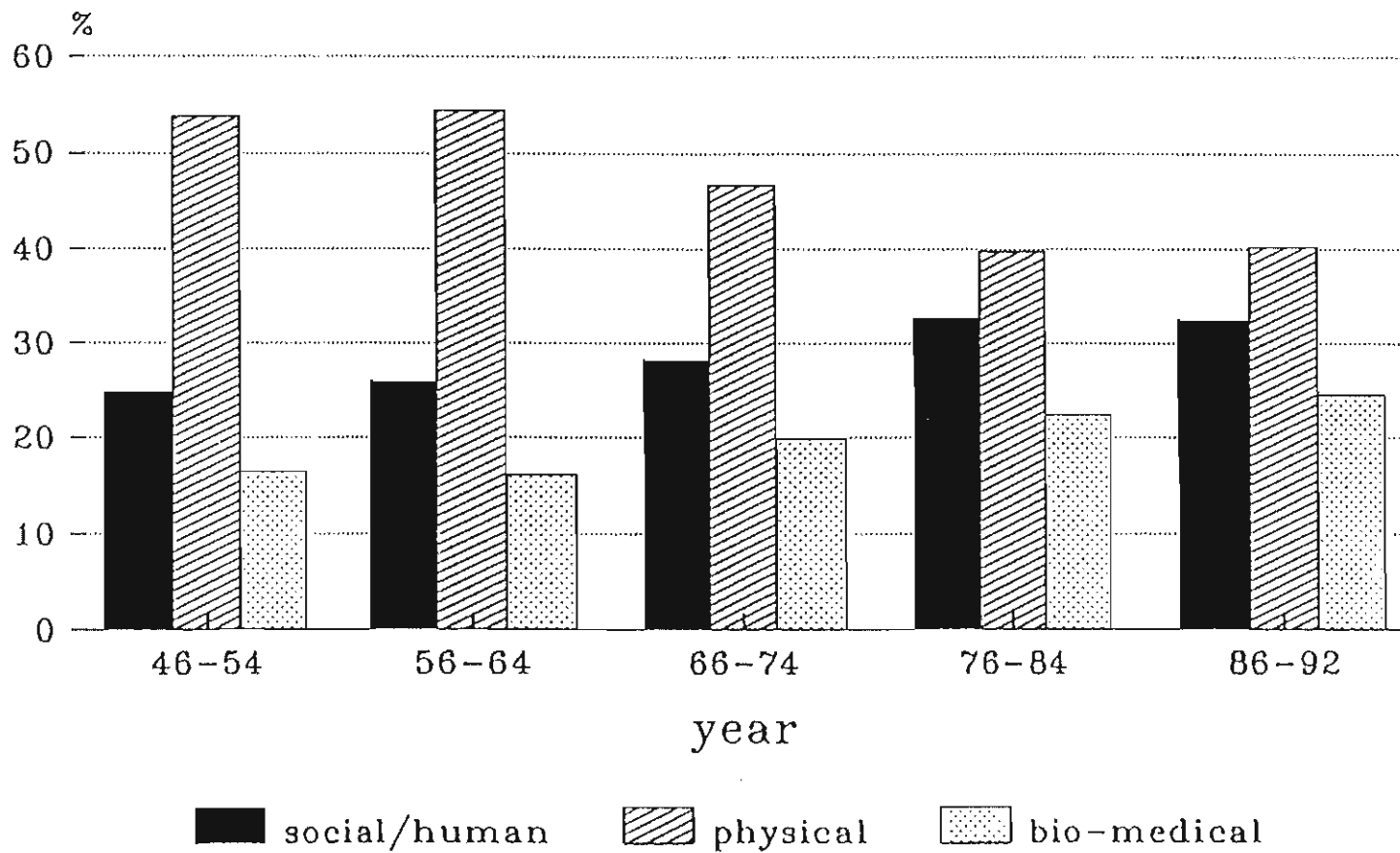
difference between benefit and risk
(% of total articles) papers wgt. n=4001

Risk and Benefits in S&T Articles 1946 to 1990



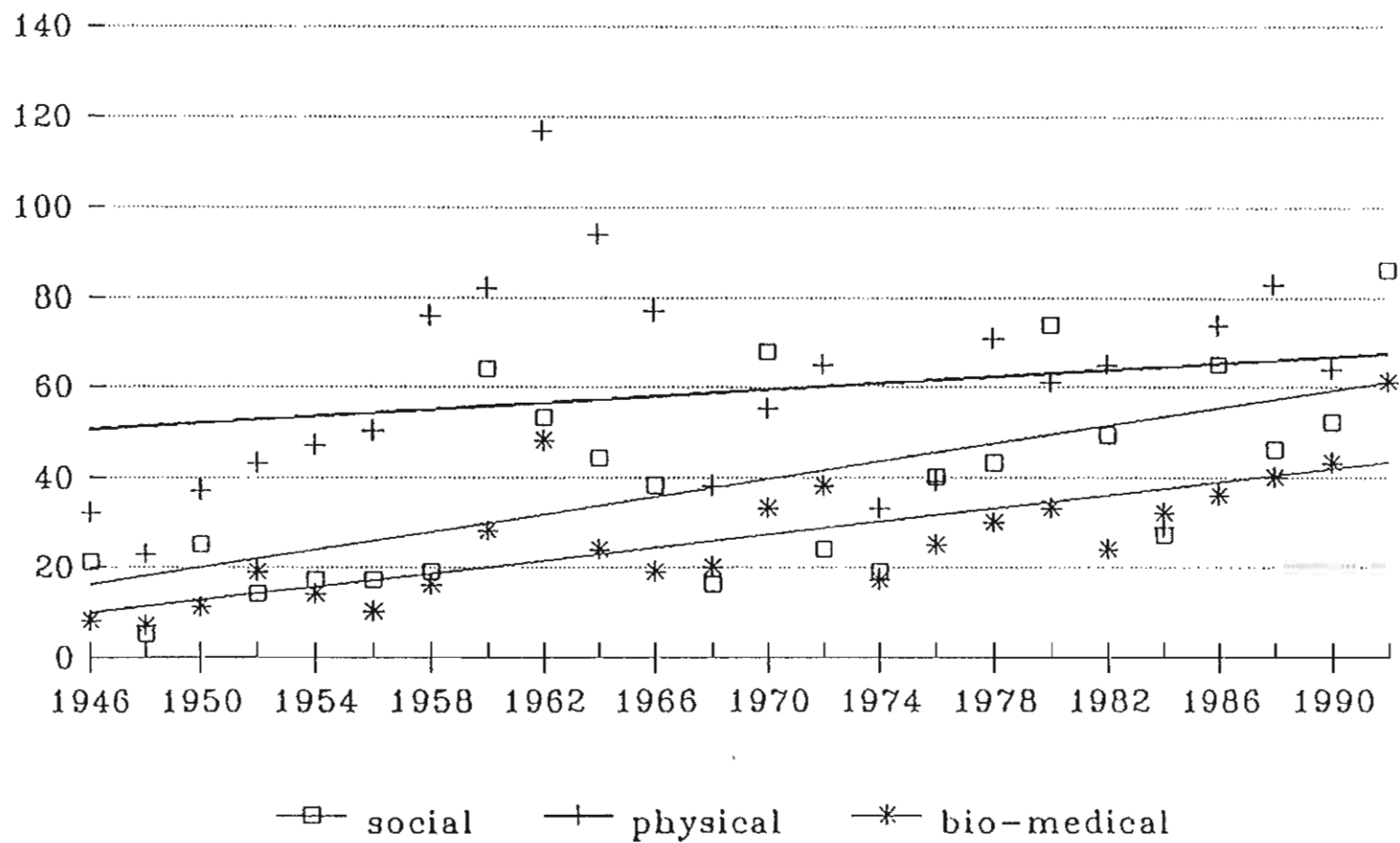
papers wgt., n=4001

Academic Fields in British Press 1946 to 1992



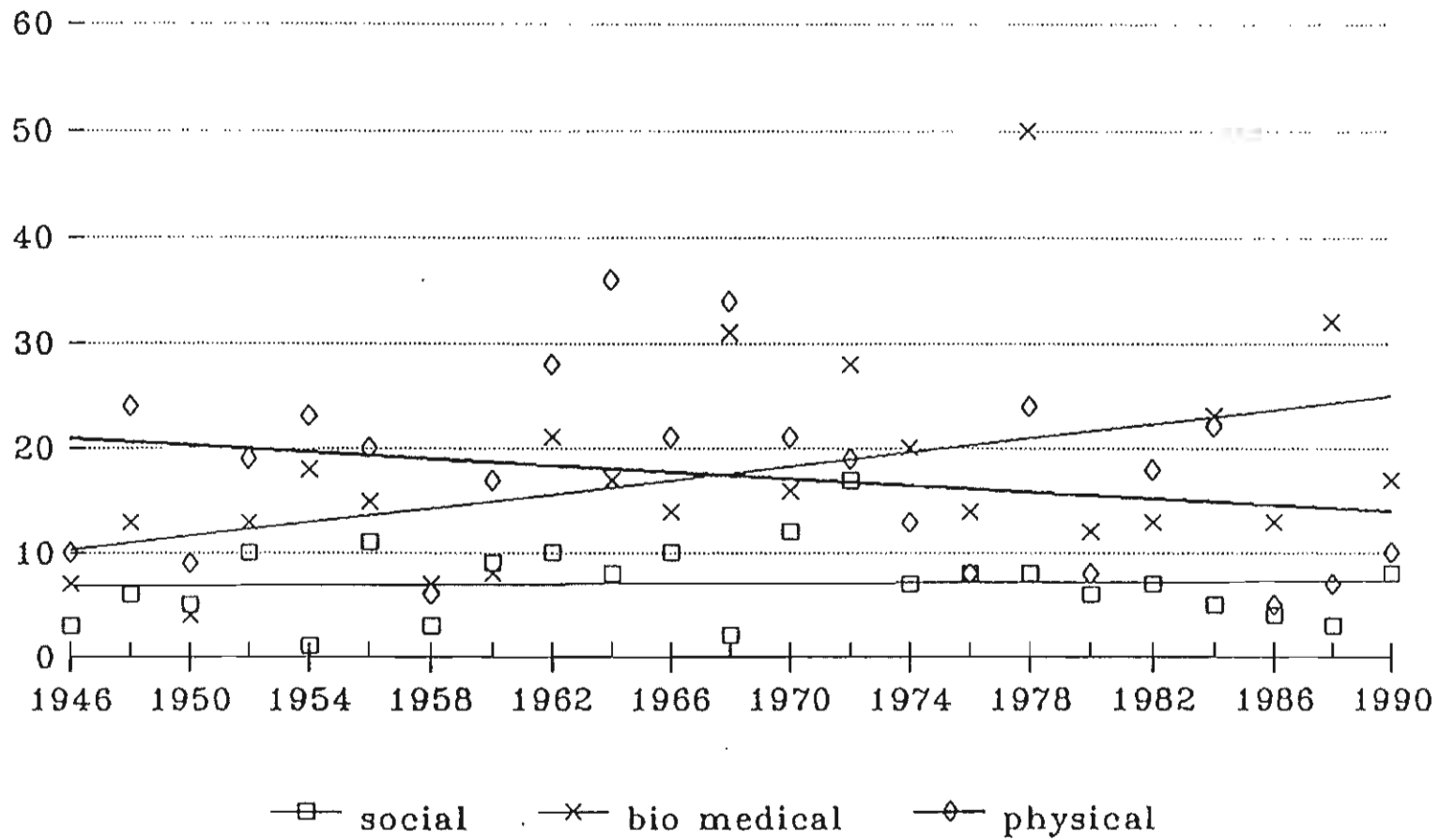
% of total, papers wgt.

Academic Fields in 'Quality Press' 1946 to 1992



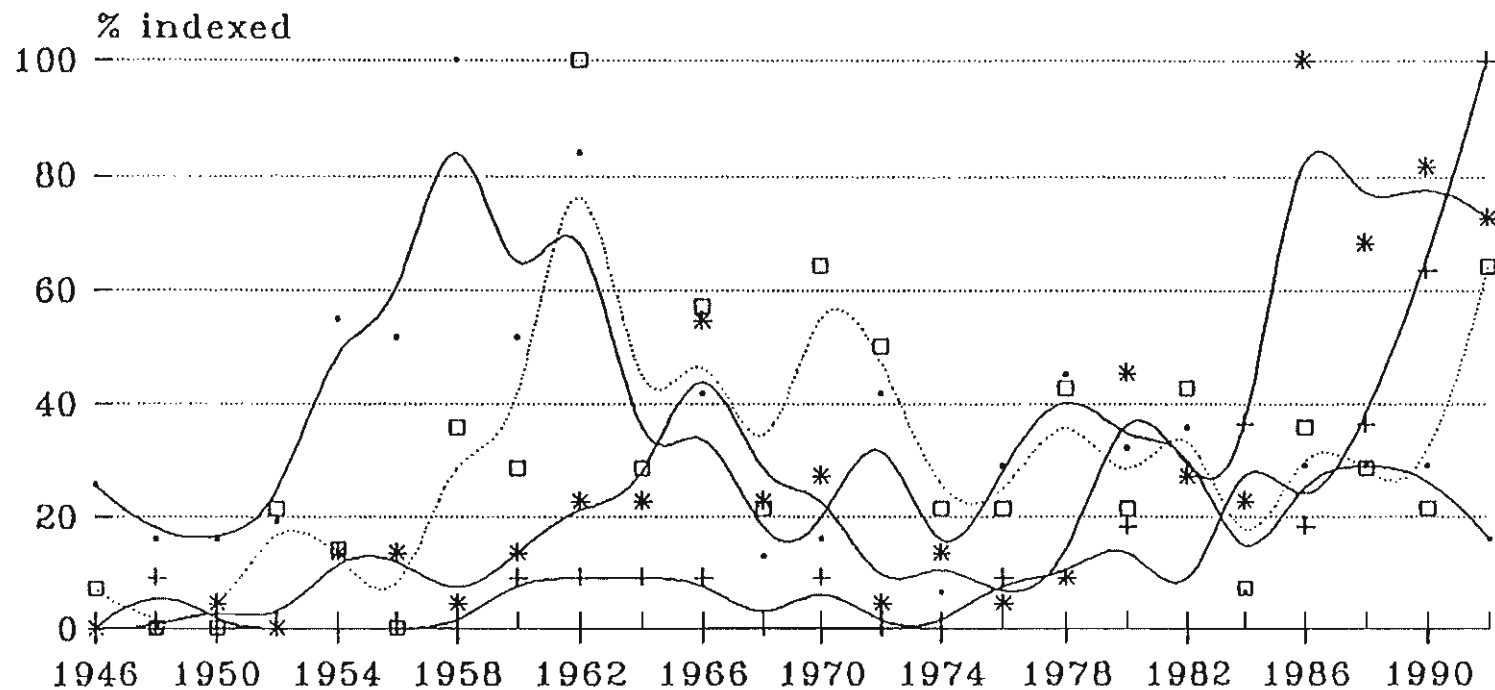
weighted newspapers

Academic Fields in 'Popular Press'. 1946 to 1990



newspapers weighted

Strategic Technology in 'Quality Press' 1946 to 1992



— nuclear (1958=100)

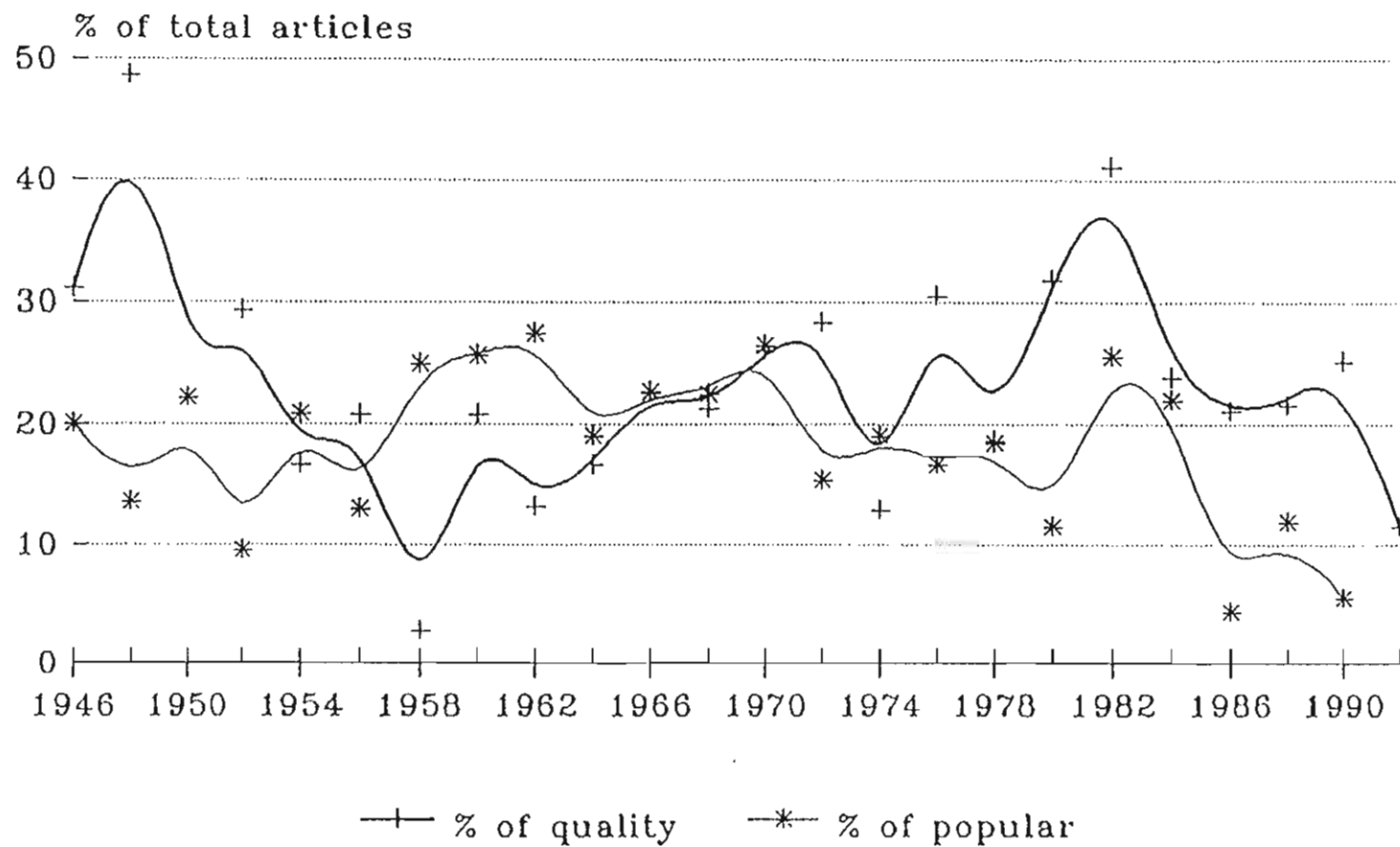
+ biotech (1992=100)

* infotech (1986=100)

□ space (1962=100)

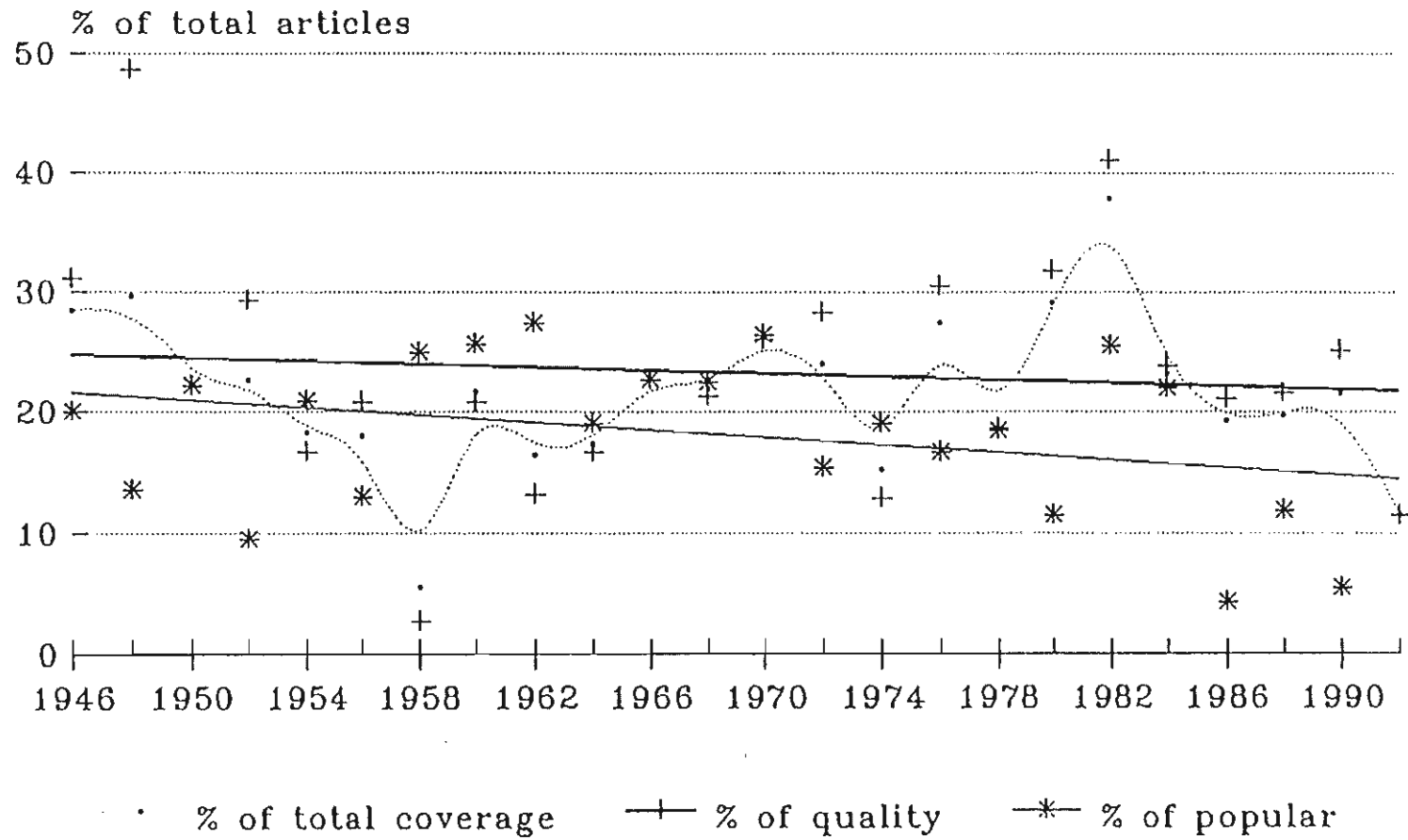
papers weighted

Controversy in S&T Articles 1946 to 1992



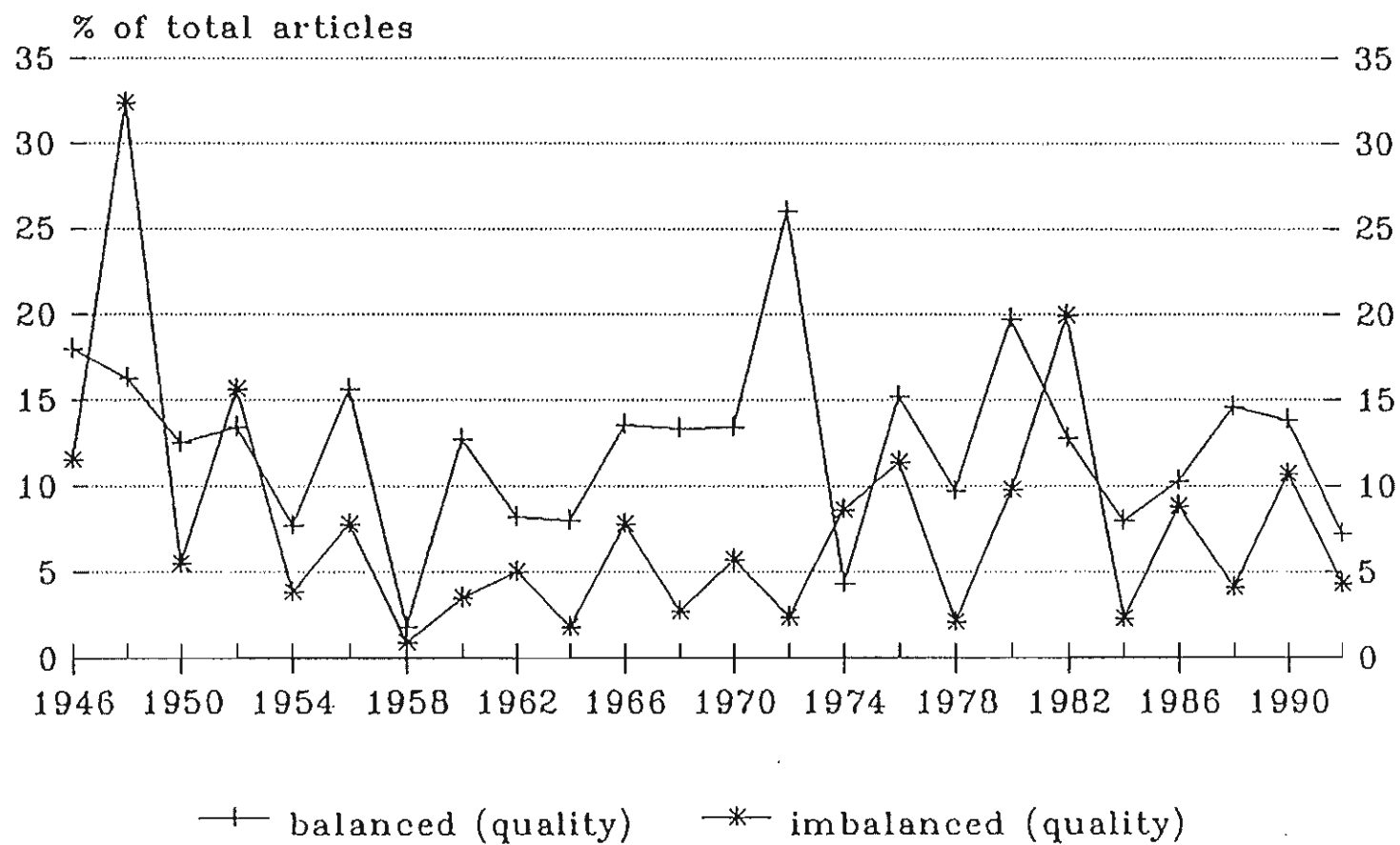
papers weighted, n=851

Controversy in S&T Articles 1946 to 1992



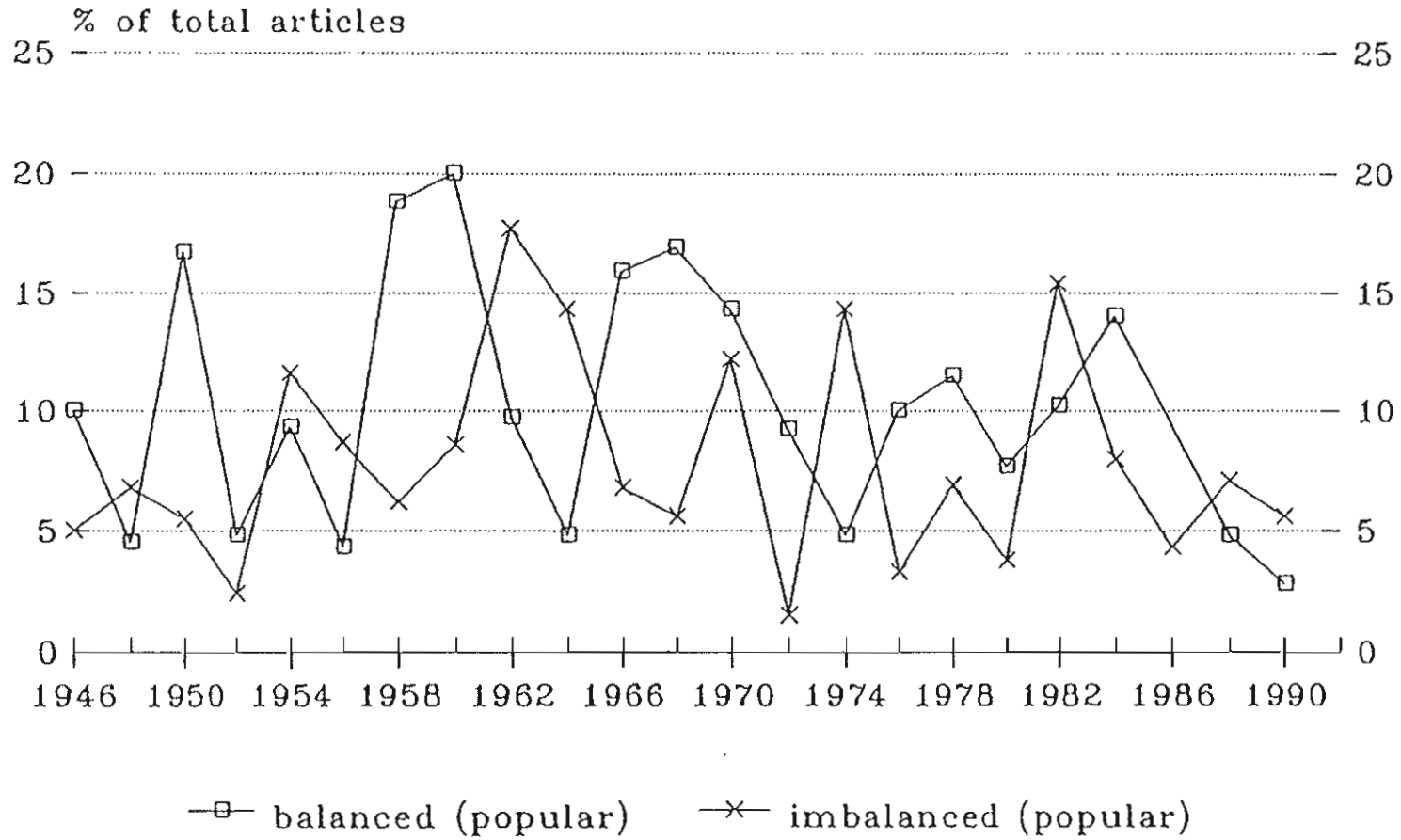
papers weighted, n=851

Balanced or Imbalanced Controversy in quality papers 1946 to 1992



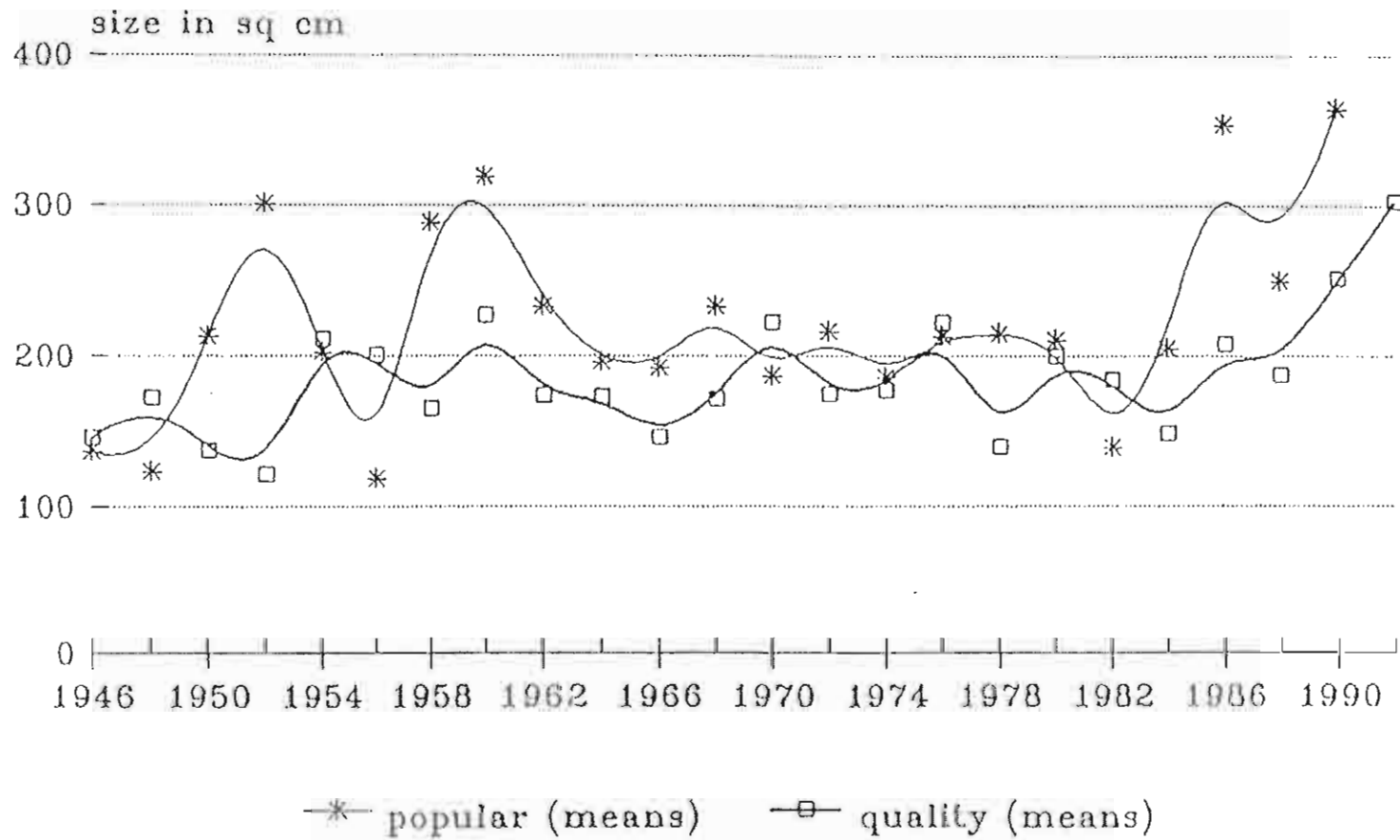
papers wgt.

Balanced or Imbalanced Controversy in popular papers 1946 to 1992



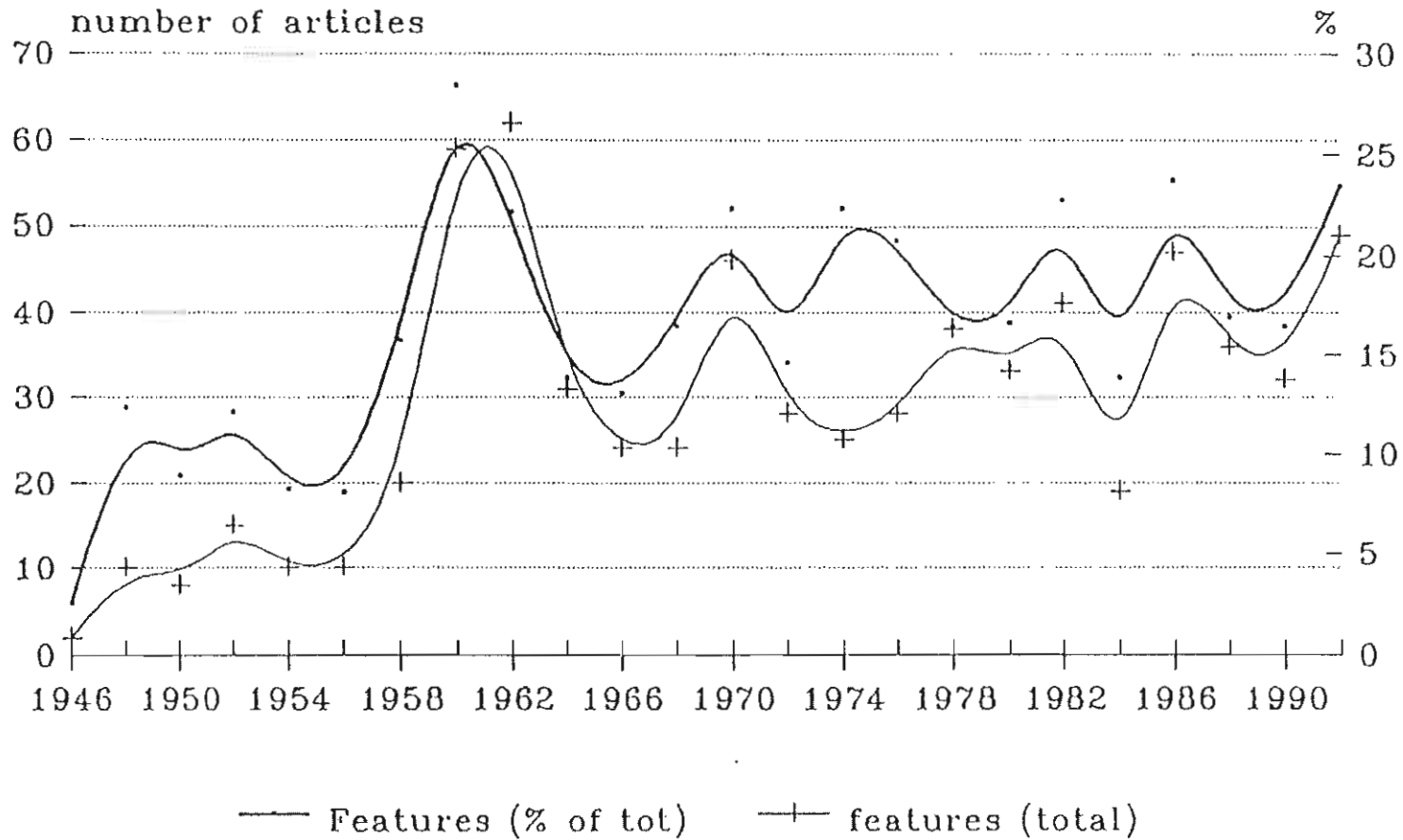
papers wgt.

Size of S&T Articles 1946 to 1990



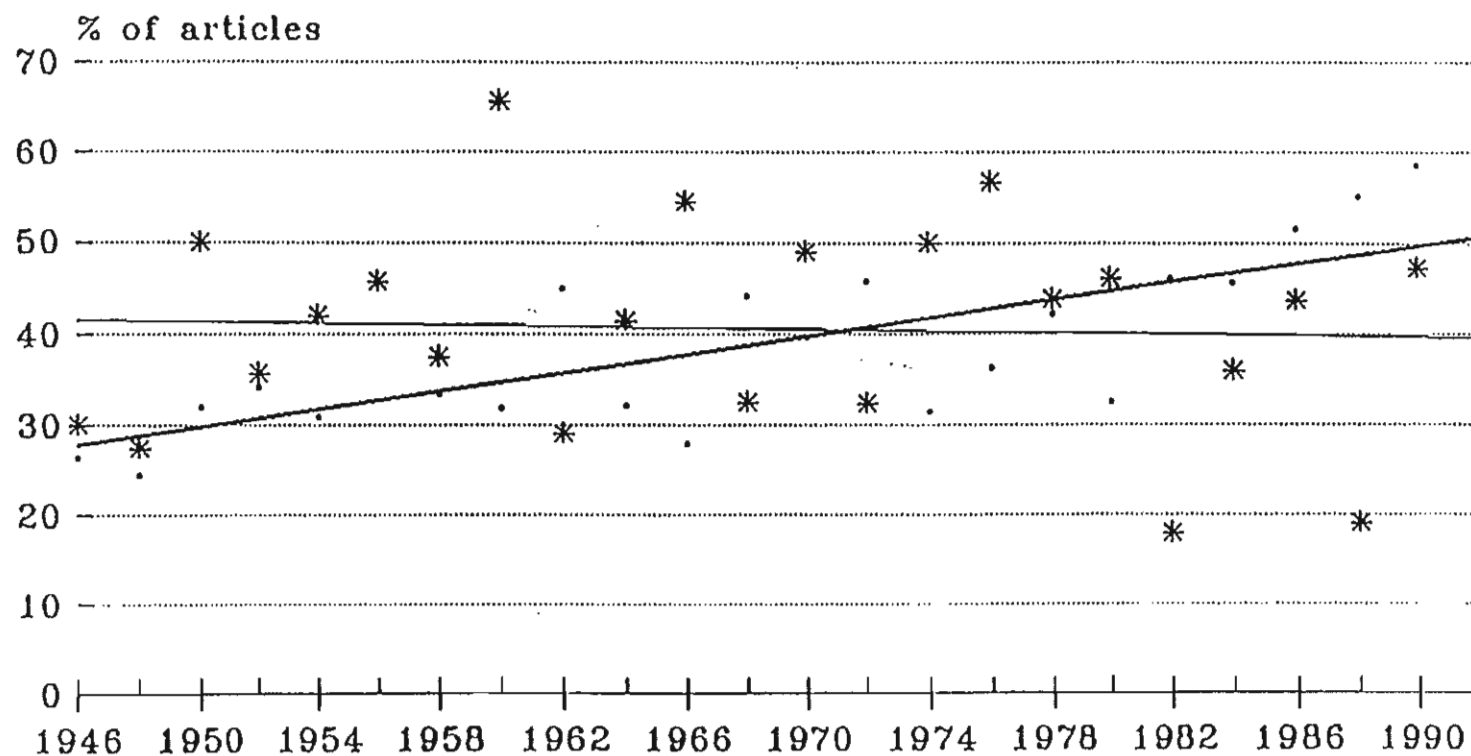
(means) n=8001

Features in British Press 1946 to 1992



papers wgt.

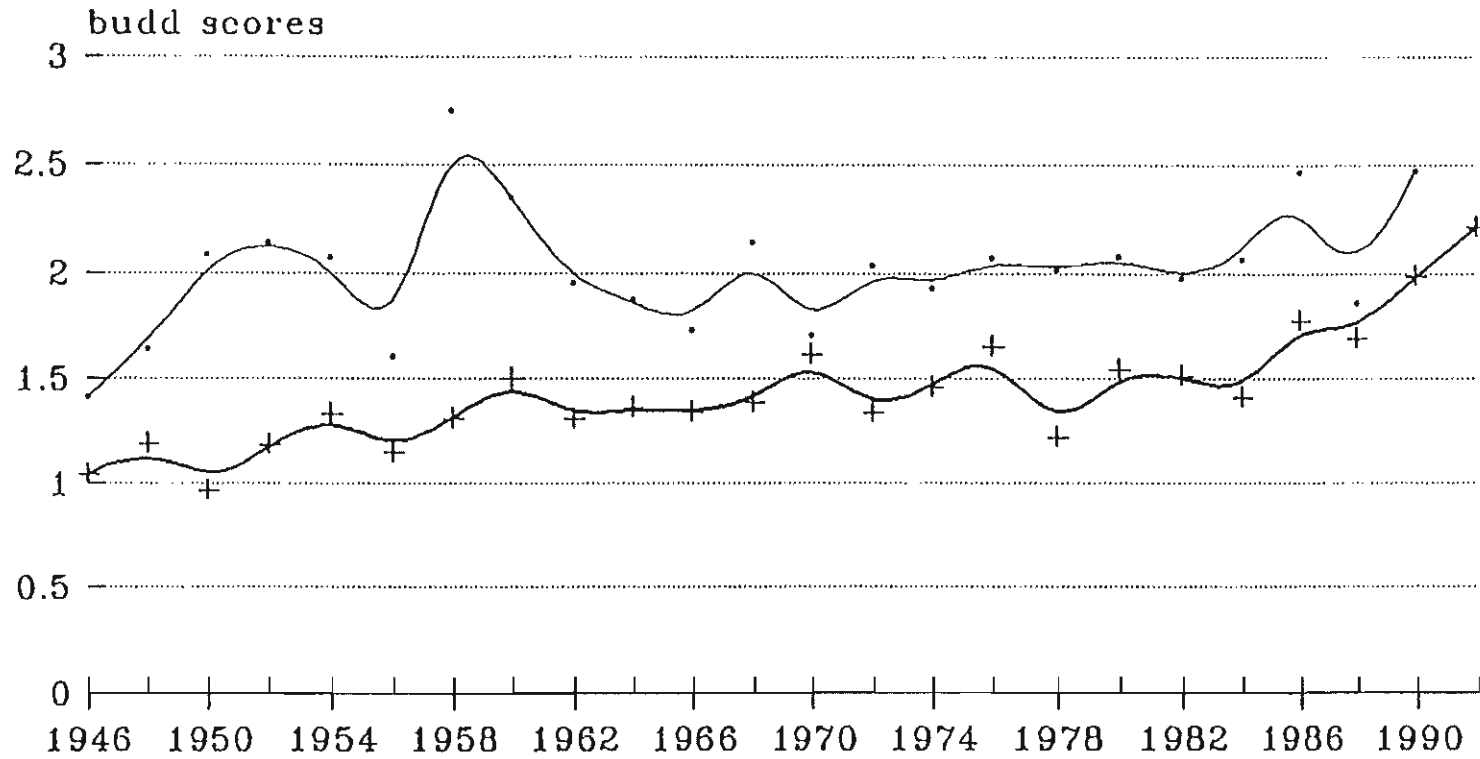
Expert's Citations in Articles 1946 to 1992



— Quality papers * Popular papers

papers weighted

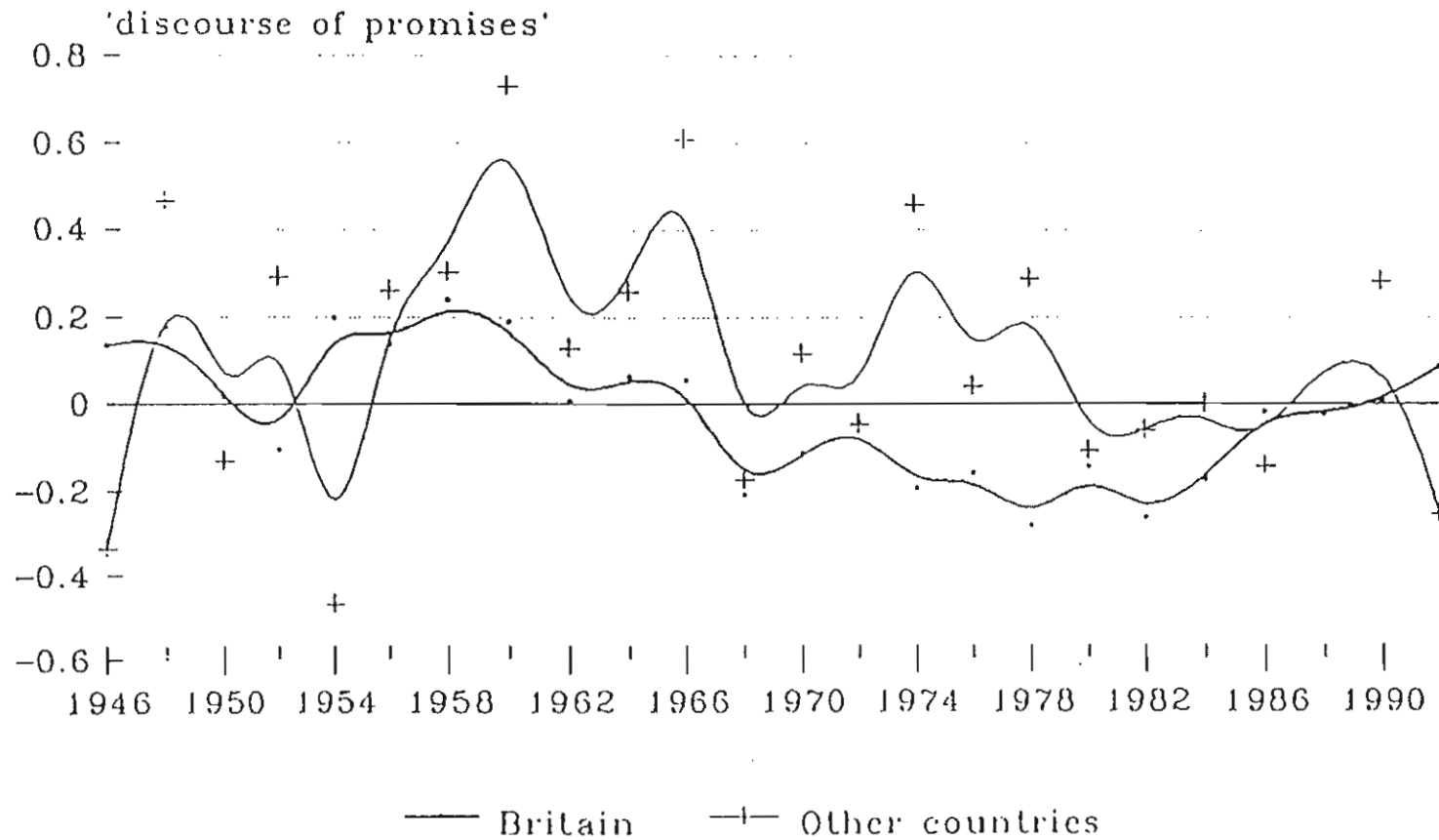
Newsplay 1946 to 1990



— Popular papers + Quality papers

means - budd scores

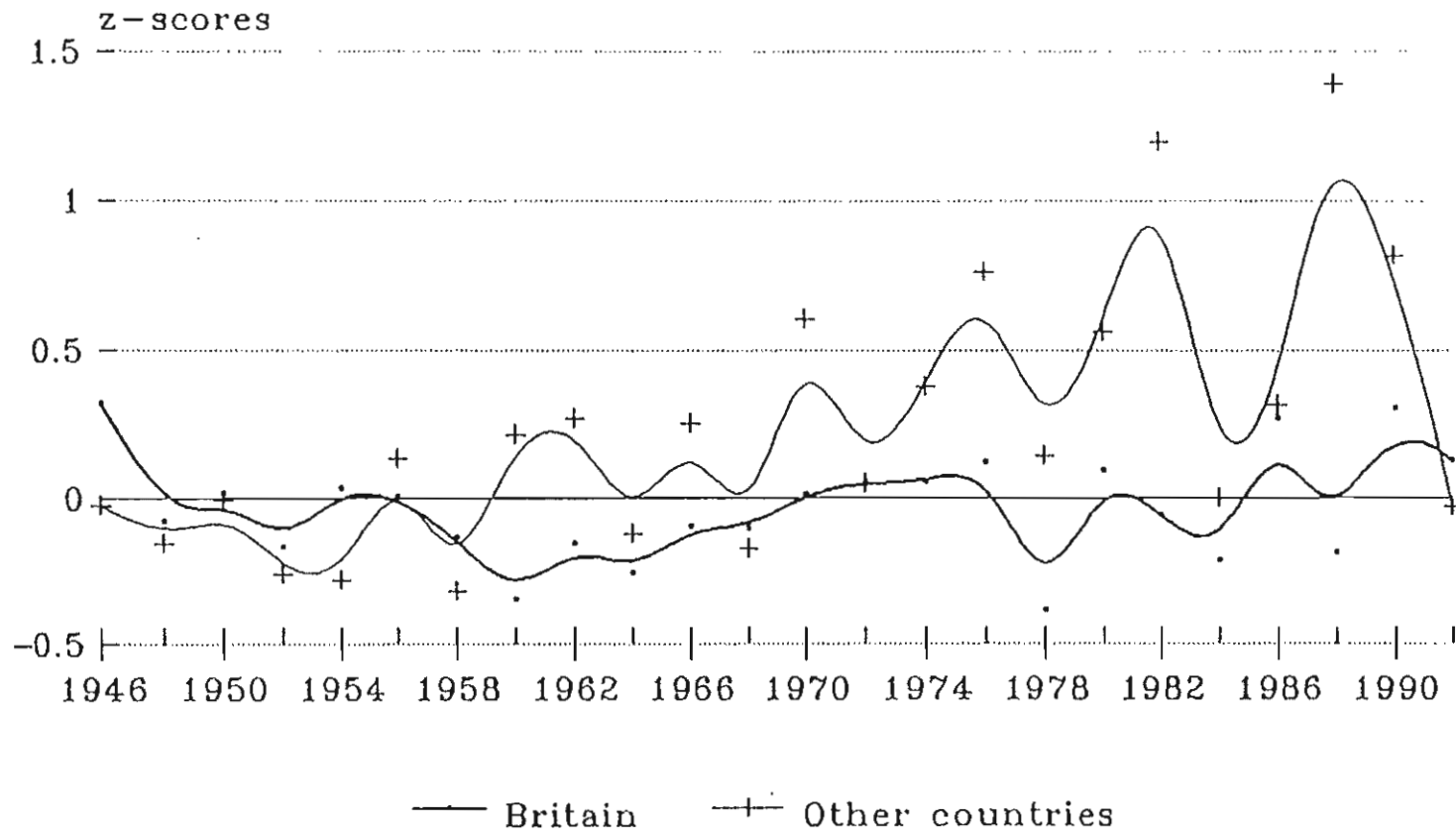
Valuation Tone 1946 to 1992 comparison Britain and other countries



standardized scores - std val (naut=3)

location of sci event

How Scientific are S&T Articles Covering Britain and Other Countries



standardized for each coder
location of the scientific event

Wellcome Trust grant no 037859/Z/93/Z

Science and Technology in the British Press, 1946-90

Volume II

**Content Analysis Methodology and
The Media Monitor Archive**

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Summary

This report together with Volume IV (the Coding Frame) explains the methodology of the Media Monitor Project; results are reported in Volume I (Results) and Report III (Codebook). Further copies can be obtained from the main author.

The objectives of the study are as follows: (a) to explore the pattern of science and technology coverage in British national newspapers after 1946, as an index of the **popular representations of science and technology** over the post-war period; (b) to collect historical data from 1946 to the present, as the basis for the "Science in the Media Archive" to be used as a **research and teaching resource**; (c) to develop an instrument that assesses both the quantity and the quality of press coverage of science and technology in form of a **cultural indicator**; (d) to provide a basis to explore systematically the relationship between press coverage the changing political context of science in Britain over the post-war period; (e) to **test specific hypotheses about trends** in media coverage of science in the post-war period: First, Kepplinger's thesis, derived from the German context, that over the past 30 years the quantity of press coverage has increased, at the same time that media evaluations of science have become continuously more negative; second, the thesis, derived from agenda-setting theory in media studies, that funding of science and the extent of science coverage in the media are anti-cyclical; third, Burnham's thesis that science coverage has become progressively more trivial; fourth, the sociological thesis that science coverage has become more depersonalised; and fifth, that medicine has been the paradigm for popular science throughout the whole period.

Sampling procedure

The project analyses the representation of science and technology in the British press 1946-90 by content analysis of a stratified random cluster sample of press material. The sample of National British morning newspapers was drawn over the entire period to represent the British press. Sampling criteria were readership, newspaper type, and political orientation, and opinion leadership function. For selected papers and years 10 random dates were generated. From sampled newspaper issues all science and technology articles were selected. For what counts as a 'science and technology' we took a catholic view including for example

social science coverage. The unit of analysis is the individual press article. The sample material coded and stored in hardcopy at the Science Museum Media Monitor Archive. The sample size is around 6000 articles over 45 years, around 130 articles per year.

Content Analysis Procedure

Each article is coded on around 100 variables which characterize its form and the content in quantifiable form. Classes of variables are (a) formal characteristics such as size, style, layout, position; and (b) narrative elements: the writer, the actors, the scientific and technological event, the context, the consequences, and the moral of the story. These variables include for example academic fields, the geographical locality of the story, the time horizon of the story into the past and the future, and whether a controversy is addressed, citations are used.

Media Monitor Archive: The Text Corpus

The data base is implemented as a SPSS data file suitable to be used as an index system to identify particular press material. The archive will be made available publicly as a research resource.

1 Context of the study

Media science, a genre of popular science as we would define it, feeds on science and technology, but not exclusively. The political, editorial and the historical context shapes the form and content of science in the media. To investigate this genre in its context we need a characterisation of 'media science' as the first step towards the understanding of the phenomenon. 'Science in the media' emerged in the last 50 years as a research topic in the literature of the public understanding of science movement (PUS), either separated or in conjunction with other types of investigations, such as surveys of public opinion or case studies of particular controversies (for a recent review of the literature on 'science in the media' see Lewenstein, 1994). To set a context we distinguish three types of studies of 'media science':

- (b) Studies aiming to characterise a particular science and technology issue, both over a short time period (Entwistle and Hancock-Beaulieu, 1992, on medical science; Durant, Hansen and Bauer, 1994, on human genome research) or diachronically over a longer period (e.g. Hansen, 1993 or Mazur, 1993, on environmental coverage; Gamson and Modigliani, 1989, Saxer et al, 1986, or Weart, 1988, on nuclear power; Lupton, 1994, on AIDS). Studies of this kind often allow us to compare the development of published opinion in the media and of public opinion surveys on a particular issue.
- (a) 'As the story breaks' type case studies (e.g. Lewenstein, 1994, on cold fusion) allow us to investigate the dynamics of news as it breaks, finding the gate keepers, investigating their motives and the emerging story as the outcome of a network of contacts and decision making. These studies are often conducted in the context of a political or scientific controversy.
- (c) Studies aiming to characterise the whole of science and technology coverage in a medium or across several media, both synchronically (e.g. Hansen and Dickinson, 1992; Einsiedel, 1992, Ruhrmann, 1992) and diachronically (the present study; ADITC, 1991; LaFollette, 1990; Kepplinger, 1989; Nelkin, 1987). Studies of this

kind give the large picture of science in the media.

This study investigates science in the British national daily morning press from January 1946 to December 1992. The press is one type of media among others, and during most of the 20th century an important medium, likely to set the agenda for other media. Press science must be understood in itself, characterised by a particular form and logic of production, less so by content. We expect that the coverage of science correlates by content among the popular media over a longer period of time; hence the analysis of the press is likely to be a valid indicator of the changes in the contents of media science over time.

The objective of the study is to construct a **cultural indicator** measuring the changes in the intensity and contents of science and technology coverage in the British mass media over the post-war period.

The present study falls under the last category of media studies analysing the entire coverage of science and technology over a period of 45 years. Three studies with a similar ambition have been conducted to date which we will discuss briefly to show how the present study incorporates some viable elements and critically avoids the pitfalls of these studies.

LaFollette (1990) analysed a systematic sample of US American weekly magazines: family, literary and political magazines between 1910 and 1955, the period before what is called the 'Sputnik shock'. She took a 40% stratified random sample of all magazine issues and extracted from these issues 687 relevant articles over a period of 45 years, or 15 articles per year. Her analysis included the style of presentation, authorship, the type of article, image of the scientist presented (magician, expert, creator, hero), limitations put on science, types of critical messages, and the scientific fields covered. The coverage being fairly stable at index point 20, she find the peak of science coverage in the mid 1920s, an increase to point 70, and a fall off soon after to normal level. Science coverage in these magazines rises again after 1945. LaFollette's sample is too small ($n=687$) to allow an analysis of more specific crosstabulations of variables, such as the image of the scientist for different fields of study, the type of article or the tone of the message. The focus of this study has been the long-term trends. The unit of analysis is the magazine article. We took from this study the

idea of coding the image of the scientist presented in the article.

Kepplinger (1989) and his team take a different approach. They coded around 48'000 statements on science and technology taken from a systematic sample of the German daily and weekly press over 10 years, from 1965 to 1985¹. The units of analysis are propositions in science articles, not the articles themselves as is the case of LaFollette's or our own study. Each statements is coded on up to 61 variables, both of a categorical or ordinal type. Articles are selected from the political part of newspapers only -- normally this would mean the first four pages for daily and all political commentary from weeklies. The sample takes every year for political news and every five for other kinds of news. Kepplinger et al. found a rapid increase of science and technology in the political news coverage after 1975 together with a simultaneous increase in negative coverage. The time series of particular science coverage is compared with external data on water pollution and radioactivity in Germany showing a negative correlation. He concluded that science coverage is not a reflection of 'real' events; hence the title of the book 'artificial horizons'. In the tradition of German 'Kulturkritik' he suggests a quasi-conspiracy of 1968 activists to explain the findings (Kepplinger, 1995). According to this model the 1968 generation constitutes a new 'reflective elite' which challenges, in a two culture model, the scientific and technical elite in Germany from positions of power in the political editorials of the German press. They have increasingly undermined the popular confidence in Progress through science and technology.

This interpretation of the dynamics media science did not remain without controversy, not least from science journalists themselves (Haller, 1991). Motivated by the controversial interpretation of the results much criticism focused on the methodology of the study and brought to light a number of deficiencies of Kepplinger et al.'s approach. First, the study was initially insufficiently documented to reconstruct the details of their methodology; the controversy clarified many details. Secondly and more important, the study gives only a partial picture science and technology coverage between 1965 and 1985, namely the picture painted by political commentary -- articles published on the first few pages of daily newspapers -- which by nature is biased. The story is likely to changes when taking into account the entire science coverage in the press. Third, the choice of statements as the unit

¹ Kepplinger's project was funded by the German Government with around 100'000 £ (\$150,000; 1£ = \$1.5 in 1994) and employed up the 25 researchers at various times. The costs of such a project may explain why so few of these ambitious analyses are actually conducted.

of analysis poses problems. On average 9,5 evaluative statements were coded per article. It is unknown how these statements relate to each other - consonant, dissonant, or balanced within a single article. Therefore the data is rather an indicator of the richness of evaluative statements in German political commentary on matters of science and technology. Any conclusion about the directions of the argument is problematic based on the count of statements only. Wherever the debate may end up, Kepplinger et al.'s study demonstrated the need for a comprehensive study of media coverage of science and technology in a different context.

The third study with a similar scope is Australian. The Australian Science Indicators Report includes a quantitative analysis of the public's exposure to media science (DITC, 1991). The methodology is basic content analysis with a small number of variables. The analysis of the press covers the years 1980 to 1990. A sample of constant two weeks shows a fourfold increase of coverage from index point 50 in 1983 to index point 200 by 1989. This increase during the 1980s is comparable to the increase of media science in Germany, albeit with a delay of 5-6 years. It is a challenge of the present study to verify this extraordinary increase in science news since the mid 1970 as a worldwide phenomenon. The study also shows that the science content of tv and press is not very different; very different, however, is the science content in magazines in comparison to press and tv.

Our own approach goes beyond and sublates these earlier studies. We found all three studies innovative and unsatisfactory at the same time. By identifying deficiencies in the previous studies we developed our own approach, both for the sampling of the press material and for the analysis. We maintained various elements of these studies with a view to making comparisons.

Steps in the development of the present project²

A short history of this project both illustrates and pays tribute to the network of ideas and

² This project involved various people coming and going in the last three years: we thank Agnes Allansdottir, you was there at the very beginning when the idea started to take shape; Laura Melo and Jane Gregory at initial stages of the coding frame; Ann Gosling, Shaheen Sheikh, Alison Goddard, and Gareth Mitchell, Titan Hancocks for the coding work.

efforts that made an ambitious project possible. It also serve as a window for a 'realistic description' of the constructive processes involved, their context and difficulties.

Pre-history

The start of the project could be defined with the appointment of Martin Bauer to the **Research Fellowship** in Public Understanding of Science at the Science Museum back in 1991. It was his firm conviction, and he stated that in his letter of application, that a time-series study of the media coverage of science was necessary to put the British debate on Public Understanding of Science on a more robust empirical basis; not least to overcome the futile exchange of claims and counter-claims on the what? and how? the press is not covering. Towards the end of 1991 a short report was commissioned (from Angela Stathopoulou, LSE) to obtain basic data on the structure of the British national press over the post-war period which was the basis to define a sample for the collection of press material.

During 1992 we conducted a number of **pilot studies** (with Agnes Allansdottir, LSE) to explore the amount of press coverage of science at present and in the past, and to familiarize ourselves with the working conditions at Colindale British Library Newspaper Archive, and to estimate the costs involved (copy costs, time necessary for collection and coding) for 50 years of press coverage. Attempts were made to raise funding for the project from various sources (ESRC, Leverhulm Trust, Nuffield Foundation, Wellcome Trust, with John Durant). The Museum research budget provided '**prime pumping funds**' for the time being. In June 1992 we reviewed studies of a similar scope that would give us ideas for the **construction of the coding framework** (with Agnes Allansdottir, Annadis Rudolfsdottir, Asdis Ragnarsdottir -- the 'Iceland Connection' at the LSE -- and Cornelia Kuster). In mid 1992 Bruce Lewenstein (Cornell) gave a breakfast seminar at the Science Museum to discuss styles of science writing which should be analysed in our analytic approach. Out of a series of workshops (end of 1992) the coding frame emerged and was pre-tested on press materials (with Jane Gregory).

On the project

While this preliminary work went on with a minimal budget, finally after two years of

tinkering and three failures to secure funding, we finally hit the target in April 1993: the Wellcome Trust for the History of Medicine was willing to fund the project as an 'exploratory study'. During 1993 we finalized the sampling frame, collected the relevant newspaper editions with a random procedure, and selected press material from these issues in the British Library Newspaper Archive in Colindale, and recorded the **primary data** for each articles, which would get lost once the article is taken out of context. Hardcopies of the selected press articles were then deposited at the Science Museum Archive where the **secondary coding** took place (incoming Shaheen Sheik, Ann Gosling, Alison Goddard, Gareth Mitchell, Titan Hancocks). Selection, archiving, coding, and data entry into a data base was done in **several waves** interrupted by rounds of revision and clarification of the coding process. Data collecting and coding was completed by the end of 1994. We controlled this process with **reliability tests** among coders in July 1993 and May 1994. Before the analysis could start some time was needed to clean the data base. Minor errors are unavoidable where 10 people are collaborate. The state of the data base is briefly characterised in the following box:

Table 1: The Science Museum Media Monitor Data Base as at 1995

The data base includes over 6000 articles on science and technology drawn from a systematic random sample of the British national daily morning press, quality and popular, between January 1946 and December 1990. The content analysis data base is designed to characterise changes in the press coverage over that period. The coding frame can be used as an index system to retrieve specific material as required both as profiles with existing data and as hardcopies in the archive. It is planned that this archival resource, the Science Museum Media Monitor (SciMuMeMo), will be made available for scholarly research in the near future.

2 The Text Corpus: The Collection of the Press Sample

Our sample newspaper articles of science and technology is taken from the British National Daily Newspapers published between 1946 to 1990. 'Science and technology' is defined in the catholic continental sense. Under this criterion we estimated that up to 700,000 relevant articles were published through the post-war period. As it is not feasibly to analyse the entire material, we defined systematic random sample to create a manageable corpus of texts. We will discuss briefly our sampling rationale, whether press science is representative of media science, and for practical purposes, the archival situation which allows us to retrieve the material relatively easy.

2.1 Sampling rationale

How can we construct a stable sample of daily British national newspapers over a period of 45 years, when the structure of daily newspapers changes over the that same period? The answer is that we inevitably construct an artificial framework which stabilizes the system on a number of parameters over the period of time, and which defines a pragmatic compromise. Instead of focusing on newspapers, we focus on functional criteria. Newspapers may change their character over time, what we want to keep stable is their position in the press system. Our sample stabilizes this function rather than the newspaper name. We used four criteria: popular or quality press, political left or right orientation, opinion leadership, and the readership numbers over the period to construct a **stratified cluster sample** of news paper articles. From every randomly selected newspaper issue, the cluster, all science and technology articles, as defined below, were selected.

The British press went through several upheavals in the post-war period which brought about changes in ownership and party affiliations of the papers (Seymour-Ure, 1991; Tunstall, 1987). Equally, the status as 'national press' of some the newspapers is not uncontroversial over the post-war period (Seymour-Ure, 1994). As a result of these instabilities the press market collapsed from a tri-partite (up-market, mid-market, down-market) to a dual structure of quality broadsheet and popular tabloid press. On the whole the readership and newsvalue of National daily morning newspapers remains fairly stable at about 15 million copies a day,

to drop significantly to 13 Million at the beginning of the 1990s; 63% of the population read at least one national daily newspaper regularly (Worchester, 1994), and the number of people declaring newspapers as their prim source of daily news drops marginally from 30% in the late 1950s to 25% in the late 1980s (IBA, 1987). Between 1946 and 1988 the readership of up-market quality papers increased from 4% to 8% of the total market, the down-market papers increased their share from 21% to 60%, while the mid-market papers lost out and dropped from about 69% to 27% of the press market. Despite the competition from tv and radio the overall readership and newsvalue of the British press remained fairly stable until the late 1980.

The sample is divided in stem and branches as shown in table 1. The **stem** comprises two newspapers, the 'Daily Telegraph' and the 'Daily Mirror'. They represent over a stable political division, 'Telegraph', a right quality paper, 'Mirror' the popular left paper. These two papers were selected on 10 random days every second year. The sample **branches** of the sample cover other criteria. 'Opinion leadership' and 'up-market' is represented by the 'Times' until the change of ownership in the mid 1980s, and the newly founded 'Independent' takes over this function according to the British Library. The 'Times' is sampled for 1946, 1950, 1956, 1960, 1966, 1970, 1976, 1980, and 1986; the 'Independent' is sampled for 1990. Both papers could be regarded as more or less covering political centre ground. To balance up-market papers and the political affiliation, a second down-market stream for the same years as the 'Times/Independent' was selected comprising the 'Daily Express' until 1976; after 1976 the 'Sun' is sampled instead, when the 'Sun' started to dominate the popular market. This stream of popular press is more on the 'right' of the political spectrum and balances the 'Daily Mirror'. The 'Guardian' is quality, up-market paper of the left; it is included in the sample every 10 years: 1946, 1956, 1966, 1976. For each year and paper a computer programme generated 10 random dates from Monday to Saturday. The sample does not include any sunday papers.

2.2 Does press science represent the whole of media science?

Our study analyses the press only. Will the results may be indicative of the media as a

whole? Can we generalize results from the press onto tv and radio science? We are confident that we can generalise about the media in general. The overall newspaper readership remains fairly stable over the period around 15 Million daily readers (Seymour-Ure, 1991, 17), so does the declared value of newspapers as sources of news for around 30% of the population. This indicates persistent importance of the press in Britain over the post-war period. Only recently newspapers suffer a major decline in readership. We find a stable readership with its elite segment increasing. The observation of comparative studies show that science and technology content of press, tv, and radio do not significantly differ (Hansen, 1992; DITC, 1991), only magazines have a very different content structure. These two arguments support the claim that the press indicator represents the fluctuations and structure of media science in general, including tv and radio. Obviously, the similarities only concern the topical content, not the form and delivery of the story, which is very domain specific for tv and radio.

2.3 Newspaper archive situation: manual versus on-line retrieval

The archive situation in Britain is good. The British Library Newspaper Archive at Colindale in North London stocks daily and weekly papers and magazines since the early 1800s on microfiche or as hardcopy. Our team regularly went to Colindale to scan microfiches, to identify relevant material, to record context information (primary coding) such as page numbers which is lost once the articles is taken out of context, and order a photocopy of relevant page (£1 per copy in 1994). Colindale sends the photocopies to the Museum, where an archive is set up, and the material is kept in boxes by year and newspaper. The archiving procedures included cutting out the relevant article from irrelevant context, matching primary coding information to the articles, and archiving the material in acid free plastic folders. Each article a number which can be matched to information recorded on a separate paper.

In recent years we have the possibility to obtain press material on-line via services such as FT-profile. We opted for manual retrieval of our sample for several reasons: Firstly, on-line retrieval does not allow us to collect material from before 1980. Secondly, FT-profile does not cover the popular press (except TODAY). Thirdly, on-line retrieval is not suitable for unspecific searches; to define for each year in terms of search terms what possibly

constitutes a S&T articles complicates the search to the extent that scanning manually is more reliable and cost effective. Fourthly, on-line information does give limited context information. We would be unable to know where the articles was placed on the page, or whether an illustration came with it or not. These drawbacks of on-line press material made it advisable to go for manual retrieval in the press archive.

3 Selection of Articles and Content Analysis Procedures

3.1 Defining relevant materials in newspapers

A crucial stage in the project is the selection of relevant material. Several assumptions guided the selection of text material:

- * S&T comprises more activities than the anglo-saxon meaning of the word 'science' normally implies; we define 'science' to include methodologically reflected research activities of all areas of the natural and the social sciences.
- * The search of S&T material cannot be restricted to specifically marked articles, either written by a science correspondent, nor published on a science page. Neither specialist science writing nor science pages are common practices across newspapers and time (see Volume 1). S&T coverage is not confined to the 'ghetto' of specialist writing (Bader, 1990).
- * Particularly with regard to the popular press, we use an open notion of 'S&T' to include articles that use 'scientific means of presentation', such as expert statements, jargon, numeric information, charts and graphics, and technical imagery, albeit the focus of the article may not be on a S&T issue. We study how far 'scientific rhetoric' has penetrated everyday life from the seclusion of esoteric knowledge.

These guidelines are the base rules for the selection of relevant material from newspapers. What constitutes an S&T articles is ultimately a matter of contextual judgement. These guidelines help us to achieve agreement among several selectors on which articles to choose or to omit. This agreement is an empirical matter. For the results of the reliability test see below chapter 7.

Table 2: Guidelines to select science and technology materials from newspapers

The basic rule: do not only look at the headlines, but scan quickly the articles to look for scientific references (jargon, scientists, data, graphics, research reference, research institution)

1. No distinction between natural and social science/economic research.
2. Look for buzz words like 'science', 'technology', 'health' or 'environment', or technical terms.
3. Look for pictures with technical devices.
4. Any kind of research: reports, descriptions.
5. Scientific expert citations: persons, labs, university, R&D units
6. Usage of scientific jargon and presentation: graphs, charts, tables, polls, numeric results
7. Be more generous with the popular press; they report more rarely

Excluded are: astrology columns, weather forecasts, business news as information about individual companies, clearly political discussions of economics without academic reference; stock market reports; market reports; illustrative maps; classified advertising; polling results as they report the political horse race and are not part of a social analysis.

3.2 Coding procedure

Once the corpus of text is collected, we can analyse it. The coding of the press material follows the rationale of a content analysis and not an index system. Index systems are flexible multi-purpose markers, that allow users text to retrieve material from a text base for as many purposes as possible. Index systems are therefore kept as open as possible on the kinds of information indexed. Content analysis, by contrast, is a reduction of complexity, a form of interpretation. It describes the material following specific questions. Content analysis frames are closed to address the specific questions of the research.

Each article is coded twice at different stages of the process. Primary coding is done at the stage of selection at the Newspaper Archive to retain the context information that gets lost once the article is taken out of context. Secondary, more elaborate coding is done once the text material is deposited as hard copy at the research base. For the coding we use a **coding frame** which defines the categories and their values (see Volume IV). Coding is done with paper and pencil on special **A4 coding sheets** (see in Appendix: for primary and secondary coding sheets). In section 5 an example of a coded article is shown.

Should we be able to up-date our project in the future, a computer-coder interface is easy to construct and to make on-line coding possible using portable computers in Colindale and at the research base.

3.3 Coder training and time requirements

The manual selection in the British Newspaper Archive is time consuming. With some experience in ordering and handing of microfiches roles or hardcopies to minimize waiting times, we managed on average to scan **10 newspaper issues per person per working day**, which in our sample is one year per day per person.

The coding process requires press material, primary and secondary coding sheets, the coding frame, and data entry facilities. The coding frame is rather complex and requires considerable training; probably **one or two weeks** of exploration and discussion of test material is necessary. A trained coder will code **two to three articles per hour** on average, or 15 to 20 articles per working day. This became the realistic basis for our cost calculations. Compared to the coding effort, the data entry is marginal.

4 The Coding Frame

We will briefly describe the structure of the coding frame and its conceptual underpinnings, which leads to an assessment of its innovative nature, finally we give an overview of the different types of variables from the point of view of statistics.

4.1 Conceptual 'building blocks' of the coding frame

Several ideas guided the construction of the coding framework: (a) We regard newspaper stories as narratives. (b) We distinguish four levels of activity: subhuman agents, individual actors, and informal and formal, collective actors. (c) We distinguish further various spheres of agency. (d) Events are different within the cycles of innovation. (e) Finally we distinguish formal characteristics of the narrative. Compared to previous studies of a similar kind, we distinguish ourselves in the scope and in the innovative features of the coding scheme. These structural elements of the analysis define the import from social theory (top-down), while the concrete values of the categories reflect the material (bottom-up). The development of the coding frame can be described as a pattern matching process: theoretical ideas are accommodated in concrete press material until a satisfactory matching is achieved, and the order of abstract notions is recognizable in concrete stories.

4.1.1 Science news as a narrative

A basic assumption of our analysis stipulates science news as a story or narrative³: Once this idea is accepted, the basic structure of the analysis falls into place, because a narrative has a quasi-universal form. Who tells the story about what, who does what in which context, to which effect for whom, and what are we to learn from it? In other words: (a) stories have a teller, in the case of a newspaper article an author. We identify the author of an article and characterize her speciality. We allow for articles that are not directly attributable, e.g.

³ We thank Bruce Lewenstein (Cornell University) for the early morning workshop sometime in 1993 out of which this idea concretized at an early stage of the project.

editorials or many articles in the Times in early years. (b) A story has a main actor, who is reported to do something actively or to whom something is happening passively. We call this the 'main agent' of the science story. (c) A story reports an event, what the actor does or what happens to him in terms of science. We call this the scientific event, or the **scientific subnarrative**. The distinction between the main story and its scientific subtext is important to come to terms with articles in the popular press, where science is often anchored in a story of human touch, rather than some reporting of research. This allows us to code stories which are not prim science stories, but have a science angle to it. (d) Stories give a background to events, describe their conditions and contexts. We analyse backgrounds for the science event to see whether and how the context for the scientific event is reported, e.g. what kind of institutional support is mentioned. (e) Stories often report on consequences of an event. We analyse if and how the consequences of a scientific event are reported, both in terms of benefits and costs. (f) Finally, stories end with a moral. They invite or warn people to think and act in a certain way. We analyse the degree to which the stories 'call the reader for action' either in support or in resistance of some scientific event. This framework orders our variables in a coherent way. The internal logic brings easy understanding and reduces the time necessary to memorize in the coding process.

4.1.2 Levels of analysis

We distinguish levels of analysis on various variables. First, we separate the main story from the scientific subtext. The two stories may be very different. Whether science is in the main story or not is a matter of judgement, and is often a very ambiguous problem similar to the figure-ground phenomenon: depending on what one focuses on, either one or the other story is figure, and the other ground. This judgement ultimately remains ambiguous, and often could have been interpreted differently. This remains a major challenge to the reliability of the scheme, particularly because this initial judgement has implications for other codes.

Secondly, we distinguished levels of activity. It is a matter of philosophical debate, whether we can attribute agency to anything below and beyond an individual, because of the moral implications. However, language does not have that problem and allows things or institutions as grammatical subject of proposition. We follow this characteristic of language and code whether the agent in the story is a subhuman micro-organisms, an individual, a

group of persons, a formal institutions, or even a society or entire nation. Changes in the frequency that these levels are attributed in the context of science is an interesting indicator of wider changes in public discourse.

4.1.3 Areas of agency and spheres of public life

To characterise the actor we are also interested in the area of agency. In modern social theory the stratification of society is conceived as functional differentiation (Luhmann, 1992). Various sphere of human agency co-exist as symbolic realism, compete with each other, and vigilantly defend and maintain their relative autonomy. Each of these system operates with a generalized medium and uses a particular code of basic distinctions as summarized in table 3. Hence, for example science operates with truth as medium and the base code 'true/false' in an instrumental sense; the economy which operates under money and property and with base code value/no value; similarly politics uses the code of 'being-in-power/being-out-of-power'.

Table 3: Four basic subsystem of functional differentiation of modern society

comparison	subsystem	medium	code, basic distinction
sphere of communication	politics	power	powerful/powerless
	art	beauty	beautiful/ugly
	religion	existential truth	true/false
	economy	money/property	value/no value
	scientific, education	instrumental truth	true/false

We classify areas of agency into these four macro areas, and within each area we code more specifically to concretize according to the material. We gain an element of order top-down from theoretical reasoning, while maintaining concrete codes bottom-up.

4.1.4 Coding modules

Some variables appear in a similar way at various positions in the coding process. An agent is identified at various stages of the narrative, either as main agent [q30-q32], as context [q44-q46], as possible beneficiary [q49-q51], or as possible loser [q54-q56]. For each case the 'agency module' is coded including the kind of agent (individual or institution), the area of agency (political, cultural, economical, scientific), and the gender of the agent. To characterise both the kind of agent and the area of agency a finely grained coding is developed (see The Coding Frame, Technical Report IV). When we code agency we code it as a module consisting of four types of information: the kind of agency (level of analysis); the area of agency (functional differentiation); if the agent an individual, we further code the function the person takes on, e.g. as a celebrity, an authority, a patient etc; finally we define the gender of the agent, to map the changing gender distribution of agents involved in science stories. We code consequences as a module of both first order and second order consequences both for benefits and costs. Furthermore we code location at various positions of the coding scheme: the location of the main event [q38], the location of the winner or beneficiaries in the story [q52], and the location of negative effects, the losers in the story [q57]. This allows us to distinguish the location of an event from the location of its consequences. The module helps us to collect more information on each article with less training effort, as for various positions the same codes are used.

4.1.5 Cycles of innovations

Another theoretically informed code is the 'innovation cycle' [q34]. Innovation and diffusion studies distinguish ideally three phases of the process: the invention, the innovation and the diffusion. Innovations are further separated into product innovations, the appearance of new consumer goods, and process innovations, the appearance of new machinery and know-how. We take these distinctions to find out how many of the science stories fall into either of these categories to map the changing trend in the public focus on invention, innovation or widespread application and diffusion. A variable which proves quite useful allowing us to classify over 70% of the articles.

4.1.6 Formal aspects of the story

A considerable part of our coding concerns contextual information about the articles. This information gets lost once the cutting is removed from the newspaper issue. We call this the primary coding retaining information such as the position of the article on the page [page section], the page number on which the article appears [page], the name of the newspaper [paper], the dates [day, month, year] etc. Various pieces of information concern the attention structuring of the article such as the use of illustration [q7q-g], variations in type setting [q10], the likely newsvalue addressed (Hansen, 1994) [q14], the stereotype of the scientist addressed [q22] (LaFollette, 1990), the treatment of controversy [q15, q16] and the use of citations and crossreferences to other articles [q23-q26]. These variable will allow us to map the changes in style elements over the period.

4.1.7 Rating scales

We developed several ratings scales to measure characteristics of science articles as a matter of degree. 'Personalisation' [q21] refers to the degree to which a story centres around a person doing the research rather than an institution. Are the names of individuals an important part of the story. The scale 'scientificness' [q11] assesses the degree to which the style of writing is similar to that of a scientific journal article proper. The variable 'evaluation tone' [q18] establishes a simple measure of whether science is presented within a framework of either promise or great concern. On a number of variables we rated the some possible characteristics of the main agent in the narrative [q33a-h] as they may have been highlighted in the story in form of a semantic differential, an idea we took from Ruhrmann's study of biotechnology in the German press (Ruhrmann et al. 1992). A last rating scale concerns the 'moral of the story' where we measured the degree to which the reader is called to actively resist or to support a scientific development.

4.2 The innovative features of this coding scheme

It is a deplorable feature of content analysis that it lacks the degree of standardisation which

we find in other fields of social measurement which is a basis the continuous growth of knowledge paradigms. In a research area with few studies of very different scope measures are normally constructed for the limited purposes. Faced with the dilemma of ensuring comparability and limited scope, or to tailor a scheme for our own purposes and loose comparability, we tried to strike a balance. We adopted various ideas from other studies, and at the same time develop new ideas on how to measure press science. We consider seven features of our analysis as innovations:

(1) We use the 'narrative' as the basic analytic idea for the analysis of science stories, both to generate variables and to order them. We are not aware of any previous study of science news taking such an approach.

(2) Previous studies of press science had a serious drawback in the classification of articles into science areas. A major difficulty is that media science is the interface between two communication systems which classify events in a very different way. Science may appear in articles on cookery, sport or crime. We cannot confine ourselves to specially marked science articles on science pages or written by a science correspondent. We needed a more realistic representation of this double nature of media science in terms of reader interest typology and by disciplinary classification. We used a two-dimensional classification and identify articles by academic discipline [q36] and by newspaper event [q17]. A further complication is that these classifications of science and of media interests are in flux, and only stable over a limited period of time. We relied on the latest issue of the Encyclopedia Britannica (1992) to classify sciences in the following way: history and philosophy; physical (physics, chemistry, astronomy); earth sciences; biological; medical; social sciences; technology and engineering. The classification of media events was more empiristically, based on various sections titles found. Standardisation at least in this regard is necessary to achieve cumulative and comparative evidence in future studies.

(3) The coding frame has a modular structure as shown above.

(4) In line with various previous studies of this kind we are interested in the geographical locality of the scientific event [q38] to distinguish whether the reportage of British science

form foreign science. We also used geographical location to specify the consequences of reported event. This allows for events happening outside Britain that carry consequences for Britain [q52, q57]. 'Locality' is used as a module to specify different categories in the coding frame.

(5) A further feature of our coding is the 'time horizon' variables. For each article we assessed whether the story has a time horizon, and if so how extended. The time horizon can either be into the past [q41] or into the future [q40]. This variable allows us to assess the long-term trend of cultural optimism measured by the extension of the time horizon into both direction, short-term orientations, or the dominance of a 'looking into the past'. This variable is likely to pick up larger social trends. One could imagine to link this variable with the results of the cohort studies of British youth and their future horizons.

(6) We imported the use of semantic differentials to characterise the actors [q33a-q33h]. A semantic differential consists of a list of adjectives and their opposites (as used by Ruhmann, 1992b). The coder rates for example how the actor is characterised in the story. This variable is applicable in 20% of articles. This allows us to compare actors, as they appear in science articles, and to map their changing image over time. Semantic differential is also used to assess the story tone with several qualifiers [q19a-q19g]. These proved valuable and creates considerable variance across articles.

(7) A finally feature of our study is the measurement of features such as headline size, the use of graphics and illustrations, the placement of the article on a prominent page, and the location of the article on the layout of the page. According to Budd (1964) such features combine to what he called 'newsplay', an objectified measure of the likelihood to attract the readers attention. Newsplay is a design parameter by which editor and layouter indicate the prominence to a science article. We constructed our 'Budd score' by adding up four features. Points are given for each column the headline covers. Some articles are small but the headline may cover three or more newspaper columns. One point is given for 2 or 3 column headlines, 2 points for larger ones. One point is given for the use of illustrations, graphics or other pictures in the article; another point is scored by a place on the upper half of the newspaper page, a last point is scored for the position on a prominent page, i.e. front page

or back page or editorial page. The distribution is skewed; the maximal score is 5; the average score is around 1.5.

4.3 Variables of different types

For the statistical purposes it is useful to be aware of the type scales we have at hand. Depending on the level of measurement we can apply different transformations and testing procedures. For the present purposes a scale is a single category or variables. Our coding scheme comprises three kinds of variables: nominal, ordinal, and interval type scales. Table 4 summarizes the different variables.

Table 4: Variables types in the coding frame

Variable type	nominal (78) categorical	ordinal (9/22) rankings, ratings, estimates [number of variables]	interval (6) counts, measures
examples Total: 106	all others variables e.g. identification string variable dichotomous [26] multi-value	q5b no of inserts [4] q11 'scientificness' [9] q18 valuation tone [5] q19a-g story tone [7] q21 personalization [9] q33a-h actor's qualities [7] q40 future time horizon [8] q41 past time horizon [7] q58 support-resistance [7]	size of article total pages pages of supplement q3 size of headlines q6 headlines columns q9 size of illustration

Nominal scales represent categorical information without any relationship between the categories; only frequency counts make sense. Most variables are of this kind; the range of different categories goes from 2 for dichotomous variables to variables with more than 50 values such newspaper event [q17], area of agency [q31, q45, q50, q55, q59], or academic

field [q36], or location [q38, q52, q57]. Two variables serve to identify the article with a running number [number] and a string variable records the name of the author. Ordinal scales allow us obtain measures of 'more or less'. A judgement is made whether the present article represents more or less of a certain defined quality, such as 'scientificness', 'personalisation', 'positive-negative' etc. Such variable lend themselves to correlational analysis. Ratio and interval scales measure characteristics of the articles such as the size of headline [q3] with a unit of measurement such as sqcm, or simply as number of pictures, headlines columns, or number of pages in a newspaper issue. The difference between two numbers remains constant which allows to use more sophisticated statistical analysis based on means and variance.

5 An Example of a Coded Article

Here we give an example of a coded article. The coded press article and the primary and secondary coding sheet with values inserted for each category. To understand the code numbers see Volume 3. The number 661 on the upper left hand corner is the identification number of the articles which links the hardcopy with the primary and the secondary coding sheet under 'number'.

GOING DOWN

MOST people regard the sea merely as something nice to paddle in, or sail across.

But soon, say the scientists, it could become the world's number one source of food—providing a vast harvest of vegetable-like food as well as more fish and shellfish.

Roughly three-quarters of the globe is covered by sea and lakes.

And as the world population mounts, the scientists are turning covetous eyes on the weird world that exists beneath the waves as a means of providing more food.

★ **THEY KNOW** that techniques of farming the sea are as little advanced as agriculture was 250 years ago.

★ **THEY THINK** that if these techniques were properly developed, the sea could begin to match the land as a source of food **WITHIN 20 YEARS.**

UNEXPLOITED

A recent scientific report, published in the United States, says:

"Life began in the seas, and much more of it still lives there, largely unexploited.

"The serious problem now is how the sea harvest can be increased.

"Already, research is disclosing evidence that

...to green pastures beneath the seas

the oceans may be capable of producing even more food and minerals than the land.

★ The experts know, for instance, that some areas of the sea are green

bring up sufficient food from the sea bed to support fish breeding-grounds nearer the surface.

To get new knowledge of the unexplored world beneath the waves, American scientists plan to step up research with bathyscaphes.

The bathyscaphe—an ugly word, coined from two Greek words meaning "deep boat," for an ugly-looking craft—is really an undersea balloon.

Recently, the United States bathyscaphe Trieste with a two-man crew went down seven miles.

The hull of the Trieste is filled with 28,000 gallons of petrol. This is lighter than water, and makes the bathyscaphe buoyant.

Ten tons of iron pellets are carried as ballast.

The bathyscaphe submerges by letting water flow into tanks at each end of the hull.

Water also flows into the bottom of the hull, compressing the petrol, and equalizing the pressure inside and out.

As the vessel descends, pressure builds up on the gondola which houses the

crew beneath the hull. It reaches eight tons a square inch at seven miles down but the crew are protected by the thickness of the steel—capable of withstanding sixteen tons a square inch.

The gondola is equipped with powerful search-lights.

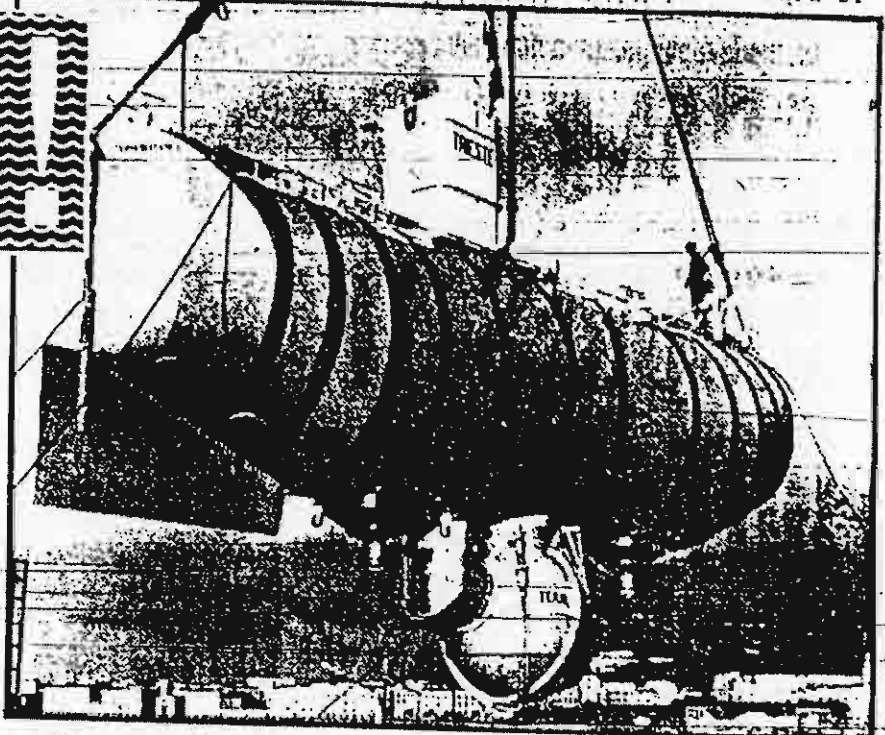
Outside the gondola are sensitive "ears" that pick up the sounds of life beneath the waves, and remote-control scoops that enable the crew to collect samples of deep-sea life.

Verne saw it all...

JULES VERNE—the man who could look into the future with astonishing accuracy—started a collection of two piles of notes just a hundred years ago this month.

One was labeled **SCIENCE**, the other **FICTION**.

By skillfully mixing the two, he became the daddy



● The United States bathyscaphe Trieste is lowered into the sea at the beginning of one of its explorations of the ocean bed.

of science writing—and time and again, his fiction became fact.

Space travel?—He not only described a trip to the moon, but he also showed amazing foresight in two details.

● He sited the launching platform for his "space-ship" only thirty-seven miles from Cape Canaveral, Florida.

● He invented the idea—now so familiar, of the

rocket-launching "count-down" from ten to zero.

But his greatest triumph was his anticipation of the atomic submarine—in his book "Twenty Thousand Leagues under the Sea."

Verne called his submarine the Nautilus—the name given later to the world's first atomic sub.

The story of Jules Verne is told in this month's issue of *Discovery*, the scientific magazine, by Dr. Anthony Michaels.

SCIENCE PAGE
By **RONALD BEDFORD**

PRIMARY CODING SHEET

code	fill in	range
CODER	-----	(1-45)
NUMBER	<u>661</u>	(1-99999)
PAPER	<u>3</u>	(1-34)
DAY	<u>8</u>	(1-31)
MONTH	<u>6</u>	(1-12)
YEAR	<u>60</u>	(45-92)
WEEKDAY	<u>3</u>	(1-7)
PAGE	<u>21</u>	(1-200)
FOLDER	<u>1</u>	(1-3)
SECTION	<u>7</u>	(1-9)
LOCATION	<u>5</u>	(1-5)
PAGESEC	<u>12</u>	(1-1234)
SIZE	<u>460</u>	(1-99999)
TOTPAGE	<u>30</u>	(1-200)
SUBPAGE	<u>-</u>	(0-100)
MAGPAGE	<u>-</u>	(0-100)
ADVERT	<u>-</u>	tick, if an advert (0-1)
TOTAD	<u>-</u>	only, if an advert (1-99999)
DOUBT	<u>-</u>	tick, if in doubt (0-1)

for explanations, see coder handbook II

FORMAL CATEGORIES.

1 2- occor	2 661 number	3 51 head size	4 1 subhead
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5- a 1 abstr/s	5- b 1 nr insert	5- c 1 ins/ add	6 4 ext. head	7- a 1 illustr.
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7- b 1 pictures	7- c - table	7- d - graph	7- e - cartoon	7- f - diagram
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7- g - other	8 6 ill. theme	9 110 size illus	10 1 var type	
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NOW READ THE ARTICLE!! Elements of writing style	11 5 techscie	12 5 typelead
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13- a 1 scactiv.	13- b 1 expert	13- c 1 jargon	13- d - data	13- e 1 restudy
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13- f - rebody	13- g - scpdicy	14- g 7 newsval	14- h - protest	15 - contr ov.
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16 - bal contr	17 5 news eve	18 1 val tone	19- a 2 enl/ dbq	19- b 6 ori/ adv
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19- c 4 ser/ hum	19- d 6 pes/ opt	19- e 3 bia/ imp	19- f 3 sen/ scb	19- g 5 fac/ spe
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20 11 stor type	21 2 per sonal	22 4 typ scie	23 2 nr citat	24 4 citations
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25- a 3 cont. cita	25- b 3 cont. cita	26 - or osser f		
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Who is telling the story: author	27 BEDFORD. R named of author
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28 1 gender	29 305 kind of author ship		
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MAIN AGENT IN THE NARRATIVE Who or what	30 20 m. agent
--	----------------------

31 406 ar ea ag	32 - gender	33- a - rel/ not	33- b - sec/ open	33- c - ind/ comp
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33- d - res/ irr	33- e - pdf/ pd	33- f - emo/ rat	33- g - con/ des	33- h - uns/ succ
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EVENT: What is being done/ the Scientific event	34 1 innovati	35- a 1 method
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35- b 1 onging	35- c - results	35- d 1 theory	35- e - reexpl.	36 709 acadfield
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37 1 strategic	38 300 locality	39 - collabor	40 4 timefut	41 6 timepast
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42 328 historic	BACKGROUND AGENT AND CONDITIONS Who or what back up scientific effort
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43 1 salience	44 60 agent	45 404 ar ea age	46 - gender	
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CONSEQUENCES: What is being done- what is the scientific event scientific narrative within the main narrative

47 2 contr d	48- a 1 utilities	48- b 1 probabil	48- c 51 first or d	48- d 40 second
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49 90 winner	50 001 agency	51 3 gender	52 900 locality	
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53- a - risk	53- b - probabil	53- c - first or d	53- d - second	54 - loser
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55 - agency	56 - gender	57 - locality		
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Moral of the scientific nar rat. for the audience	58 - coll act	59 - ar ea agent
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6 Quality control: Reliability of the Selection and Coding Process

In order to assess the quality of the content analysis we took a measure of reliability at three stages of the project. Perfect agreement on all aspects of the analysis is not feasible, hence reliability of the coding is a matter of degree. The measurement of reliability serves several **diagnostic functions**: Firstly, it shows the how feasible is the instrument to achieve a stable analysis among several coders with limited training effort. Secondly it serves as a check of the coding process at several stages by pointing out disagreements or misunderstandings among the coders. The distinction between misunderstanding and disagreement is important. Misunderstanding can in principle be mended by discussions; disagreement may be significant in the sense that genuine ambiguities in the material have to be acknowledged. Thirdly, it helps to identify those articles and categories that are difficult to achieve agreement on. In this sense reliability assessment is a stepping stone to create a common interpretation of the body of press material. It goes hand in hand with coding training to construct of a common 'framework' to interpret the press material. Three problems of reliability may be distinguished (Krippendorff, 1980; Merton, 1983; Holsti, 1969).

- * Selection reliability: to what extent can researchers agree, while scanning sampled newspapers, which article to select a relevant 'science article' for the data base. Despite all attempts to explicate selection criteria (see section 2), selection is ultimately a judgement that is made with variable degrees of consensus.
- * Inter-rater reliability of the coding: to what extent do researchers code the identical press article in a similar way in using the coding frame. This index measures the ease with which a consensus can be established among coders for the interpretation of the material.
- * Intra-rater stability of the coding: to what extent does a single coder analyse an article similar if it is coded twice within a period of time. This index establishes the ease with which a coder can interpret the material using the coding frame in a stable way.

Reliability is assessed at three stages. Results are discussed among the coders which increases the problem awareness and leads to better transparency of the coding process, more explicit selection criteria, and to amendments of single categories and of the coding frame as a whole.

For complex coding frames such as the present one we face a **reliability-validity dilemma** (Lisch and Kriz, 1978). To achieve an interpretation that is not too simplistic, taking into account the richness of the material, a trade off needs to be made between validity, in the sense of a complex analysis, and the level of reliability that can be achieved on such a complex analysis. Furthermore, the increase in reliability that can be achieved with coder training is a better indicator of the feasibility of the coding frame than the absolute level of reliability (Bauer, 1993). Krippendorff (1980) suggested a pragmatic criterion for the assessment of reliability: reliability should be higher if the analysis is used to make decisions about individual person; if it is for research purposes the criterion can be more lenient. We are working in a research context, and as shown below we achieved acceptable levels of reliability could be achieved which shows that agreement is possible within the present framework of analysis.

6.1 Reliability of the selection process

We tested the agreement among six researchers in selecting relevant material on four days: for the Daily Mirror and the Daily Telegraph, each on one issue of 1960 and 1980.

Table 5: reliability of articles selection among six selectors

newspaper	year	Kappa	%agreement
Daily Mirror	1960	.53	
	1980	.62	
Daily Telegraph	1960	.45	
	1980	.89	
Sun	1992		85
Guardian	1992		90
Daily Mail	1992		87

Table 5 shows the reliability of the selection of relevant science material from the daily press. Kappa is a conservative index, comparing the achieved agreement among coders to the agreement that can be expected by chance. The range between .40 and .74 is generally regarded as 'fair agreement' (Rosenhan and Seligman, 1989, 159; Hubert, 1977). Coders seems to agree more easily relevant material that is recent which are part of their own lifeworld; disagreement increases with historical distance. Overall, the achieved reliability lies within the 'fair' standard.

On a different, less stringent criterion the reliability is equally satisfactory. Taking into account that three types: (a) relevant and agreed articles; (b) articles relevant for some, but not for others; (c) and articles that are consensually irrelevant. Taking (a) and (c) as agreement of relevance and irrelevance among selectors divided by the all articles $\text{sum}[a+b+c]$, we achieved a reliability of 85% in identifying relevant material in the GUARDIAN, 90% in the SUN, and 87% in the DAILY MAIL in 1992. After each round we would discuss the disagreements in order to clarify the criteria used to select relevant

material. We conclude, that despite the vaguely defined criteria (see table 2) used to select relevant material, it seems unproblematic to achieve agreement about what to select and what not to select from the daily press.

6.2 Reliability I of the coding process (after 1 year)

We assessed the reliability of the coding after 1 year, and again after 2 years into the project. The coding process requires the coder to make over 100 decisions while reading an article. First he has to decide whether a certain variable is relevant, and secondly which of the category values applies. Some variables have over different 40 values to chose from.

We take it that the 9 numerical variables (see table 4) are fairly reliable, and we discount the variation that we can expect in measuring the size of articles in sqcm. 22 variables are ratings scales with 4, 5, 7 or 9 values. 75 variables are categorical codings, where the coder makes problematic decisions of putting a text into a 'code bucket' of which 26 codes are dichotomous choices. The other codes require to chose from a total of over 1200 options, varying between three and 42 on any one level of decision making. This combinatorial complexity of codes and values opens a vast space for coder disagreement. We checked the degree of both intra-coder and inter-coder reliability.

In July 1993 we compare the codings of five coders on eight articles, one of coders is an 'novice' and has not been involved in the coding process before. Articles are chosen randomly across the whole period; five articles had already been coded by one of the coders before and were recoded; three articles were new to all coders.

Reliability is calculated by the number of agreed codings across a range of coders divided by the number of total codings; some categories may not apply to an article, and we count agreed non-applicables as agreed judgement of irrelevance. For example, if 5 coders agree on 78 codes out of 89, the overall reliability is $78 / 89 = .87$. We vary the strictness of agreement from 'total agreement' to agreements among '2 out of 5' coders. The reliability varies across categories and articles, some categories and articles are more difficult to agree upon. We calculate the average agreement across a range of coders, for each article and for all articles combined, and we obtain a kind of sensitivity analysis for the coding frame.

Inter-coder reliability (consistency)

Taking the strictest criterion of total agreement among all five coders for each category, the reliability is .36; 36% of all codes can be coded with total agreement as shown in table 6. On a more lenient criterion, 3 out of 5, coders agree to 84%; on 2 out of 5 coders agree to 99%. Taking into account the large space of possible disagreements on more than 1200 decisions, we can be more than satisfied with this level of reliability. Reliability naturally varies from article to article. Not every article is equally ambiguous, we will use the 'difficulty' of the article as a weight to compare the stability of coders.

Table 6: reliability with variable range of coders; June 1993

criterion of agreement	reliability (percentage agreement)
5 out of 5 coders	.36
4 out of 5 coders	.56
3 out of 5 coders	.84
2 out of 5 coders	.99

Intra-coder reliability (stability)

On the strict criterion of total agreement among coders intra-coder reliability is on average 68%, varying from 50% to 78% of all codings. The stability of codings could be better. Table 7 shows the results for each coder, weighted and unweighted. Because article vary in the ambiguity it seems justified to weight the consistency with the reliability of the article (wgt) to get the net consistency for each coder weighted by the difficulty of agreeing on a particular article. A coder with inconsistencies on a very ambiguous article can be more reliable than a coder who is consistent on an unambiguous article. The table shows that coders 34 and 35 required further training.

Table 7: Stability of codings by June 1993

Article	Coder	Consistency	wgt	wgt consist
2	3	.75	.83	.90
4	34	.68	.74	.91
8	33	.79	.88	.89
3	2	.67	.85	.78
7	35	.50	.76	.65

Reliability of single categories

Reliability is also calculated for each category. This allows us to identify codes that are problematic, that may need a clearer definition, or that may be treated with caution in the final data analysis. 8 codes get less than 60% agreement on average, all of them are ratings:

- 11: 'how scientific is' rating
- 19a-g: ratings of the story tone
- 21: degree of personalization rating

Ratings scales provide ordinal information. An disagreement in number may still be an agreement in the direction of judgement. A correlation disregards the different individual baselines that may cause disagreements on the point of judgement. We regard these disagreement of controllable problem. For the analysis rating scales will be standardized for each coder to make them comparable. On 16 or one fifth of 72 categorical codes our coders achieve on average less than 70% agreement.

- 12 Type of lead
- 17 Newspaper event and themes
- 18 Valuation tone
- 20 Source type
- 25a Context of citation

30	Kind of main agent
31	Area of main agency
34	Innovation cycle
44	Kind of background agent
45	Area of background agency
48c	First order positive consequences
49	Kind of winning agent
50	Area of winning agency
52	Locality of benefits
53c	First order negative consequences

Discussions have shown that we have to expect 'Gestalt-switches' in the coding process. There may be ambiguity in the article where an agent can with good reason be identified as the 'main agent' or the 'background agent'; often coders identify the two relevant agents in agreement, but disagree on the who is the main and who is the background agent. Either decision has implications for a whole series of other codings which qualify these two agents; a different initial decision will lead to different codings on these related codes as well.

6.3 Reliability II of the coding process (after 2 years)

Eleven months later, in May 1994, seven coders coded each 10 articles to test the inter-coder reliability of the process. 7 out of the 10 articles were coded before by one of the coders; this allowed us to test consistency for each coder. Three of the 7 coders were 'new coders' that did not take part in the exercise a year earlier.

Inter-coder reliability

Table 8: Reliability with variable criterion May 1994

Criterion of agreement	Reliability
7 out of 7 coders	.30
6 out of 7 coders	.45
5 out of 7 coders	.61
4 out of 7 coders	.81
3 out of 7 coders	.93
2 out of 7 coders	.99

Table 8 shows the stability with variable strictness. 30% agreement is achieved among all coders; 81% agreement is achieved with 4 out of 7 coders agreeing at any one time. We regard this as a more than satisfactory level of reliability.

Intra-coder reliability (stability)

Table 9 shows the stability of codings between June 1993 and May 1994, again unweighted and weighted by the difficulty of agreeing on any one article. Raw stability varies between 58% and 82%; we weight these by the agreement achieved for each article among 4 out of 7 coders, and obtain the weighted stability, which varies from .74 to 1.01. We see that coders 2 and 3 are least stable this time round. This may reflect the fact that they were not much involved in the coding in the period just before the test. The stability among the other coders is remarkable once we take into account the difficulty of the article.

Table 9: Stability of codings by May 1994

article	coder	stability	reliab (4/7)	wgt stabil
1	3	.58	.77	.75
6	2	.60	.81	.74
10	33	.82	.81	1.01
7	34	.79	.91	.86
8	41	.65	.79	.82
2	42	.73	.80	.91
9	43	.69	.76	.91

Reliability of single categories

In 18 ratings coders achieve less than 70% average agreement among 7 coders. The same qualification applies as mentioned above.

11	How scientific is ?
18	Valuation tone
19a-g	Story tone
21	Degree of personalization
33b-h	Characteristics of main agent

On 17 or 24% of 72 categories coders achieve less than 70% agreement on average. The reliabilities remains fairly stable compared to 1 year before; however, different variables are problematic at this stage. Those nine categories that were already problematic in the year before are highlighted.

14a	Newsvalues
20	Source type
22	Stereotype of scientist

30	kind of main agent
34	Innovation cycle
36	Academic field
38	Locality, geographical
42	Historical explanation
44	Kind of background agent
45	Area of background agent
47	Locus of control
48c	First order positive consequences
48d	Second order positive consequences
49	Kind of winning agent
50	Area of winning agency
51	Gender of winning agent
52	Locality of positive consequences

6.4 Conclusion on the reliability of the coding process

We conclude that the reliability of the selection of press articles on science and technology is not perfect, but fairly reliable with kappa in the .60s and agreement in the 80% area. Coding agreement among 3 out of 5 or 4 out of 7 coders is 80%, and stability of these codings over 1 year weighted by the complexity of the article is on a similar level. Reliability obviously varies across categories, and some problematic categories have been identified. Overall we achieved more than satisfactory levels of reliability for this coding frame.

7 Present and Future Uses of the Science Monitor Archive

The Media Science Monitor lends itself to two uses: Firstly, additional analysis of specific questions within the existing content analysis and software data base; secondly, selections of particular press cuttings can be subjected to further in-depth analysis using the hardcopy archive. Both areas have considerable scope for development. Thirdly, the media archive may be updated on a regular basis to provide a continuous time-series to monitor science coverage in the British media. In due course, we will go public with the archive, and invite researchers from all over the world to use this resource for their own purposes, either as **teaching resource** or as a **research base**. We ourselves will continue to research the material.

The data base to date largely unexploited. Over 6000 articles are coded on up to 100 variables, for which our report presents a small selection of analytic results (see Vol I). We formulated just a few candidate questions, and are confident that more questions emerge on the way, and other researcher may have other questions of which we never thought of.

To date in addition to the research use, the archive has already been used to collate teaching materials on several courses in science communication in and around London; or to find illustrative press material for the design of new exhibitions at the Science Museum. The archive consists of a collection of **photocopies of press articles** ordered by year and paper. Some of the photocopies are of lower quality; and recopying them may not be have its limits. Selections of cuttings can be extracted either by paper and year, or by more specific content or formal criteria. The data base, although not constructed as an index system, can support specific searches. For example, we can identify articles on 'biotechnology' or 'cancer', or all articles which address science in the context of 'agriculture and farming' should anybody take a particular interest in such a subset for further analysis. The database needs to be used with some creativity to define one's interest within the existing coding frame. This can be done with single variables or with combinations of variables. For each search definition we can identify the number of selected articles with number, paper and date. This is sufficient information to find the articles in the hardcopy archive. In due course we will establish a standard procedure to access the Media Monitor Archive at the Science Museum Library.

8 Literature

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Appendix

Primary Coding Sheet

Secondary Coding Sheet

PRIMARY CODING SHEET

code	fill in	range
CODER	-----	(1-45)
NUMBER	_____	(1-99999)
PAPER	_____	(1-34)
DAY	_____	(1-31)
MONTH	_____	(1-12)
YEAR	_____	(45-92)
WEEKDAY	_____	(1-7)
PAGE	_____	(1-200)
FOLDER	-----	(1-3)
SECTION	_____	(1-9)
LOCATION	_____	(1-5)
PAGESEC	_____	(1-1234)
SIZE	_____	(1-99999)
TOTPAGE	_____	(1-200)
SUBPAGE	_____	(0-100)
MAGPAGE	_____	(0-100)
ADVERT	-----	tick, if an advert (0-1)
TOTAD	-----	only, if an advert (1-99999)
DOUBT	_____	tick, if in doubt (0-1)

for explanations, see coder handbook II

FORMAL CATEGORIES.				
1	2	3	4	
2- coodr	number	head size	subhead	
5- a	5- b	5- c	6	7- a
abstr/s	nr insert	ins/ add	ext. head	illustr.
7- b	7- c	7- d	7- e	7- f
pictures	table	graph	cartoon	diagram
7- g	8	9	10	
other	ill. theme	size/illus	var type	
NOW READ THE ARTICLE!! Elements of writing style			11	12
			techscie	typelead
13- a	13- b	13- c	13- d	13- e
scat. div.	expert	jargon	data	re study
13- f	13- g	14- a	14- b	15
rebody	sc. policy	newsval	protest	controv.
16	17	18	19- a	19- b
bal contr	news eve	val tone	enl/ dbg	ori/ adv
19- c	19- d	19- e	19- f	19- g
se/ hum	pes/ opt	bia/ imp	sen/ scb	fac/ spe
20	21	22	23	24
startype	personal	typ scie	nr citat	citations
25- a	25- b	26		
cont. cita	cont. cita	crosserf		
Who is telling the story: author		27 named author		
28	29			
gender	kind of author ship			

MAIN AGENT IN THE NARRATIVE Who or what				30
				m. agent
31	32	33- a	33- b	33- c
areaag	gender	rel/ not	seo/ open	ino/ comp
33- d	33- e	33- f	33- g	33- h
res/ irr	pdf/ pd	emo/ rat	con/ des	uns/ succ
EVENT: What is being done/ the Scientific event			34	35- a
			innovati	method
35- b	35- c	35- d	35- e	36
ongoing	results	theory	reexpl.	acadfield
37	38	39	40	41
strategic	locality	collabor	timefut	timepast
42	BACKGROUND AGENT AND CONDITIONS Who or what back up scientific effort			
historic				
43	44	45	46	
science	agent	areaage	gender	
CONSEQUENCES: What is being done- what is the scientific event scientific narrative within the main narrative				
47	48- a	48- b	48- c	48- d
contr d	utilities	probabil	first or d	second
49	50	51	52	
winner	agency	gender	locality	
53- a	53- b	53- c	53- d	54
risk	probabil	first or d	second	loser
55	56	57		
agency	gender	locality		
Moral of the scientific nar rat. for the audience			58	59
			call act	areaegen

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Science and Technology in the British Press, 1946-90

Volume III

Code Book

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Introduction

1. Overview of the coding frame:
 - Primary coding, all variables and values.
 - Secondary coding, all variables and values.
2. Basic frequencies of:
 - All variables.
 - Shorter versions for some variables.

For the logic of the variables, refer to Technical Report II Methodology.

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1. Overview of the coding frame.

Primary coding:

Variables:		Value range:
CODER	Identification number of primary coder	1-6
NUMBER	Identification number of the article	1-43000
PAPER	Name and number of articles per paper	1-9
DAY	Calendar day of month when article published	1-31
MONTH	Month when article was published	1-12
YEAR	Year when articles was published	46-92
WEEKDAY	Day of the week when article was published	1-6
PAGE	Page on which the article was published	1-999
FOLDER	Folder in which the article was found	1-3
SECTION	Section of the newspaper the article appeared in	1-9
LOCATION	Location of article within folder	1-6
PAGESEC	Part of the page in which the article was found	1-1234
SIZE	Size of article in sq cm	1-9999
TOTPAG	Total number of pages of the paper	1-999
SUBPAG	Total number of pages of the supplement	1-999
MAGPAG	Total number of pages of the magazine	1-999
DOUBT	How certain coder was of selection of article	1-2

Secondary coding:

CODER2	Identification number of secondary coder	1-43
NUMBER	Identification number of article	1-43000

Attention structuring.

Q3	Headline size	1-999
Q4	Subheadline/s	0-1
Q5A-C	Optical structuring	1-4
Q6	Extension of headline over the columns	1-8
Q7A-G	Illustrations	1-9
Q8	Content of the main illustration	1-10
Q9	Size of illustrations in sq cm	1-9999
Q10	Variations of type setting	0-1

Elements of writing style

Q11	How scientific/technical is the article	1-9 rating
Q12	Type of lead	1-9
Q13A-G	Selection criteria	0-1
Q14	News values	1-10
Q15	Controversy in article	0-1
Q16	Balance of controversy	1-2
Q17	Newspaper events and themes	1-42
Q18	Valuation tone	0-5 rating
Q19A-G	Story tone	1-7 sem diff
Q20	Source type	1-17
Q21	Personalization	1-9 rating
Q22	Stereotype of scientist	0-9

Citations, quotations, references

Q23	Number of expert citations	1-2
Q24	Form of expert citations	1-4
Q25A-B	Contextualization of citations	1-5
Q26	Cross references	1-4

Story teller: Who is telling the story

Q27	Name of first author - [Smith J]	string
Q28	Gender of author(s)	1-4
Q29	*Kind of authorship	combined

Main agent in the narrative

Q30	*Kind of agent	10-95
Q31	*Area of agency	1-410
Q32	*Gender of agent	1-4
Q33A-H	Characteristic of main agent	1-7 sem diff

The scientific event

Q34	Innovation cycle	1-9
Q35A-E	Scientific, technical processes	0-1
Q36	Academic field	100-999
Q37	'Big science'- strategic technology after 1945	1-10
Q38	*Locality, geographical	100-999
Q39	Research collaboration	1-3
Q40	Time horizon into the future	1-9 rating
Q41	Time horizon into the past	1-9 rating
Q42	*Historical explanation - area of agency	1-410

Background agent

Q43	Salience of background agent	0-1
Q44	*Kind of agent	10-95
Q45	*Area of agency	1-410
Q46	Gender of agent	1-4

Consequences

Q47	Locus of control: can one do something about it	1-3
Q48A-D	Positive consequences, benefit, utilities	10-69
Q49	*Kind of winning agent	10-95
Q50	*Area of agency	1-410
Q51	Gender of agent	1-4
Q52	*Locality of benefits	100-999
Q53A-D	Negative consequences, risk, cost	10-69
Q54	*Kind of losing agent	10-95
Q55	*Area of agency	1-410
Q56	Gender of agent	1-4
Q57	*Locality of risk	100-999

Moral

Q58	Call for actions	1-8 rating
Q59	*Area of called agency	1-410

*Modular variables, see Technical report II - Methodology.

2. Basic frequencies of all variables.

FORMAL CATEGORIES.

Primary variables:

PAPER Name and number of articles per paper.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Daily Express	1	263	4.3	4.4	4.4
Daily Mirror	3	966	15.9	16.0	20.4
Telegraph	4	2832	46.6	47.0	67.3
Guardian	6	431	7.1	7.1	74.5
Independent	7	160	2.6	2.7	77.1
Sun	8	118	1.9	2.0	79.1
Times	9	1261	20.7	20.9	100.0
.	.	52	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6175 Missing cases 52

DAY Calendar day of month when article published.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	144	2.4	2.4	2.4
	2	182	3.0	3.0	5.4
	3	177	2.9	2.9	8.3
	4	145	2.4	2.4	10.7
	5	206	3.4	3.4	14.2
	6	153	2.5	2.5	16.7
	7	179	2.9	3.0	19.7
	8	292	4.8	4.8	24.5
	9	183	3.0	3.0	27.5
	10	193	3.2	3.2	30.7
	11	187	3.1	3.1	33.8
	12	161	2.6	2.7	36.5
	13	134	2.2	2.2	38.7
	14	169	2.8	2.8	41.5
	15	203	3.3	3.4	44.9
	16	189	3.1	3.1	48.0
	17	189	3.1	3.1	51.2
	18	117	1.9	1.9	53.1
	19	278	4.6	4.6	57.7
	20	226	3.7	3.7	61.5
	21	167	2.7	2.8	64.2
	22	233	3.8	3.9	68.1
	23	218	3.6	3.6	71.7
	24	184	3.0	3.1	74.8
	25	285	4.7	4.7	79.5
	26	275	4.5	4.6	84.0
	27	252	4.1	4.2	88.2
	28	232	3.8	3.8	92.1
	29	182	3.0	3.0	95.1
	30	188	3.1	3.1	98.2
	31	108	1.8	1.8	100.0
.	.	52	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6031 Missing cases 52

MONTH **Month when article was published.**

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Jan	1	475	7.8	7.9	7.9
Feb	2	418	6.9	6.9	14.8
Mar	3	615	10.1	10.2	25.0
Apr	4	562	9.2	9.3	34.3
May	5	552	9.1	9.2	43.5
Jun	6	433	7.1	7.2	50.7
Jul	7	670	11.0	11.1	61.8
Aug	8	428	7.0	7.1	68.9
Sep	9	513	8.4	8.5	77.4
Oct	10	483	7.9	8.0	85.4
Nov	11	484	8.0	8.0	93.4
Dec	12	398	6.5	6.6	100.0
.	.	52	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6031 Missing cases 52

YEAR **Year when article was published.**

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	46	222	3.6	3.7	3.7
	48	81	1.3	1.3	5.0
	50	179	2.9	3.0	8.0
	52	124	2.0	2.1	10.0
	54	121	2.0	2.0	12.1
	56	322	5.3	5.3	17.4
	58	127	2.1	2.1	19.5
	60	416	6.8	6.9	26.4
	62	281	4.6	4.7	31.1
	64	225	3.7	3.7	34.8
	66	512	8.4	8.5	43.3
	68	146	2.4	2.4	45.7
	70	412	6.8	6.8	52.5
	72	192	3.2	3.2	55.7
	74	112	1.8	1.9	57.6
	76	406	6.7	6.7	64.3
	78	232	3.8	3.8	68.1
	80	398	6.5	6.6	74.7
	82	180	3.0	3.0	77.7
	84	138	2.3	2.3	80.0
	86	394	6.5	6.5	86.6
	88	213	3.5	3.5	90.1
	90	389	6.4	6.5	96.5
	92	209	3.4	3.5	100.0
.	.	52	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6175 Missing cases 52

WEEKDAY Day of the week when article was published.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Monday	1	971	16.0	16.1	16.1
Tuesday	2	1085	17.8	18.0	34.1
Wednesday	3	1010	16.6	16.7	50.8
Thursday	4	920	15.1	15.3	66.1
Friday	5	1129	18.6	18.7	84.8
Saturday	6	916	15.1	15.2	100.0
.	.	52	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6031 Missing cases 52

FOLDER Folder in which the article was found.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
main folder	1	5789	95.2	96.0	96.0
supplementary	2	233	3.8	3.9	99.9
colour magazine	3	9	.1	.1	100.0
.	.	52	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6031 Missing cases 52

SECTION Section of the newspaper the article appeared in.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
home news	1	2577	42.4	42.7	42.7
foreign news	2	785	12.9	13.0	55.7
editorial	3	103	1.7	1.7	57.5
features	4	1041	17.1	17.3	74.7
financial, business	5	470	7.7	7.8	82.5
sport	6	44	.7	.7	83.2
science special	7	195	3.2	3.2	86.5
letters	8	328	5.4	5.4	91.9
others	9	488	8.0	8.1	100.0
.	.	52	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6031 Missing cases 52

LOCATION Location of article within folder.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
front, main folder	1	310	5.1	5.1	5.1
back, main folder	2	162	2.7	2.7	7.8
front, additional	3	26	.4	.4	8.3
back, additional	4	8	.1	.1	8.4
in the middle	5	5517	90.7	91.5	99.9
double page sheet	6	8	.1	.1	100.0
.	.	52	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6031 Missing cases 52

PAGESEC Part of the page in which the article was found.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
upper left	1	1277	21.0	21.2	21.2
upper right	2	1420	23.3	23.5	44.7
lower left	3	956	15.7	15.9	60.6
lower right	4	843	13.9	14.0	74.5
centre	5	391	6.4	6.5	81.0
upper half	12	473	7.8	7.8	88.9
left half	13	223	3.7	3.7	92.6
upper left, lower right	14	2	.0	.0	92.6
right half	24	175	2.9	2.9	95.5
lower half	34	148	2.4	2.5	98.0
upper half, lower left	123	23	.4	.4	98.3
upper half, lower right	124	22	.4	.4	98.7
lower half, upper left	134	1	.0	.0	98.7
whole page	1234	77	1.3	1.3	100.0
.	.	52	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6031 Missing cases 52

SIZE Size of article in sq cm.

Mean	199.670	Median	128.000	Mode	80.000
Std dev	266.273	Range	7524.000	Minimum	1.000
Maximum	7525.000				

Valid cases 6001 Missing cases 82

TOTPAG Total number of pages of the paper.

Variable	Mean	Std Dev	Minimum	Maximum	N
TOTPAG	25.98	13.75	0	465	6026

SUBPAG Total number of pages of the sublement.

Variable	Mean	Std Dev	Minimum	Maximum	N
SUBPAG	3.75	11.91	0	76	4713

MAGPAG Total number of pages of the magazine.

Variable	Mean	Std Dev	Minimum	Maximum	N
MAGPAG	1.87	11.81	0	92	4587

DOUBT How certain coder was of selection of article.
(See Q11 for further evaluation).

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
doubtful case	1	1092	18.0	100.0	100.0
	.	4991	82.0	Missing	
	Total	6083	100.0	100.0	
Valid cases	1092	Missing cases	4991		

Secondary variables

Attention structuring.

Q3 Headline size.

Mean	24.147	Median	15.000	Mode	10.000
Std dev	32.484	Range	509.000	Minimum	1.000
Maximum	510.000				

Valid cases 5992 Missing cases 91

Q4 Subheadline/s.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	2715	44.6	100.0	100.0
	.	3368	55.4	Missing	
	Total	6083	100.0	100.0	

Valid cases 2715 Missing cases 3368

Q5A-C Optical structuring.

Q5A Abstracts or summaries

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1626	26.7	100.0	100.0
	.	4457	73.3	Missing	
	Total	6083	100.0	100.0	

Valid cases 1626 Missing cases 4457

Q5B Number of inserts/add-ons

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	544	8.9	60.8	60.8
	2	162	2.7	18.1	78.9
	3	67	1.1	7.5	86.4
Four or more	4	122	2.0	13.6	100.0
	.	5188	85.3	Missing	
	Total	6083	100.0	100.0	

Valid cases 895 Missing cases 5188

Q5C Inserts/add-ons related to article

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
all related	1	509	8.4	57.8	57.8
at least one unrelated	2	372	6.1	42.2	100.0
	.	5202	85.5	Missing	
	Total	6083	100.0	100.0	

Valid cases 881 Missing cases 5202

Q6 Extension of headline over the columns.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2770	45.5	46.3	46.3
	2	1692	27.8	28.3	74.6
	3	787	12.9	13.2	87.7
	4	362	6.0	6.0	93.8
	5	183	3.0	3.1	96.8
	6	122	2.0	2.0	98.9
Seven or more	7	68	1.1	1.1	100.0
	.	99	1.6	Missing	
	Total	6083	100.0	100.0	

Valid cases 5984 Missing cases 99

Q7A-G Illustrations.

Q7A Number of illustrations per article.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1082	17.8	72.5	72.5
	2	249	4.1	16.7	89.2
	3	80	1.3	5.4	94.6
Four or more	4	81	1.3	5.4	100.0
	.	4591	75.5	Missing	
	Total	6083	100.0	100.0	

Valid cases 1492 Missing cases 4591

Q7B Pictures (photo, drawing)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1114	18.3	100.0	100.0
	.	4969	81.7	Missing	
	Total	6083	100.0	100.0	

Valid cases 1114 Missing cases 4969

Q7C Tables (data or words)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	104	1.7	100.0	100.0
	.	5979	98.3	Missing	
	Total	6083	100.0	100.0	

Valid cases 104 Missing cases 5979

Q7D Graphical representation of data

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	79	1.3	100.0	100.0
	.	6004	98.7	Missing	
	Total	6083	100.0	100.0	

Valid cases 79 Missing cases 6004

Q7E Caricature, cartoon

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	133	2.2	100.0	100.0
	.	5950	97.8	Missing	
	Total	6083	100.0	100.0	

Valid cases 133 Missing cases 5950

Q7F Diagram, schema, maps

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	125	2.1	100.0	100.0
	.	5958	97.9	Missing	
	Total	6083	100.0	100.0	

Valid cases 125 Missing cases 5958

Q7G Other illustrations

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	26	.4	100.0	100.0
	.	6057	99.6	Missing	
	Total	6083	100.0	100.0	

Valid cases 26 Missing cases 6057

Q8 Content of the main illustration (main theme, figure in background).

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
person	1	792	13.0	53.3	53.3
body part	2	5	.1	.3	53.7
plant	3	4	.1	.3	53.9
animal	4	59	1.0	4.0	57.9
microorganism	5	4	.1	.3	58.2
technical device	6	224	3.7	15.1	73.3
building	7	159	2.6	10.7	84.0
symbols	8	67	1.1	4.5	88.5
data and graphs	9	153	2.5	10.3	98.8
images from space	10	18	.3	1.2	100.0
.	.	4598	75.6	Missing	
Total		6083	100.0	100.0	

Valid cases 1485 Missing cases 4598

Q9 Size of illustrations in sq cm.

Mean	132.080	Median	82.000	Mode	20.000
Std dev	152.249	Range	998.000	Minimum	1.000
Maximum	999.000				

Valid cases 1487 Missing cases 4596

Q10 Variation of type setting.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	2535	41.7	100.0	100.0
.	.	3548	58.3	Missing	
Total		6083	100.0	100.0	

Valid cases 2535 Missing cases 3548

Elements of writing style.

Q11 How scientific/technical is the article.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
non scientific	0	40	.7	.7	.7
marginally scientific	1	1588	26.1	26.1	26.8
	2	1507	24.8	24.8	51.5
	3	1152	18.9	18.9	70.5
	4	725	11.9	11.9	82.4
scientific	5	473	7.8	7.8	90.2
	6	293	4.8	4.8	95.0
	7	193	3.2	3.2	98.2
	8	90	1.5	1.5	99.6
very scientific	9	22	.4	.4	100.0
Total		6083	100.0	100.0	

Valid cases 6083 Missing cases 0

Q12 The type of lead.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
anecdotal	1	670	11.0	11.1	11.1
life experience	2	249	4.1	4.1	15.2
citation, reference	3	2306	37.9	38.2	53.5
event	4	1467	24.1	24.3	77.8
prediction	5	449	7.4	7.4	85.2
battle cry	6	271	4.5	4.5	89.7
opinion	7	87	1.4	1.4	91.2
other	9	533	8.8	8.8	100.0
.	.	51	.8	Missing	
	Total	6083	100.0	100.0	

Valid cases 6032 Missing cases 51

Q13A-G Section criteria: why the article was selected.

Q13A Scientific, technical activity mentioned

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	4269	70.2	100.0	100.0
.	.	1814	29.8	Missing	
	Total	6083	100.0	100.0	

Valid cases 4269 Missing cases 1814

Q13B Expert mentioned

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	3221	53.0	100.0	100.0
.	.	2862	47.0	Missing	
	Total	6083	100.0	100.0	

Valid cases 3221 Missing cases 2862

Q13C Scientific, technical rhetoric or jargon

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	3477	57.2	100.0	100.0
.	.	2606	42.8	Missing	
	Total	6083	100.0	100.0	

Valid cases 3477 Missing cases 2606

Q13D Presentations of data, results, graphs etc.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1686	27.7	100.0	100.0
	.	4397	72.3	Missing	
	Total	6083	100.0	100.0	

Valid cases 1686 Missing cases 4397

Q13E Research study or ongoing project mentioned

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1705	28.0	100.0	100.0
	.	4378	72.0	Missing	
	Total	6083	100.0	100.0	

Valid cases 1705 Missing cases 4378

Q13F Research body mentioned

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1773	29.1	100.0	100.0
	.	4310	70.9	Missing	
	Total	6083	100.0	100.0	

Valid cases 1773 Missing cases 4310

Q13G Science/technology policy issue mentioned

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	2182	35.9	100.0	100.0
	.	3901	64.1	Missing	
	Total	6083	100.0	100.0	

Valid cases 2182 Missing cases 3901

Q14 News value

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
novelty and innovation	1	560	9.2	9.7	9.7
surprise/unexpectedness	2	193	3.2	3.3	13.0
reference to elite person	3	735	12.1	12.7	25.7
bad news/catastrophe/deviance	4	428	7.0	7.4	33.1
controversy of any kind	5	168	2.8	2.9	36.0
competition	6	114	1.9	2.0	37.9
chronicle/repetition	7	122	2.0	2.1	40.0
news breed news	8	52	.9	.9	40.9
protests	9	9	.1	.2	41.1
picture	10	15	.2	.3	41.3

two codes selected:

novelty,surprise	12	80	1.3	1.4	42.7
novelty, ref.to elite person	13	730	12.0	12.6	55.3
novelty, bad news	14	38	.6	.7	56.0
novelty, controversy	15	36	.6	.6	56.6
novelty,competition	16	61	1.0	1.1	57.7
novelty,repetition	17	25	.4	.4	58.1
novelty, news breed news	18	11	.2	.2	58.3
novelty, protest	19	2	.0	.0	58.3
surprise, ref.to elite person	23	166	2.7	2.9	61.2
surprise, bad news	24	125	2.1	2.2	63.3
surprise, controversy	25	17	.3	.3	63.6
surprise, competition	26	8	.1	.1	63.8
surprise, repetition	27	5	.1	.1	63.8
surprise, news breed news	28	5	.1	.1	63.9
surprise, protest	29	1	.0	.0	64.0
ref.to elite, bad news	34	515	8.5	8.9	72.8
ref.to elite, controversy	35	388	6.4	6.7	79.5
ref. to elite, competition	36	137	2.3	2.4	81.9
ref.to elite, repetition	37	31	.5	.5	82.4
ref.to elite, news breed news	38	35	.6	.6	83.0
ref.to elite, protest	39	9	.1	.2	83.2
bad news, controversy	45	95	1.6	1.6	84.8
bad news, competition	46	17	.3	.3	85.1
bad news, repetition	47	13	.2	.2	85.3
bad news, news breed news	48	14	.2	.2	85.6
bad news, protest	49	9	.1	.2	85.7
controversy, competition	56	10	.2	.2	85.9
controversy, repetition	57	5	.1	.1	86.0
controversy, news breed news	58	13	.2	.2	86.2
controversy, protest	59	6	.1	.1	86.3
competition, repetition	67	2	.0	.0	86.4
competition, news breed news	68	1	.0	.0	86.4
repetition, news breed news	78	7	.1	.1	86.5
novelty, picture	110	4	.1	.1	86.6

Three codes selected.

novelty, supr,ref.to elite	123	33	.5	.6	87.1
novelty, ref.elite,badnews	134	50	.8	.9	88.0
novelty, ref.elite,controv.	135	131	2.2	2.3	90.3
novelty, ref.elite,compet.	136	122	2.0	2.1	92.4
surprise.ref.elite,badnews	234	129	2.1	2.2	94.6
surprise,ref.elite,controv.	235	51	.8	.9	95.5
surprise,ref.elite,compet.	236	26	.4	.4	95.9
ref.elite, badnews,controv.	345	197	3.2	3.4	99.3
ref.elite, badnews, compet.	346	39	.6	.7	100.0
.	.	288	4.7	Missing	
Total		6083	100.0	100.0	

Valid cases 5795 Missing cases 288

Q14 Shortened version of news values.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
novelty and innovation	1	560	9.2	9.7	9.7
surprise,unexpectedness	2	193	3.2	3.3	13.0
reference to elite person	3	735	12.1	12.7	25.7
bad news,catastrophe,deviance	4	428	7.0	7.4	33.1
controversy of any kind	5	168	2.8	2.9	36.0
competition	6	114	1.9	2.0	37.9
chronicle,repitition	7	134	2.2	2.3	40.2
news breeds news	8	65	1.1	1.1	41.4
protest	9	36	.6	.6	42.0
picture	10	19	.3	.3	42.3

Two codes selected:

novelty, surprise	12	80	1.3	1.4	43.7
novelty, ref.to elite person	13	730	12.0	12.6	56.3
novelty, bad news	14	38	.6	.7	56.9
novelty, controversy	15	36	.6	.6	57.6
novelty, competition	16	61	1.0	1.1	58.6
novelty, repetition	17	25	.4	.4	59.1
novelty, news breed news	18	11	.2	.2	59.2
surprise, ref. to elite person	23	166	2.7	2.9	62.1
surprise, bad news	24	125	2.1	2.2	64.3
surprise, controversy	25	17	.3	.3	64.6
ref. to elite, bad news	34	515	8.5	8.9	73.4
ref. to elite, controversy	35	388	6.4	6.7	80.1
ref. to elite, competition	36	137	2.3	2.4	82.5
ref. to elite, repetition	37	31	.5	.5	83.0
ref. to elite, news breed	38	35	.6	.6	83.6
bad news, controversy	45	95	1.6	1.6	85.3
bad news, competition	46	17	.3	.3	85.6
bad news, repetition	47	13	.2	.2	85.8
bad news, news breed news	48	14	.2	.2	86.0
controversy, competition	56	10	.2	.2	86.2
controversy, news breed news	58	13	.2	.2	86.4

Three codes selected:

novelty, surprise, ref.elite	123	33	.5	.6	87.0
novelty, ref.elite, badnews	134	50	.8	.9	87.9
novelty, ref.elite, controv.	135	131	2.2	2.3	90.1
novelty, ref.elite,compet.	136	122	2.0	2.1	92.2
surprise, ref.elite,badnews	234	129	2.1	2.2	94.5
surprise, ref.elite, controv.	235	51	.8	.9	95.3
surprise, ref.elite, compet.	236	34	.6	.6	95.9
ref.elite, badnews, controv.	345	197	3.2	3.4	99.3
ref.elite, badnews, compet.	346	39	.6	.7	100.0
.	.	288	4.7	Missing	
Total		6083	100.0	100.0	

Valid cases 5795 Missing cases 288

Q15 Controversy in article.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1348	22.2	100.0	100.0
.	.	4735	77.8	Missing	
Total		6083	100.0	100.0	

Valid cases 1348 Missing cases 4735

Q16 Balance of controversy.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
balanced	1	738	12.1	62.7	62.7
imbalance/partisan	2	439	7.2	37.3	100.0
.	.	4906	80.7	Missing	
Total		6083	100.0	100.0	

Valid cases 1177 Missing cases 4906

Q17 Newspaper events and themes.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
working life	1	90	1.5	1.5	1.5
health, food, cooking	2	376	6.2	6.2	7.7
wildlife	3	104	1.7	1.7	9.4
problems with environment	4	222	3.6	3.7	13.1
science, technology	5	417	6.9	6.9	20.0
defense, military	6	427	7.0	7.1	27.1
space	7	147	2.4	2.4	29.5
energy	8	178	2.9	2.9	32.5
traffic, transport	9	251	4.1	4.2	36.6
science policy, funding	10	139	2.3	2.3	38.9
agriculture, farming	11	103	1.7	1.7	40.6
gardening	12	9	.1	.1	40.8
credit, property	13	33	.5	.5	41.3
crime, forensic issues	14	204	3.4	3.4	44.7
legislation, laws	15	122	2.0	2.0	46.7
'gossip', celebrity	16	223	3.7	3.7	50.4
social surveys, polls	17	87	1.4	1.4	51.9
consumer issues	18	97	1.6	1.6	53.5
business, industry	19	315	5.2	5.2	58.7
politics	20	234	3.8	3.9	62.6
education	21	190	3.1	3.1	65.7
fashion	22	3	.0	.0	65.8
labour relations	23	37	.6	.6	66.4
travel, leisure	24	33	.5	.5	66.9
sport	25	80	1.3	1.3	68.2
arts	26	56	.9	.9	69.2
women's issues	27	35	.6	.6	69.7
parenting, family	28	64	1.1	1.1	70.8
hobby, 'do it yourself'	29	23	.4	.4	71.2
motoring	30	144	2.4	2.4	73.6
computing	31	100	1.6	1.7	75.2
children's section	32	21	.3	.3	75.6
entertainments (TV, film, radio)	33	87	1.4	1.4	77.0
history	34	89	1.5	1.5	78.5
Royalty	35	18	.3	.3	78.8
letter to editor	36	98	1.6	1.6	80.4
obituaries	37	73	1.2	1.2	81.6
illness	38	431	7.1	7.1	88.8
financial	39	117	1.9	1.9	90.7
national economy	40	164	2.7	2.7	93.4
foreign correspondent	41	11	.2	.2	93.6
religious issues, cults	42	32	.5	.5	94.1
other, not specified	99	355	5.8	5.9	100.0
.	.	44	.7	Missing	
Total		6083	100.0	100.0	

Valid cases 6039 Missing cases 44

Q18 Valuation tone of article.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
neutral	0	1227	20.2	20.3	20.3
overwhelming promise discourse	1	437	7.2	7.2	27.6
dominant promise discourse	2	1277	21.0	21.2	48.7
mixed ambiguous discourse	3	1446	23.8	24.0	72.7
dominant concern discourse	4	1152	18.9	19.1	91.8
overwhelming critical disc.	5	497	8.2	8.2	100.0
.	.	47	.8	Missing	
Total		6083	100.0	100.0	

Valid cases 6036 Missing cases 47

Q19A-G Story tone (Semantic differential).

Q19A Enlightened -- Dogmatic

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
enlightened	1	2086	34.3	37.8	37.8
	2	820	13.5	14.9	52.7
	3	666	10.9	12.1	64.8
neutral	4	1569	25.8	28.5	93.2
	5	242	4.0	4.4	97.6
	6	104	1.7	1.9	99.5
dogmatic	7	27	.4	.5	100.0
.	.	569	9.4	Missing	
Total		6083	100.0	100.0	

Valid cases 5514 Missing cases 569

Q19B Criticizing -- Advocating, affirmative

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
critical	1	490	8.1	9.3	9.3
	2	633	10.4	12.1	21.4
	3	436	7.2	8.3	29.7
neutral	4	1838	30.2	35.1	64.8
	5	705	11.6	13.5	78.3
	6	513	8.4	9.8	88.1
advocative	7	626	10.3	11.9	100.0
.	.	842	13.8	Missing	
Total		6083	100.0	100.0	

Valid cases 5241 Missing cases 842

Q19C Humourless -- Humorous

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
humourless	1	2398	39.4	45.6	45.6
	2	573	9.4	10.9	56.5
	3	252	4.1	4.8	61.3
neutral	4	1538	25.3	29.2	90.5
	5	278	4.6	5.3	95.8
	6	137	2.3	2.6	98.4
humorous	7	84	1.4	1.6	100.0
.	.	823	13.5	Missing	
Total		6083	100.0	100.0	

Valid cases 5260 Missing cases 823

Q19D Pessimistic -- Optimistic

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
pessimistic	1	243	4.0	4.6	4.6
	2	507	8.3	9.7	14.3
	3	649	10.7	12.4	26.7
neutral	4	1975	32.5	37.7	64.5
	5	904	14.9	17.3	81.7
	6	543	8.9	10.4	92.1
optimistic	7	414	6.8	7.9	100.0
	.	848	13.9	Missing	
Total		6083	100.0	100.0	

Valid cases 5235 Missing cases 848

Q19E Biased -- Impartial

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
biased	1	243	4.0	4.6	4.6
	2	480	7.9	9.0	13.6
	3	735	12.1	13.8	27.4
neutral	4	1844	30.3	34.7	62.1
	5	246	4.0	4.6	66.8
	6	319	5.2	6.0	72.8
impartial	7	1447	23.8	27.2	100.0
	.	769	12.6	Missing	
Total		6083	100.0	100.0	

Valid cases 5314 Missing cases 769

Q19F Sensational -- Sober, serious

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sensational	1	52	.9	1.0	1.0
	2	204	3.4	4.0	5.0
	3	465	7.6	9.1	14.1
neutral	4	2703	44.4	52.7	66.7
	5	365	6.0	7.1	73.8
	6	541	8.9	10.5	84.4
sober	7	801	13.2	15.6	100.0
	.	952	15.7	Missing	
Total		6083	100.0	100.0	

Valid cases 5131 Missing cases 952

Q19G Factual -- Speculative

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
factual	1	2437	40.1	41.6	41.6
	2	931	15.3	15.9	57.5
	3	653	10.7	11.1	68.7
neutral	4	1023	16.8	17.5	86.1
	5	485	8.0	8.3	94.4
	6	198	3.3	3.4	97.8
speculative	7	130	2.1	2.2	100.0
	.	226	3.7	Missing	
Total		6083	100.0	100.0	

Valid cases 5857 Missing cases 226

Q20 Source type.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
news wire service	1	158	2.6	2.6	2.6
full interview	2	68	1.1	1.1	3.7
partial interview	3	100	1.6	1.7	5.4
background article	4	686	11.3	11.4	16.7
testimony, confession	5	58	1.0	1.0	17.7
news and human interest	6	162	2.7	2.7	20.4
on-site reportage	7	892	14.7	14.8	35.1
reference to sci/technology	8	125	2.1	2.1	37.2
research/technical report	9	607	10.0	10.0	47.3
book review	10	125	2.1	2.1	49.3
journalist investigation	11	1081	17.8	17.9	67.2
letter to editor	12	335	5.5	5.5	72.8
obituary	13	73	1.2	1.2	74.0
conference/lecture	14	300	4.9	5.0	78.9
reference to another medium	15	102	1.7	1.7	80.6
jokes/spoofs	16	33	.5	.5	81.2
press conference/ release	17	864	14.2	14.3	95.5
other	99	274	4.5	4.5	100.0
.	.	40	.7	Missing	
Total		6083	100.0	100.0	

Valid cases 6043 Missing cases 40

Q21 Personalization.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
institutional	1	2442	40.1	40.5	40.5
	2	386	6.3	6.4	46.9
	3	338	5.6	5.6	52.5
	4	688	11.3	11.4	63.9
personalized	5	498	8.2	8.3	72.2
	6	296	4.9	4.9	77.1
	7	325	5.3	5.4	82.5
	8	199	3.3	3.3	85.8
very personal	9	858	14.1	14.2	100.0
.	.	53	.9	Missing	
Total		6083	100.0	100.0	

Valid cases 6030 Missing cases 53

Q22 Stereotype of scientist.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
magician, wizard, genius	1	74	1.2	8.6	8.6
impartial expert	2	396	6.5	46.2	54.8
creator and destroyer	3	35	.6	4.1	58.9
heroes, pioneer, frontier	4	98	1.6	11.4	70.3
ordinary people, next-door	5	70	1.2	8.2	78.4
financially interested	6	35	.6	4.1	82.5
eccentric, mad scientist	7	21	.3	2.4	85.0
removed, out of touch	8	39	.6	4.5	89.5
mixed stereotypes	9	90	1.5	10.5	100.0
.	.	5225	85.9	Missing	
Total		6083	100.0	100.0	

Valid cases 858 Missing cases 5225

Citations, quotations, references.

Q23 Number of expert citations.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
single citation	1	607	10.0	24.9	24.9
several citations	2	1835	30.2	75.1	100.0
.	.	3641	59.9	Missing	
Total		6083	100.0	100.0	

Valid cases 2442 Missing cases 3641

Q24 Form of expert citations.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
direct quotation	1	831	13.7	34.0	34.0
indirect citation	2	425	7.0	17.4	51.4
referred to	3	198	3.3	8.1	59.5
mixed citations	4	988	16.2	40.5	100.0
.	.	3641	59.9	Missing	
Total		6083	100.0	100.0	

Valid cases 2442 Missing cases 3641

Q25A-B Contextualization of citations (van den Berg, 1992).

Q25A Relation among sources.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
same source, compatible	1	1388	22.8	58.7	58.7
same source, incompatible	2	10	.2	.4	59.2
different source, compatible	3	455	7.5	19.3	78.4
different source, incompat.	4	289	4.8	12.2	90.6
undecidable/impartial	5	221	3.6	9.4	100.0
.	.	3720	61.2	Missing	
Total		6083	100.0	100.0	

Valid cases 2363 Missing cases 3720

Q25B Relation between author and source.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
implicit compatibility	1	691	11.4	29.2	29.2
implicit incompatibility	2	29	.5	1.2	30.4
explicit compatibility	3	160	2.6	6.8	37.2
explicit incompatibility	4	57	.9	2.4	39.6
undecidable/impartial	5	1428	23.5	60.4	100.0
.	.	3718	61.1	Missing	
Total		6083	100.0	100.0	

Valid cases 2365 Missing cases 3718

Q26 Cross references.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
to same issue	1	117	1.9	27.1	27.1
to previous issue	2	153	2.5	35.4	62.5
to another paper	3	122	2.0	28.2	90.7
to series of article	4	40	.7	9.3	100.0
	.	5651	92.9	Missing	
	Total	6083	100.0	100.0	
Valid cases	432	Missing cases	5651		

Story Teller.

Q27 Name of first autor.

Names listed in alphabetical order in Appendix page 66

Q28 Gender of author(s).

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
male	1	2361	38.8	78.4	78.4
female	2	414	6.8	13.7	92.2
mixed	3	3	.0	.1	92.3
undecidable	4	233	3.8	7.7	100.0
.	.	3072	50.5	Missing	
Total		6083	100.0	100.0	

Valid cases 3011 Missing cases 3072

Q29 Kind of authorship: who is telling the story.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
news wire service	1	65	1.1	1.1	1.1
unidentified journalist	2	3562	58.6	58.9	60.0
specialist journalist	3	49	.8	.8	60.8
other	9	21	.3	.3	61.2

Specialist journalist in the field of:

working life	301	11	.2	.2	61.4
health,food,cooking	302	103	1.7	1.7	63.1
wildlife	303	8	.1	.1	63.2
problems with environment	304	10	.2	.2	63.4
science,technology	305	260	4.3	4.3	67.7
defense, military	306	66	1.1	1.1	68.8
space	307	1	.0	.0	68.8
energy	308	7	.1	.1	68.9
traffic,transport	309	88	1.4	1.5	70.3
science policy funding	310	3	.0	.0	70.4
agriculture,farming	311	39	.6	.6	71.0
gardening	312	5	.1	.1	71.1
credit,property	313	9	.1	.1	71.3
crime,forensic issues	314	14	.2	.2	71.5
legislation, laws	315	20	.3	.3	71.8
'gossip',celebrity	316	29	.5	.5	72.3
social surveys,polls	317	3	.0	.0	72.4
consumer issues	318	14	.2	.2	72.6
business,industry	319	122	2.0	2.0	74.6
politics	320	95	1.6	1.6	76.2
education	321	64	1.1	1.1	77.2
labour relations	323	12	.2	.2	77.4
travel,leisure	324	8	.1	.1	77.6
sport	325	7	.1	.1	77.7
arts	326	15	.2	.2	77.9
women's issues	327	6	.1	.1	78.0
parenting, family	328	3	.0	.0	78.1
motoring	330	94	1.5	1.6	79.6
computing	331	9	.1	.1	79.8
children section	332	4	.1	.1	79.9
entertainments(TV, film,radio)	333	36	.6	.6	80.5
history	334	7	.1	.1	80.6
letter to editor	336	1	.0	.0	80.6
illness	338	62	1.0	1.0	81.6

financial	339	76	1.2	1.3	82.9
national economy	340	33	.5	.5	83.4
foreign correspondent	341	359	5.9	5.9	89.4
religious issues, cults	342	5	.1	.1	89.4
other,not specified	399	145	2.4	2.4	91.8

Expert (scientist, professor etc.) in:

mathematics	4100	1	.0	.0	91.9
history	4101	3	.0	.0	91.9
statistics, maths	4103	3	.0	.0	92.0
other history	4199	4	.1	.1	92.0
physics	4201	5	.1	.1	92.1
chemistry	4202	11	.2	.2	92.3
astronomy, cosmology	4203	6	.1	.1	92.4
physics, other	4299	1	.0	.0	92.4
earth sciences	4300	2	.0	.0	92.4
geology	4301	4	.1	.1	92.5
hydrology	4302	1	.0	.0	92.5
atmospheric	4303	1	.0	.0	92.5
other earth sciences	4399	1	.0	.0	92.6
biological	4400	4	.1	.1	92.6
molecular	4401	7	.1	.1	92.7
cell	4402	1	.0	.0	92.8
taxonomy	4406	1	.0	.0	92.8
other biology	4499	2	.0	.0	92.8
medical	4500	10	.2	.2	93.0
medical care	4502	24	.4	.4	93.4
dentistry	4504	1	.0	.0	93.4
pharmacy	4505	1	.0	.0	93.4
veterinary	4506	2	.0	.0	93.4
forensic, pathology	4507	2	.0	.0	93.5
psychiatric	4508	1	.0	.0	93.5
dietary, nutrition	4509	1	.0	.0	93.5
other medical	4599	2	.0	.0	93.5
social sciences	4600	2	.0	.0	93.6
anthropology	4601	2	.0	.0	93.6
sociology	4602	7	.1	.1	93.7
economics	4603	16	.3	.3	94.0
psychology	4604	4	.1	.1	94.0
political science	4605	12	.2	.2	94.2
linguistics	4607	1	.0	.0	94.3
management	4608	2	.0	.0	94.3
educational science	4609	14	.2	.2	94.5
other. soc. sciences	4699	14	.2	.2	94.8
technology, engineering	4700	8	.1	.1	94.9
energy, power	4701	3	.0	.0	94.9
traffic	4703	4	.1	.1	95.0
information, communication	4704	1	.0	.0	95.0
military	4705	6	.1	.1	95.1
electro	4707	3	.0	.0	95.2
agriculture, food	4709	2	.0	.0	95.2
operations research	4710	2	.0	.0	95.2
automation, computing	4711	4	.1	.1	95.3
other. tech. engineer.	4799	8	.1	.1	95.4
UFO's	4803	1	.0	.0	95.4
science and tech. as whole	4900	17	.3	.3	95.7
other	4999	5	.1	.1	95.8

Lay person from the area of:

public	5001	121	2.0	2.0	97.8
women	5002	6	.1	.1	97.9
elderly	5005	1	.0	.0	97.9
politics	5100	1	.0	.0	97.9
civil service	5101	3	.0	.0	98.0
cabinet, PM	5102	5	.1	.1	98.1
opposition	5106	1	.0	.0	98.1
Parliament	5107	8	.1	.1	98.2

House of Lords	5108	5	.1	.1	98.3
Conservative party	5109	2	.0	.0	98.3
Liberal party	5111	1	.0	.0	98.4
Other pol.parties	5112	1	.0	.0	98.4
Employers	5114	1	.0	.0	98.4
Pressure group	5115	8	.1	.1	98.5
Professional society	5117	4	.1	.1	98.6
Military	5118	8	.1	.1	98.7
ethical,cultural	5200	1	.0	.0	98.7
education	5202	9	.1	.1	98.9
religion	5203	5	.1	.1	99.0
visual arts	5205	3	.0	.0	99.0
literature	5208	1	.0	.0	99.0
spec. interest group	5212	9	.1	.1	99.2
heritage, Royalty	5215	1	.0	.0	99.2
Other	5299	1	.0	.0	99.2
primary economical	5300	2	.0	.0	99.3
agricultural industry	5312	2	.0	.0	99.3
machine industry (2nd econ)	5322	1	.0	.0	99.3
textile industry	5326	1	.0	.0	99.3
defense industry	5327	1	.0	.0	99.3
construction	5329	2	.0	.0	99.4
engineering business	5331	4	.1	.1	99.4
household goods	5332	1	.0	.0	99.5
other secondary	5339	1	.0	.0	99.5
tertiary economical	5340	1	.0	.0	99.5
banking	5341	1	.0	.0	99.5
business consultancy	5347	1	.0	.0	99.5
health services	5349	8	.1	.1	99.7
other tertiary	5359	3	.0	.0	99.7
scient.technic.institution	5400	2	.0	.0	99.7
University	5401	6	.1	.1	99.8
Nature,natural phenomena	5406	1	.0	.0	99.9
hospitals	5408	3	.0	.0	99.9
Other scientific	5410	6	.1	.1	100.0
.		40	.7	Missing	
Total		6083	100.0	100.0	
Valid cases	6043	Missing cases	40		

Q29 Shortened version of authorship.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
news wire service	1	65	1.1	1.1	1.1
unidentified journalist	2	3562	58.6	58.9	60.0
specialist journalist	3	49	.8	.8	60.8
other	9	21	.3	.3	61.2
Specialist journalist in the area of:					
specialist journalist	300	107	1.8	1.8	62.9
working life	301	11	.2	.2	63.1
health, food, cooking	302	103	1.7	1.7	64.8
wildlife	303	8	.1	.1	65.0
problems with environment	304	10	.2	.2	65.1
science, technology	305	260	4.3	4.3	69.4
defense, military	306	66	1.1	1.1	70.5
space	307	1	.0	.0	70.5
energy	308	7	.1	.1	70.7
traffic, transport	309	88	1.4	1.5	72.1
science policy, funding	310	3	.0	.0	72.2
agriculture, farming	311	39	.6	.6	72.8
gardening	312	5	.1	.1	72.9
credit, property	313	9	.1	.1	73.0
crime, forensic issues	314	14	.2	.2	73.3
legislation, laws	315	20	.3	.3	73.6
'gossip', celebrity	316	29	.5	.5	74.1
social survey, polls	317	3	.0	.0	74.1
consumer issues	318	14	.2	.2	74.4
business, industry	319	122	2.0	2.0	76.4
politics	320	95	1.6	1.6	78.0
education	321	64	1.1	1.1	79.0
labour relations	323	12	.2	.2	79.2
travel, leisure	324	8	.1	.1	79.3
sport	325	7	.1	.1	79.5
arts	326	15	.2	.2	79.7
womens issues	327	6	.1	.1	79.8
parenting, family	328	3	.0	.0	79.9
motoring	330	94	1.5	1.6	81.4
computing	331	9	.1	.1	81.6
childrens section	332	4	.1	.1	81.6
entertainment(TV, film, radio)	333	36	.6	.6	82.2
history	334	7	.1	.1	82.3
letter to editor	336	1	.0	.0	82.4
illness	338	62	1.0	1.0	83.4
financial	339	76	1.2	1.3	84.6
national economy	340	33	.5	.5	85.2
foreign correspondent	341	359	5.9	5.9	91.1
religious issues, cults	342	5	.1	.1	91.2
other, not specified	399	145	2.4	2.4	93.6
expert/scientist	400	258	4.2	4.3	97.9
public	5001	128	2.1	2.1	100.0
.	.	40	.7	Missing	
	Total	6083	100.0	100.0	
Valid cases	6043	Missing cases	40		

Main agent in the narrative.

Q30 Kind of agent.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
material, non human	10	1680	27.6	27.8	27.8
living environment	20	240	3.9	4.0	31.8
body parts and organs	30	36	.6	.6	32.4
individuals	40	180	3.0	3.0	35.4
expert	41	301	4.9	5.0	40.3
authority	42	818	13.4	13.5	53.9
worker	43	315	5.2	5.2	59.1
celebrity	44	88	1.4	1.5	60.5
receiver: patient,prisoner	45	249	4.1	4.1	64.7
in need: child,disabled	46	267	4.4	4.4	69.1
spokesperson	47	12	.2	.2	69.3
choice: client, consumer	48	107	1.8	1.8	71.1
man on the street	49	38	.6	.6	71.7
network/group of people	50	216	3.6	3.6	75.3
formal institutions	60	893	14.7	14.8	90.0
national public	70	116	1.9	1.9	92.0
international community	80	11	.2	.2	92.1
humanity as whole	90	2	.0	.0	92.2
diseases, virus, bacteria	91	111	1.8	1.8	94.0
pharmaceuticals	92	64	1.1	1.1	95.1
toxic waste	93	25	.4	.4	95.5
atomic radiation	94	63	1.0	1.0	96.5
abstract idea	95	210	3.5	3.5	100.0
.	.	41	.7	Missing	
Total		6083	100.0	100.0	

Valid cases 6042 Missing cases 41

Q31 Area of agency.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
General public:					
general public	1	616	10.1	10.2	10.2
women only	2	100	1.6	1.7	11.9
men only	3	9	.1	.1	12.0
children	4	144	2.4	2.4	14.4
elderly	5	14	.2	.2	14.6
Political:					
political	100	49	.8	.8	15.4
civil service	101	53	.9	.9	16.3
cabinet, PM	102	361	5.9	6.0	22.3
governm.commission	103	60	1.0	1.0	23.3
police, prison	104	67	1.1	1.1	24.4
NHS, health org.	105	45	.7	.7	25.1
opposition	106	4	.1	.1	25.2
Parliament	107	28	.5	.5	25.7
House of Lords	108	15	.2	.2	25.9
Conserv.party	109	18	.3	.3	26.2
Labour party	110	18	.3	.3	26.5
Liberal party	111	6	.1	.1	26.6
Other pol.parties	112	23	.4	.4	27.0
Trade unions	113	25	.4	.4	27.4
Employers	114	7	.1	.1	27.5
Pressure group	115	49	.8	.8	28.3
Judiciary	116	21	.3	.3	28.7
Professional society	117	34	.6	.6	29.2
Military	118	304	5.0	5.0	34.3
Secret service	119	19	.3	.3	34.6
Monarchy	120	13	.2	.2	34.8
EC, EEC	121	22	.4	.4	35.2

UN organization	122	22	.4	.4	35.6
other	199	28	.5	.5	36.0
Ethical and cultural:					
cultural	200	8	.1	.1	36.1
charity	201	4	.1	.1	36.2
education	202	120	2.0	2.0	38.2
religion	203	37	.6	.6	38.8
music,opera	204	19	.3	.3	39.1
visual arts	205	26	.4	.4	39.5
media,press	206	107	1.8	1.8	41.3
sports	207	85	1.4	1.4	42.7
literature	208	61	1.0	1.0	43.7
theatre	209	6	.1	.1	43.8
dance	210	1	.0	.0	43.9
cinema, film	211	19	.3	.3	44.2
spec. interest group	212	29	.5	.5	44.7
protest groups	213	3	.0	.0	44.7
ethnic groups	214	5	.1	.1	44.8
heritage, Royalty	215	58	1.0	1.0	45.7
Other	299	60	1.0	1.0	46.7
Production, economical, business:					
Economical, production,	300	179	2.9	3.0	49.7
primary economical	310	4	.1	.1	49.8
energy sector	311	180	3.0	3.0	52.7
agricult.industry	312	71	1.2	1.2	53.9
fishing industry	313	4	.1	.1	54.0
other primary	319	41	.7	.7	54.7
secondary economical	320	15	.2	.2	54.9
chemical industry	321	117	1.9	1.9	56.9
machine industry	322	13	.2	.2	57.1
car industry	323	149	2.4	2.5	59.5
shipping industry	324	64	1.1	1.1	60.6
aircraft industry	325	139	2.3	2.3	62.9
textile industry	326	20	.3	.3	63.2
defense industry	327	31	.5	.5	63.7
food industry	328	54	.9	.9	64.6
construction	329	98	1.6	1.6	66.3
computer industry	330	106	1.7	1.8	68.0
engineering business	331	58	1.0	1.0	69.0
household goods	332	21	.3	.3	69.3
other secondary	339	125	2.1	2.1	71.4
tertiary economical	340	2	.0	.0	71.4
banking	341	38	.6	.6	72.1
insurance	342	8	.1	.1	72.2
London City	343	66	1.1	1.1	73.3
tourist	344	4	.1	.1	73.4
catering	345	8	.1	.1	73.5
Telecommunication	346	40	.7	.7	74.1
Business consultancy	347	8	.1	.1	74.3
Transport	348	115	1.9	1.9	76.2
Health services	349	108	1.8	1.8	78.0
Archit.,engineering	350	29	.5	.5	78.5
Other tertiary	359	74	1.2	1.2	79.7
Scientific, technical:					
scientific,technical	400	129	2.1	2.1	81.8
University	401	229	3.8	3.8	85.6
Industry research	402	22	.4	.4	86.0
Indep.think tank	403	7	.1	.1	86.1
Governm,res.institut	404	124	2.0	2.1	88.1
Funds	405	8	.1	.1	88.3
Nature	406	307	5.0	5.1	93.4
scient.organization	407	78	1.3	1.3	94.7
hospitals	408	148	2.4	2.5	97.1
research lab.	409	50	.8	.8	97.9
Other scientific	410	125	2.1	2.1	100.0
.	.	45	.7	Missing	
		-----	-----	-----	
Total	6083	100.0	100.0		
Valid cases	6038	Missing cases	45		

Q31 Shortened version of the area of agency.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
general public	1	883	14.5	14.6	14.6
political	100	1291	21.2	21.4	36.0
cultural	200	648	10.7	10.7	46.7
economical	300	479	7.9	7.9	54.7
secondary economical	320	1010	16.6	16.7	71.4
tertiary economical	340	500	8.2	8.3	79.7
scientific	400	1227	20.2	20.3	100.0
.	.	45	.7	Missing	
Total		6083	100.0	100.0	

Valid cases 6038 Missing cases 45

Q32 Gender of agent.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
male	1	1319	21.7	51.7	51.7
female	2	350	5.8	13.7	65.4
mixed	3	262	4.3	10.3	75.7
unspecified	4	621	10.2	24.3	100.0
.	.	3531	58.0	Missing	
Total		6083	100.0	100.0	

Valid cases 2552 Missing cases 3531

Q33A-H Characteristics of main agent (Semantic differential).

Q33A Reliable -- Unreliable

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
reliable	1	84	1.4	7.8	7.8
	2	138	2.3	12.9	20.7
	3	125	2.1	11.6	32.3
neutral	4	501	8.2	46.7	79.0
	5	102	1.7	9.5	88.5
	6	64	1.1	6.0	94.5
unreliable	7	59	1.0	5.5	100.0
	.	5010	82.4	Missing	
Total		6083	100.0	100.0	

Valid cases 1073 Missing cases 5010

Q33B Secretive -- Open.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
secretive	1	60	1.0	6.1	6.1
	2	50	.8	5.1	11.2
	3	31	.5	3.1	14.3
neutral	4	496	8.2	50.4	64.7
	5	191	3.1	19.4	84.1
	6	108	1.8	11.0	95.0
open	7	49	.8	5.0	100.0
	.	5098	83.8	Missing	
Total		6083	100.0	100.0	

Valid cases 985 Missing cases 5098

Q33C Competent -- Incompetent.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
competent	1	57	.9	4.6	4.6
	2	124	2.0	10.0	14.6
	3	123	2.0	9.9	24.5
neutral	4	426	7.0	34.3	58.8
	5	155	2.5	12.5	71.3
	6	147	2.4	11.8	83.1
incompetent	7	210	3.5	16.9	100.0
	.	4841	79.6	Missing	
Total		6083	100.0	100.0	

Valid cases 1242 Missing cases 4841

Q33D Responsible -- Irresponsible.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
responsible	1	94	1.5	8.2	8.2
	2	142	2.3	12.3	20.5
	3	123	2.0	10.7	31.2
neutral	4	582	9.6	50.6	81.8
	5	75	1.2	6.5	88.3
	6	60	1.0	5.2	93.6
irresponsible	7	74	1.2	6.4	100.0
	.	4933	81.1	Missing	
Total		6083	100.0	100.0	

Valid cases 1150 Missing cases 4933

Q33E Powerful -- Powerless.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
powerful	1	72	1.2	6.3	6.3
	2	137	2.3	12.0	18.3
	3	124	2.0	10.9	29.2
neutral	4	629	10.3	55.1	84.3
	5	52	.9	4.6	88.9
	6	69	1.1	6.0	94.9
powerless	7	58	1.0	5.1	100.0
	.	4942	81.2	Missing	
Total		6083	100.0	100.0	

Valid cases 1141 Missing cases 4942

Q33F Emotional -- Rational.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
emotional	1	49	.8	5.0	5.0
	2	63	1.0	6.4	11.5
	3	79	1.3	8.1	19.5
neutral	4	682	11.2	69.7	89.3
	5	36	.6	3.7	92.9
	6	45	.7	4.6	97.5
rational	7	24	.4	2.5	100.0
	.	5105	83.9	Missing	
Total		6083	100.0	100.0	

Valid cases 978 Missing cases 5105

Q33G Constructive -- Destructive.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
constructive	1	100	1.6	9.2	9.2
	2	203	3.3	18.7	28.0
	3	142	2.3	13.1	41.1
neutral	4	474	7.8	43.8	84.9
	5	69	1.1	6.4	91.2
	6	44	.7	4.1	95.3
destructive	7	51	.8	4.7	100.0
	.	5000	82.2	Missing	
Total		6083	100.0	100.0	
Valid cases	1083	Missing cases	5000		

Q33H Successful -- Unsuccessful.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
successful	1	68	1.1	5.3	5.3
	2	93	1.5	7.3	12.6
	3	87	1.4	6.8	19.4
neutral	4	490	8.1	38.3	57.7
	5	119	2.0	9.3	67.1
	6	167	2.7	13.1	80.1
unsuccessful	7	254	4.2	19.9	100.0
	.	4805	79.0	Missing	
Total		6083	100.0	100.0	
Valid cases	1278	Missing cases	4805		

The scientific event

Q34 Innovation cycle.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
discovery, invention	1	492	8.1	8.2	8.2
process innovation	2	250	4.1	4.2	12.4
product innovation	3	469	7.7	7.8	20.2
diffusion	4	274	4.5	4.6	24.8
testing, diagnosis,	5	859	14.1	14.4	39.2
conditions (legal, policy)	6	806	13.3	13.5	52.6
allocation of resources	7	771	12.7	12.9	65.5
polls, surveys	8	443	7.3	7.4	72.9
other	9	1620	26.6	27.1	100.0
.	.	99	1.6	Missing	
	Total	6083	100.0	100.0	

Valid cases 5984 Missing cases 99

Q35A-E Scientific, technical processes.

Q35A Method explained.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	2271	37.3	100.0	100.0
.	.	3812	62.7	Missing	
	Total	6083	100.0	100.0	

Valid cases 2271 Missing cases 3812

Q35B Ongoing, starting project.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1977	32.5	100.0	100.0
.	.	4106	67.5	Missing	
	Total	6083	100.0	100.0	

Valid cases 1977 Missing cases 4106

Q35C Results given, terminated project.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	2111	34.7	100.0	100.0
.	.	3972	65.3	Missing	
	Total	6083	100.0	100.0	

Valid cases 2111 Missing cases 3972

Q35D Theory explained.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1662	27.3	100.0	100.0
.	.	4421	72.7	Missing	
Total		6083	100.0	100.0	

Valid cases 1662 Missing cases 4421

Q35E Results explained.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	1387	22.8	100.0	100.0
.	.	4696	77.2	Missing	
Total		6083	100.0	100.0	

Valid cases 1387 Missing cases 4696

Q36 Academic field.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
History, philosophy, mathematic:					
history, philosophy,mathem.	100	4	.1	.1	.1
history, archaeology	101	84	1.4	1.4	1.5
epistemology of science	102	7	.1	.1	1.6
statistics,mathematics,logic	103	129	2.1	2.1	3.7
other history	199	16	.3	.3	4.0
Physical (physics, chemistry, astronomy):					
physical (physics,chem,astro)	200	10	.2	.2	4.2
physics	201	51	.8	.8	5.0
chemistry, biochemists	202	110	1.8	1.8	6.8
astronomy,cosmology	203	72	1.2	1.2	8.0
other physics	299	6	.1	.1	8.1
Earth sciences:					
earth sciences	300	22	.4	.4	8.5
geology	301	32	.5	.5	9.0
hydrology	302	17	.3	.3	9.3
atmospheric	303	67	1.1	1.1	10.4
other earth sciences	399	36	.6	.6	11.0
Biological:					
biological	400	23	.4	.4	11.4
molecular	401	33	.5	.5	12.0
cell	402	25	.4	.4	12.4
organismic	404	149	2.4	2.5	14.9
population	405	48	.8	.8	15.7
taxonomy	406	2	.0	.0	15.7
other biological	499	52	.9	.9	16.6
Medical:					
medical	500	114	1.9	1.9	18.5
medical care	502	460	7.6	7.7	26.1
surgery	503	146	2.4	2.4	28.5
dentistry	504	21	.3	.3	28.9
pharmacy	505	74	1.2	1.2	30.1
veterinary	506	53	.9	.9	31.0
forensic,pathological	507	59	1.0	1.0	32.0
psychiatric	508	61	1.0	1.0	33.0

dietry,nutrition	509	54	.9	.9	33.9
other medical	599	113	1.9	1.9	35.8
Social sciences:					
social sciences	600	81	1.3	1.3	37.1
anthropology	601	20	.3	.3	37.5
sociology	602	104	1.7	1.7	39.2
economics	603	462	7.6	7.7	46.9
psychology	604	162	2.7	2.7	49.6
political science	605	163	2.7	2.7	52.3
geography	606	9	.1	.1	52.4
linguistics	607	13	.2	.2	52.7
management	608	35	.6	.6	53.2
educational science	609	179	2.9	3.0	56.2
oth.soc.sciences	699	282	4.6	4.7	60.9
Technology and engineering:					
technology/engineering	700	92	1.5	1.5	62.5
energy,power	701	251	4.1	4.2	66.6
chemical	702	30	.5	.5	67.1
traffic	703	552	9.1	9.2	76.3
information, communication	704	134	2.2	2.2	78.5
military	705	438	7.2	7.3	85.8
medical	706	22	.4	.4	86.2
electro	707	64	1.1	1.1	87.3
printing	708	2	.0	.0	87.3
agriculture, food	709	114	1.9	1.9	89.2
operation research	710	9	.1	.1	89.3
automatation, computing	711	158	2.6	2.6	92.0
new material	712	84	1.4	1.4	93.4
architecture	713	2	.0	.0	93.4
oth.techn.engineer.	799	238	3.9	4.0	97.4
Parascience:					
astrology	801	1	.0	.0	97.4
UFO's	803	5	.1	.1	97.5
oth. parascience	899	17	.3	.3	97.8
science and techn.as whole	900	88	1.4	1.5	99.2
other	999	47	.8	.8	100.0
.	.	75	1.2	Missing	
Total	6083	100.0	100.0		
Valid cases	6008	Missing cases	75		

Q36 Shortened version of academic field.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
history, philosophy,	100	240	3.9	4.0	4.0
physical	200	249	4.1	4.1	8.1
earth sciences	300	174	2.9	2.9	11.0
biological	400	332	5.5	5.5	16.6
medical	500	1155	19.0	19.2	35.8
social sciences	600	1510	24.8	25.1	60.9
technology/engineering	700	2190	36.0	36.5	97.4
parasciences	800	23	.4	.4	97.8
science as a whole	900	88	1.4	1.5	99.2
others	999	47	.8	.8	100.0
.	.	75	1.2	Missing	
Total	6083	100.0	100.0		
Valid cases	6008	Missing cases	75		

Q37 'Big science' - strategic technology after 1945.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
nuclear power, weapon	1	502	8.3	34.5	34.5
bioengineering, biotechn.	2	55	.9	3.8	38.3
info.technol. computing	3	276	4.5	19.0	57.3
space technology	4	170	2.8	11.7	68.9
war with cancer	5	52	.9	3.6	72.5
environment, protection	6	163	2.7	11.2	83.7
HIV and AIDS	7	35	.6	2.4	86.1
the pill, family planning	8	69	1.1	4.7	90.9
alternative energy,	9	38	.6	2.6	93.5
medical technology;transpl.	10	95	1.6	6.5	100.0
.	.	4628	76.1	Missing	
Total		6083	100.0	100.0	

Valid cases 1455 Missing cases 4628

Q38 Locality of the scientific event.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Britain:					
Britain	100	2846	46.8	49.2	49.2
Greater London	101	414	6.8	7.2	56.4
South	102	246	4.0	4.3	60.6
Midland	103	136	2.2	2.4	63.0
North	104	134	2.2	2.3	65.3
Scotland	105	74	1.2	1.3	66.6
Wales	106	34	.6	.6	67.2
Northern Ireland	107	19	.3	.3	67.5
Cambridge	108	29	.5	.5	68.0
Oxford	109	20	.3	.3	68.4
Other, continental Europe:					
Europe	200	70	1.2	1.2	69.6
(West)Germany	201	73	1.2	1.3	70.8
East Germany	202	5	.1	.1	70.9
France	203	90	1.5	1.6	72.5
Italy	204	38	.6	.7	73.1
Spain	205	15	.2	.3	73.4
Portugal	206	1	.0	.0	73.4
Holland	207	7	.1	.1	73.5
Belgium	208	10	.2	.2	73.7
Ireland	209	15	.2	.3	74.0
Luxembourg	210	2	.0	.0	74.0
Denmark	211	3	.0	.1	74.1
Sweden	212	23	.4	.4	74.5
Norway	213	3	.0	.1	74.5
Finland	214	1	.0	.0	74.5
Czechoslovakia	216	5	.1	.1	74.6
Switzerland	217	30	.5	.5	75.1
Austria	219	3	.0	.1	75.2
Hungary	220	6	.1	.1	75.3
Rumania	222	4	.1	.1	75.4
Jugoslavia	223	3	.0	.1	75.4
Greece	225	8	.1	.1	75.5
Iceland	226	3	.0	.1	75.6
Malta	227	2	.0	.0	75.6
Cyprus	228	3	.0	.1	75.7
Poland	230	5	.1	.1	75.8
Soviet,Russia	231	87	1.4	1.5	77.3
Other	299	4	.1	.1	77.3
North America:					
North America	300	45	.7	.8	78.1
USA	310	283	4.7	4.9	83.0

Eastcoast	311	104	1.7	1.8	84.8
Westcoast	312	51	.8	.9	85.7
South	313	29	.5	.5	86.2
Midwest	314	14	.2	.2	86.4
Rocky Mountains	315	3	.0	.1	86.5
Alaska	317	1	.0	.0	86.5
Canada	320	22	.4	.4	86.9
The Plains	326	1	.0	.0	86.9
South America:					
South America	400	4	.1	.1	87.0
Brazil	401	3	.0	.1	87.0
Argentina	402	3	.0	.1	87.1
Mexico	403	5	.1	.1	87.2
Carribean	404	3	.0	.1	87.2
Venezuela	405	2	.0	.0	87.3
Colombia	406	2	.0	.0	87.3
Peru	407	2	.0	.0	87.3
Bolivia	408	1	.0	.0	87.3
Others	499	14	.2	.2	87.6
Asia:					
Asia	500	4	.1	.1	87.6
Turkey	501	5	.1	.1	87.7
USSR	502	5	.1	.1	87.8
Syria	503	1	.0	.0	87.8
Jordania	505	2	.0	.0	87.9
S Arab. Peninsula	506	5	.1	.1	88.0
Israel	507	12	.2	.2	88.2
Iraq	508	7	.1	.1	88.3
Iran	509	6	.1	.1	88.4
Pakistan	510	2	.0	.0	88.4
Afghanistan	511	2	.0	.0	88.5
India	512	23	.4	.4	88.9
Nepal	513	3	.0	.1	88.9
Burma	515	2	.0	.0	88.9
Thailand	516	2	.0	.0	89.0
Vietnam	518	7	.1	.1	89.1
China	519	25	.4	.4	89.5
Japan	520	23	.4	.4	89.9
Philippines	521	1	.0	.0	89.9
Indonesia	522	4	.1	.1	90.0
Malaysia	523	4	.1	.1	90.1
Bangladesh	524	2	.0	.0	90.1
Far East	525	1	.0	.0	90.1
S,N Korea	527	6	.1	.1	90.2
Oth Asia	599	18	.3	.3	90.6
Africa:					
Africa	600	9	.1	.2	90.7
Algeria	601	1	.0	.0	90.7
Tunisia	602	1	.0	.0	90.7
Morocco	603	2	.0	.0	90.8
Egypt	604	9	.1	.2	90.9
Lybia	605	2	.0	.0	91.0
E Africa	608	10	.2	.2	91.1
W Africa	609	7	.1	.1	91.3
Saharan Africa	610	1	.0	.0	91.3
Central Africa	611	2	.0	.0	91.3
Congo	612	3	.0	.1	91.4
Zaire	613	1	.0	.0	91.4
Angola	614	2	.0	.0	91.4
Southern Africa	615	7	.1	.1	91.5
Rhodesia Zimbabwe	616	1	.0	.0	91.6
S Africa	617	14	.2	.2	91.8
Other Africa	699	7	.1	.1	91.9
Australia:					
Australia	700	4	.1	.1	92.0
Australia	701	46	.8	.8	92.8
New Zealand	702	10	.2	.2	93.0
Pacific Isl. & Atoll	704	15	.2	.3	93.2

Antartica, Arctic	800	24	.4	.4	93.6
the world	900	93	1.5	1.6	95.2
in space	901	80	1.3	1.4	96.6
in the air	902	4	.1	.1	96.7
on the sea	903	58	1.0	1.0	97.7
the first world, industrial	904	36	.6	.6	98.3
the second world, East bloc	905	2	.0	.0	98.4
the third world, developing	906	7	.1	.1	98.5
Anglo-American	908	38	.6	.7	99.1
Commonwealth	909	3	.0	.1	99.2
EEC	910	15	.2	.3	99.4
OECD	911	3	.0	.1	99.5
Nato countries	912	13	.2	.2	99.7
The middle East	913	4	.1	.1	99.8
the Allies	914	3	.0	.1	99.8
other	999	9	.1	.2	100.0
.		302	5.0	Missing	
Total		6083	100.0	100.0	

Valid cases 5781 Missing cases 302

Q38 Shortened version of locality.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Britain	100	3952	65.0	68.4	68.4
Europe	200	519	8.5	9.0	77.3
North America	300	553	9.1	9.6	86.9
South America	400	39	.6	.7	87.6
Asia	500	172	2.8	3.0	90.6
Africa	600	79	1.3	1.4	91.9
Australia	700	75	1.2	1.4	93.2
Antartica, Arctic	800	24	.4	.4	93.6
the world	900	93	1.5	1.6	95.2
in space	901	80	1.3	1.4	96.6
in the air	902	4	.1	.1	96.7
on the sea	903	58	1.0	1.0	97.7
the first world, industrial	904	36	.6	.6	98.3
the second world, East bloc	905	2	.0	.0	98.4
the third world, developing	906	7	.1	.1	98.5
Anglo-American	908	38	.6	.7	99.1
Commonwealth	909	3	.0	.1	99.2
EEC	910	15	.2	.3	99.4
OECD	911	3	.0	.1	99.5
Nato countries	912	13	.2	.2	99.7
The middle East	913	4	.1	.1	99.8
the Allies	914	3	.0	.1	99.8
other	999	9	.1	.2	100.0
.		302	5.0	Missing	
Total		6083	100.0	100.0	

Valid cases 5781 Missing cases 302

Q39 Research collaboration.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
only one country	1	419	6.9	36.2	36.2
Britain and another	2	553	9.1	47.8	84.1
any other collaboration	3	184	3.0	15.9	100.0
.		4927	81.0	Missing	
Total		6083	100.0	100.0	

Valid cases 1156 Missing cases 4927

Q40 Time horizon into the future.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
up to 1 year	1	384	6.3	17.1	17.1
up to 5 yrs	2	200	3.3	8.9	26.1
up to 10 yrs	3	95	1.6	4.2	30.3
up to 25 yrs	4	53	.9	2.4	32.7
within life time (26-70 years)	5	25	.4	1.1	33.8
wider into future (centuries)	6	9	.1	.4	34.2
evolutionary time	7	3	.0	.1	34.3
unspecified	9	1472	24.2	65.7	100.0
.	.	3842	63.2	Missing	
Total		6083	100.0	100.0	

Valid cases 2241 Missing cases 3842

Q41 Time horizon into the past.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
up to 1 year	1	609	10.0	25.2	25.2
up to 5 yrs	2	430	7.1	17.8	43.0
up to 10 yrs	3	245	4.0	10.1	53.2
up to 25 yrs	4	221	3.6	9.2	62.3
within living memory	5	298	4.9	12.3	74.7
earlier, historical time	6	236	3.9	9.8	84.5
geological/evolution	7	28	.5	1.2	85.6
unspecified	9	347	5.7	14.4	100.0
.	.	3669	60.3	Missing	
Total		6083	100.0	100.0	

Valid cases 2414 Missing cases 3669

Q42 Historical explanation - area of agency.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
General public:					
general public	1	105	1.7	5.0	5.0
women only	2	8	.1	.4	5.3
men only	3	2	.0	.2	5.5
children	4	7	.1	.3	5.8
Political:					
political	100	58	1.0	2.7	8.6
civil service	101	27	.4	1.3	9.8
cabinet, PM	102	93	1.5	4.4	14.2
governm.commission	103	18	.3	.9	15.1
police, prison	104	34	.6	1.6	16.7
NHS, health organization	105	22	.4	1.0	17.7
opposition	106	3	.0	.1	17.9
Parliament	107	13	.2	.6	18.5
House of Lords	108	3	.0	.1	18.6
Conservative party	109	7	.1	.3	19.0
Labour party	110	4	.1	.2	19.2
Other political parties	112	9	.1	.4	19.6
Trade unions	113	11	.2	.5	20.1
Employers	114	4	.1	.2	20.3
Pressure group	115	15	.2	.7	21.0
Judiciary	116	23	.4	1.1	22.1
Professional society	117	18	.3	.9	23.0
Military	118	195	3.2	9.2	32.2
Secret service	119	12	.2	.6	32.7
Monarchy	120	5	.1	.2	33.0
EC, EEC	121	3	.0	.1	33.1

UN organization	122	9	.1	.4	33.6
NATO	123	1	.0	.0	33.6
other	199	9	.1	.4	34.0

Ethical and cultural:

cultural	200	6	.1	.3	34.3
charity	201	3	.0	.1	34.5
education	202	37	.6	1.8	36.2
religion	203	20	.3	.9	37.2
music,opera	204	8	.1	.4	37.5
visual arts	205	8	.1	.4	37.9
media,press	206	22	.4	1.0	38.9
sports	207	27	.4	1.3	40.2
literature	208	23	.4	1.1	41.3
theatre	209	2	.0	.1	41.4
cinema, film	211	6	.1	.3	41.7
spec. interest group	212	10	.2	.5	42.2
ethnic groups	214	2	.0	.1	42.3
heritage, Royalty	215	27	.4	1.3	43.5
Other	299	18	.3	.9	44.4

Production, economical, business:

economical	300	94	1.5	4.4	48.8
primary economical	310	1	.0	.0	48.9
energy sector	311	74	1.2	3.5	52.4
agricult.industry	312	32	.5	1.5	53.9
fishing industry	313	3	.0	.1	54.0
other primary	319	15	.2	.7	54.8
secondary economical	320	6	.1	.3	55.0
chemical industry	321	29	.5	1.4	56.4
machine industry	322	6	.1	.3	56.7
car industry	323	26	.4	1.2	57.9
shipping industry	324	17	.3	.8	58.7
aircraft industry	325	28	.5	1.3	60.1
textile industry	326	8	.1	.4	60.4
defense industry	327	17	.3	.8	61.2
food industry	328	12	.2	.6	61.8
construction	329	42	.7	2.0	63.8
computer industry	330	21	.3	1.0	64.8
engineering business	331	12	.2	.6	65.4
household goods	332	6	.1	.3	65.6
other secondary	339	24	.4	1.1	66.8
tertiary economic	340	1	.0	.0	66.8
banking	341	21	.3	1.0	67.8
insurance	342	1	.0	.0	67.9
London City	343	20	.3	.9	68.8
tourist	344	1	.0	.0	68.9
catering	345	1	.0	.0	68.9
Telecommunication	346	12	.2	.6	69.5
Business consultancy	347	3	.0	.1	69.6
Transport	348	57	.9	2.7	72.3
Health services	349	52	.9	2.5	74.8
Architecture, engineering	350	14	.2	.7	75.4
Other tertiary	359	26	.4	1.2	76.7

Scientific, technical (institutional truth):

scientific	400	62	1.0	2.9	79.6
University	401	71	1.2	3.4	83.0
Industry research	402	8	.1	.4	83.3
Independent 'think tanks'	403	2	.0	.1	83.4
Governm.res.institut	404	38	.6	1.8	85.2
Funds, foundations	405	3	.0	.1	85.4
Nature	406	83	1.4	3.9	89.3
scientific organization	407	30	.5	1.4	90.7
hospitals	408	122	2.0	5.8	96.5
research laboratories	409	32	.5	1.5	98.0
Other scientific	410	42	.7	2.0	100.0
.		3970	65.3	Missing	
Total		6083	100.0	100.0	

Valid cases 2113 Missing cases 3970

Q42 A shortened version of historical explanations.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
general public	1	123	2.0	5.8	5.8
political	100	596	9.8	28.2	34.0
cultural	200	219	3.6	10.4	44.4
economical	300	219	3.6	10.4	54.8
secondary economical	320	254	4.2	12.0	66.8
tertiary economical	340	209	3.4	9.9	76.7
scientific	400	493	8.1	23.3	100.0
.	.	3970	65.3	Missing	
	Total	6083	100.0	100.0	

Valid cases 2113 Missing cases 3970

Background agent

Q43 Salience of background agent.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
explicit	1	5242	86.2	100.0	100.0
	.	841	13.8	Missing	
	Total	6083	100.0	100.0	
Valid cases	5242	Missing cases	841		

Q44 Kind of background agent.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
material, non-human living environment, body parts, organs	10	156	2.6	2.8	2.8
	20	27	.4	.5	3.3
	30	2	.0	.0	3.3
individuals	40	51	.8	.9	4.2
expert	41	257	4.2	4.6	8.8
authority	42	1370	22.5	24.3	33.1
worker	43	120	2.0	2.1	35.2
celebrity	44	17	.3	.3	35.5
receiver:patient, prisoner	45	35	.6	.6	36.2
in need:child, disabled	46	21	.3	.4	36.5
spokesperson	47	42	.7	.7	37.3
choice:client, consumer	48	29	.5	.5	37.8
man on the street	49	8	.1	.1	37.9
network/group of people	50	262	4.3	4.7	42.6
formal institutions	60	3147	51.7	55.9	98.5
national public	70	37	.6	.7	99.1
international community	80	10	.2	.2	99.3
disease	91	14	.2	.2	99.6
pharmaceuticals	92	9	.1	.2	99.7
toxic waste	93	1	.0	.0	99.8
atomic radiation	94	3	.0	.1	99.8
abstract idea	95	11	.2	.2	100.0
	.	454	7.5	Missing	
	Total	6083	100.0	100.0	
Valid cases	5629	Missing cases	454		

Q45 Area of agency

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
General public:					
general public	1	128	2.1	2.3	2.3
women only	2	15	.2	.3	2.5
men only	3	2	.0	.0	2.6
children	4	14	.2	.2	2.8
elderly	5	1	.0	.0	2.8
Political:					
political	100	41	.7	.7	3.6
civil service	101	205	3.4	3.6	7.2
cabinet, PM	102	705	11.6	12.5	19.7

governm.commission	103	177	2.9	3.1	22.9
police, prison	104	90	1.5	1.6	24.5
NHS, health org.	105	88	1.4	1.6	26.0
opposition	106	11	.2	.2	26.2
Parliament	107	37	.6	.7	26.9
House of Lords	108	27	.4	.5	27.4
Conservative party	109	20	.3	.4	27.7
Labour party	110	10	.2	.2	27.9
Liberal party	111	1	.0	.0	27.9
Other political parties	112	15	.2	.3	28.2
Trade unions	113	27	.4	.5	28.7
Employers	114	10	.2	.2	28.8
Pressure group	115	143	2.4	2.5	31.4
Judiciary	116	62	1.0	1.1	32.5
Professional society	117	104	1.7	1.8	34.3
Military	118	253	4.2	4.5	38.8
Secrete service	119	12	.2	.2	39.0
Monarchy	120	9	.1	.2	39.2
EC, EEC	121	32	.5	.6	39.7
UN organization	122	52	.9	.9	40.7
NATO	123	14	.2	.2	40.9
other	199	49	.8	.9	41.8

Ethical and cultural:

cultural	200	6	.1	.1	41.9
charity	201	11	.2	.2	42.1
education	202	72	1.2	1.3	43.4
religion	203	33	.5	.6	44.0
music,opera	204	9	.1	.2	44.1
visual arts	205	10	.2	.2	44.3
media,press	206	153	2.5	2.7	47.0
sports	207	40	.7	.7	47.7
literature	208	22	.4	.4	48.1
theatre	209	4	.1	.1	48.2
cinema, film	211	9	.1	.2	48.3
spec. interest group	212	36	.6	.6	49.0
protest groups	213	5	.1	.1	49.1
ethnic groups	214	1	.0	.0	49.1
heritage, Royalty	215	25	.4	.4	49.5
Other	299	58	1.0	1.0	50.6

Production, economical, business:

economical	300	62	1.0	1.1	51.7
primary economical	310	2	.0	.0	51.7
energy sector	311	131	2.2	2.3	54.0
agricult.industry	312	24	.4	.4	54.4
fishing industry	313	2	.0	.0	54.5
other primary	319	22	.4	.4	54.9
secondary economical	320	10	.2	.2	55.1
chemical industry	321	76	1.2	1.3	56.4
machine industry	322	7	.1	.1	56.5
car industry	323	104	1.7	1.8	58.4
shipping industry	324	35	.6	.6	59.0
aircraft industry	325	96	1.6	1.7	60.7
textile industry	326	16	.3	.3	61.0
defense industry	327	29	.5	.5	61.5
food industry	328	23	.4	.4	61.9
construction	329	46	.8	.8	62.7
computer industry	330	59	1.0	1.0	63.8
engineering business	331	37	.6	.7	64.4
household goods	332	12	.2	.2	64.6
other secondary	339	54	.9	1.0	65.6
tertiary economical	340	4	.1	.1	65.7
banking	341	29	.5	.5	66.2
insurance	342	10	.2	.2	66.4
London City	343	41	.7	.7	67.1
tourist	344	1	.0	.0	67.1
catering	345	1	.0	.0	67.1
Telecommunication	346	27	.4	.5	67.6
Business consultancy	347	7	.1	.1	67.7
Transport	348	60	1.0	1.1	68.8
Health services	349	126	2.1	2.2	71.0
Archit.,engineering	350	27	.4	.5	71.5
Other tertiary	359	56	.9	1.0	72.5

Scientific, technical (institutional truth):

scientific	400	127	2.1	2.3	74.8
University	401	386	6.3	6.9	81.6
Industry research	402	40	.7	.7	82.3
Independent 'think tank'	403	8	.1	.1	82.5
Governm. research institute	404	184	3.0	3.3	85.7
Funds, foundations	405	30	.5	.5	86.3
Nature, natural phenomena	406	46	.8	.8	87.1
scientific organization	407	134	2.2	2.4	89.5
hospitals	408	350	5.8	6.2	95.7
research laboratories	409	55	.9	1.0	96.6
Other scientific	410	189	3.1	3.4	100.0
.	.	450	7.4	Missing	
Total	6083	100.0	100.0		

Valid cases 5633 Missing cases 450

Q45 A shortened version of area of agency.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
general public	1	160	2.6	2.8	2.8
political	100	2194	36.1	38.9	41.8
cultural	200	494	8.1	8.8	50.6
economical	300	243	4.0	4.3	54.9
secondary economical	320	604	9.9	10.7	65.6
tertiary economical	340	389	6.4	6.9	72.5
scientific	400	1549	25.5	27.5	100.0
.	.	450	7.4	Missing	
Total	6083	100.0	100.0		

Valid cases 5633 Missing cases 450

Q46 Gender of agent.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
male	1	1378	22.7	69.7	69.7
female	2	149	2.4	7.5	77.2
mixed	3	65	1.1	3.3	80.5
unspecified	4	386	6.3	19.5	100.0
.	.	4105	67.5	Missing	
Total	6083	100.0	100.0		

Valid cases 1978 Missing cases 4105

Consequences

Q47 Locus of control: can one do something about it

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
totally controllable	1	2892	47.5	63.4	63.4
partially controllable	2	1395	22.9	30.6	94.0
uncontrollable	3	275	4.5	6.0	100.0
.	.	1521	25.0	Missing	
	Total	6083	100.0	100.0	

Valid cases 4562 Missing cases 1521

Q48A-D Positive consequences, benefit, utilities.

Q48A Benefit, utility mentioned.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	3180	52.3	100.0	100.0
.	.	2903	47.7	Missing	
	Total	6083	100.0	100.0	

Valid cases 3180 Missing cases 2903

Q48B Was there a probability argument?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	641	10.5	100.0	100.0
.	.	5442	89.5	Missing	
	Total	6083	100.0	100.0	

Valid cases 641 Missing cases 5442

Q48C First order (positive) consequences.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Social well-being:					
social well-being	10	89	1.5	2.8	2.8
health	11	353	5.8	11.1	13.9
mortality	12	157	2.6	5.0	18.9
safety	13	130	2.1	4.1	23.0
mental state	14	65	1.1	2.1	25.1
Cultural, symbolic, moral:					
cultural-symbolic	20	39	.6	1.2	26.3
national prestige	21	60	1.0	1.9	28.2
progress	22	40	.7	1.3	29.4
ethical, moral status	23	77	1.3	2.4	31.9
variety	24	32	.5	1.0	32.9
education, culture	25	137	2.3	4.3	37.2
discrimination, deprivation	26	43	.7	1.4	38.6

Politics, power:

politics,power	30	38	.6	1.2	39.8
change	31	23	.4	.7	40.5
stability	32	42	.7	1.3	41.8
others	33	23	.4	.7	42.5

Economical, financial:

economical, financial	40	72	1.2	2.3	44.8
jobs	41	81	1.3	2.6	47.4
work conditions, safety	42	17	.3	.5	47.9
working hours	43	7	.1	.2	48.1
wages, living standard	44	38	.6	1.2	49.3
profits, loss	45	261	4.3	8.2	57.6
markets, business opport.	46	88	1.4	2.8	60.3
growth	47	82	1.3	2.6	62.9
competition situation	48	56	.9	1.8	64.7
service, product quality	49	473	7.8	14.9	79.6

Scientific:

scientific	50	20	.3	.6	80.2
knowledge	51	403	6.6	12.7	93.0
man power mobil.(brain drain)	52	16	.3	.5	93.5
infrastructure	53	21	.3	.7	94.1

Ecological, environmental:

ecological, environmental	60	37	.6	1.2	95.3
radioactivity	61	7	.1	.2	95.5
biodiversity, conservation	62	30	.5	.9	96.5
pollution, cleaning	63	49	.8	1.5	98.0
desertification, draught	64	6	.1	.2	98.2
energy provision	66	57	.9	1.8	100.0
.	.	2914	47.9	Missing	
Total		6083	100.0	100.0	

Valid cases 3169 Missing cases 2914

Q48C A shortened version of the first order (positive) consequences.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
social well-being	10	794	13.1	25.1	25.1
cultural-symbolic	20	428	7.0	13.5	38.6
politics-power	30	126	2.1	4.0	42.5
economical	40	1175	19.3	37.1	79.6
scientific	50	460	7.6	14.5	94.1
ecology-environment	60	186	3.1	5.9	100.0
.	.	2914	47.9	Missing	
Total		6083	100.0	100.0	

Valid cases 3169 Missing cases 2914

Q48D Second order (positive) consequences.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Social, well being:					
social well-being	10	42	.7	3.4	3.4
health	11	87	1.4	7.1	10.5
mortality	12	57	.9	4.6	15.1
safety	13	58	1.0	4.7	19.8
mental state	14	55	.9	4.5	24.3

Cultural, symbolic, moral:

cultural,symbolic	20	25	.4	2.0	26.3
national prestige	21	37	.6	3.0	29.3
progress	22	36	.6	2.9	32.3
ethical, moral status	23	17	.3	1.4	33.6
variety	24	11	.2	.9	34.5
education, culture	25	63	1.0	5.1	39.6
discrimination, deprivation	26	20	.3	1.6	41.3

Politics, power:

politics,power	30	13	.2	1.1	42.3
change	31	5	.1	.4	42.7
stability, unrest	32	14	.2	1.1	43.9
others	33	9	.1	.7	44.6

Economical, financial:

economical	40	34	.6	2.8	47.4
jobs	41	35	.6	2.8	50.2
work conditions, safety	42	17	.3	1.4	51.6
working hours	43	7	.1	.6	52.2
wages, living standard	44	15	.2	1.2	53.4
profit,loss	45	136	2.2	11.0	64.4
markets, business opport.	46	60	1.0	4.9	69.3
growth	47	62	1.0	5.0	74.3
competition situation	48	61	1.0	5.0	79.3
service, product quality	49	98	1.6	8.0	87.2

Scientific:

scientific	50	9	.1	.7	88.0
knowledge	51	65	1.1	5.3	93.3
manpower mobil.(brain drain)	52	7	.1	.6	93.8
infrastructure	53	12	.2	1.0	94.8

Ecological, environmental:

ecological, environmental	60	21	.3	1.7	96.5
radioactivity	61	8	.1	.6	97.2
biodiversity, conservation	62	9	.1	.7	97.9
pollution, cleaning	63	14	.2	1.1	99.0
desertification, draught	64	1	.0	.1	99.1
erosion, deforestation	65	3	.0	.2	99.4
energy provision	66	8	.1	.6	100.0
.		4852	79.8	Missing	

Total -----
 6083 100.0 100.0

Valid cases 1231 Missing cases 4852

Q48D A shortened version of the second order (positive) consequences.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
social well-being	10	299	4.9	24.3	24.3
cultural,symbolic	20	209	3.4	17.0	41.3
politics,power	30	41	.7	3.3	44.6
economical	40	525	8.6	42.6	87.2
scientific	50	93	1.5	7.6	94.8
ecology,environment	60	64	1.1	5.2	100.0
.		4852	79.8	Missing	
Total		6083	100.0	100.0	

Valid cases 1231 Missing cases 4852

Q49 Kind of winning agent.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
material, non-human	10	25	.4	.8	.8
living environment,	20	80	1.3	2.6	3.4
body parts and organ	30	1	.0	.0	3.4
individuals	40	82	1.3	2.6	6.0
expert	41	106	1.7	3.4	9.4
authority	42	110	1.8	3.5	13.0
worker	43	190	3.1	6.1	19.1
celebrity	44	23	.4	.7	19.8
receiver:patient, prisoner	45	237	3.9	7.6	27.4
in need:child, disabled	46	222	3.6	7.1	34.5
choice:client, consumer	48	530	8.7	17.0	51.5
man on the street	49	75	1.2	2.4	53.9
network/group of people	50	129	2.1	4.1	58.1
formal institutions	60	902	14.8	28.9	87.0
general public	70	332	5.5	10.7	97.7
international community	80	36	.6	1.2	98.8
humanity as a whole	90	34	.6	1.1	99.9
desease, virus, bacteria	91	1	.0	.0	99.9
abstract idea	95	2	.0	.1	100.0
.	.	2966	48.8	Missing	
Total		6083	100.0	100.0	
Valid cases	3117	Missing cases	2966		

Q50 Area of agency of winner.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
General public:					
general public	1	1126	18.5	36.2	36.2
women only	2	66	1.1	2.1	38.3
men only	3	3	.0	.1	38.4
children	4	120	2.0	3.9	42.2
elderly	5	14	.2	.4	42.7
embryo	6	2	.0	.1	42.8
Political:					
political	100	43	.7	1.4	44.1
civil service	101	11	.2	.4	44.5
cabinet, PM	102	106	1.7	3.4	47.9
government commission	103	2	.0	.1	48.0
police, prison	104	31	.5	1.0	49.0
NHS, health organization	105	14	.2	.4	49.4
Parliament	107	6	.1	.2	49.6
House of Lords	108	1	.0	.0	49.6
Conservative party	109	7	.1	.2	49.9
Labour party	110	11	.2	.4	50.2
Liberal party	111	1	.0	.0	50.2
Other political parties	112	5	.1	.2	50.4
Trade unions	113	3	.0	.1	50.5
Employers	114	4	.1	.1	50.6
Pressure group	115	8	.1	.3	50.9
Judiciary	116	2	.0	.1	50.9
Professional society	117	5	.1	.2	51.1
Military	118	154	2.5	4.9	56.1
Secret service	119	3	.0	.1	56.2
Monarchy	120	3	.0	.1	56.2
EC, EEC	121	1	.0	.0	56.3
UN organization	122	2	.0	.1	56.3
NATO	123	4	.1	.1	56.5
other	199	8	.1	.3	56.7

Ethical and cultural (truth, beauty):

cultural	200	2	.0	.1	56.8
charity	201	1	.0	.0	56.8
education	202	60	1.0	1.9	58.8
religion	203	7	.1	.2	59.0
music,opera	204	6	.1	.2	59.2
visual arts	205	7	.1	.2	59.4
media,press	206	16	.3	.5	59.9
sports	207	41	.7	1.3	61.2
literature	208	2	.0	.1	61.3
cinema, film	211	3	.0	.1	61.4
spec. interest group	212	16	.3	.5	61.9
protest groups	213	1	.0	.0	61.9
ethnic groups	214	3	.0	.1	62.0
heritage, Royalty	215	21	.3	.7	62.7
Other	299	16	.3	.5	63.2

Production, economical, business (money):

Economical	300	177	2.9	5.7	68.9
Primary economical	310	2	.0	.1	69.0
energy sector	311	72	1.2	2.3	71.3
agricult.industry	312	52	.9	1.7	73.0
fishing industry	313	4	.1	.1	73.1
other primary	319	11	.2	.4	73.4
Secondary economical	320	10	.2	.3	73.8
chemical industry	321	18	.3	.6	74.3
machine industry	322	8	.1	.3	74.6
car industry	323	41	.7	1.3	75.9
shipping industry	324	19	.3	.6	76.5
aircraft industry	325	64	1.1	2.1	78.6
textile industry	326	6	.1	.2	78.8
defense industry	327	8	.1	.3	79.0
food industry	328	14	.2	.4	79.5
construction	329	22	.4	.7	80.2
computer industry	330	37	.6	1.2	81.4
engineering business	331	22	.4	.7	82.1
household goods	332	3	.0	.1	82.2
other secondary	339	37	.6	1.2	83.4
Tertiary economical	340	3	.0	.1	83.5
banking	341	5	.1	.2	83.6
insurance	342	2	.0	.1	83.7
London City	343	17	.3	.5	84.2
tourist	344	3	.0	.1	84.3
catering	345	1	.0	.0	84.4
Telecommunication	346	9	.1	.3	84.6
Business consultancy	347	3	.0	.1	84.7
Transport	348	40	.7	1.3	86.0
Health services	349	25	.4	.8	86.8
Archit.,engineering	350	4	.1	.1	87.0
Other tertiary	359	29	.5	.9	87.9

Scientific, technical (institutional truths).

scientific	400	71	1.2	2.3	90.2
University	401	92	1.5	3.0	93.1
Industry research	402	4	.1	.1	93.3
Government, research institute	404	34	.6	1.1	94.3
Funds, foundations	405	4	.1	.1	94.5
Nature, natural phenomena	406	62	1.0	2.0	96.5
scient.organization	407	14	.2	.4	96.9
hospitals	408	36	.6	1.2	98.1
research laboratories	409	15	.2	.5	98.6
Other scientific	410	45	.7	1.4	100.0
.	.	2970	48.8	Missing	
Total		6083	100.0	100.0	

Valid cases 3113 Missing cases 2970

Q50 A shortened version of area of agency of winner.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
general public	1	1331	21.9	42.8	42.8
political	100	435	7.2	14.0	56.7
cultural	200	202	3.3	6.5	63.2
economical	300	318	5.2	10.2	73.4
secondary economical	320	309	5.1	9.9	83.4
tertiary economical	340	141	2.3	4.5	87.9
scientific	400	377	6.2	12.1	100.0
.	.	2970	48.8	Missing	
Total		6083	100.0	100.0	

Valid cases 3113 Missing cases 2970

Q51 Gender of winner.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
male	1	234	3.8	13.5	13.5
female	2	168	2.8	9.7	23.2
mixed	3	485	8.0	28.0	51.2
unspecified	4	847	13.9	48.8	100.0
.	.	4349	71.5	Missing	
Total		6083	100.0	100.0	

Valid cases 1734 Missing cases 4349

Q52 Locality of benefit.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Britain:					
Britain	100	1758	28.9	59.1	59.1
Greater London	101	121	2.0	4.1	63.2
South	102	87	1.4	2.9	66.1
Midland	103	45	.7	1.5	67.6
North	104	45	.7	1.5	69.1
Scotland	105	26	.4	.9	70.0
Wales	106	15	.2	.5	70.5
Northern Ireland	107	9	.1	.3	70.8
Cambridge	108	9	.1	.3	71.1
Oxford	109	9	.1	.3	71.4
Other, continental Europe:					
Europe	200	51	.8	1.7	73.1
(West)Germany	201	28	.5	.9	74.1
France	203	33	.5	1.1	75.2
Italy	204	12	.2	.4	75.6
Spain	205	7	.1	.2	75.8
Holland	207	5	.1	.2	76.0
Belgium	208	2	.0	.1	76.1
Ireland	209	6	.1	.2	76.3
Luxembourg	210	1	.0	.0	76.3
Denmark	211	3	.0	.1	76.4
Sweden	212	11	.2	.4	76.8
Norway	213	4	.1	.1	76.9
Czechoslovakia	216	2	.0	.1	77.0
Switzerland	217	10	.2	.3	77.3
Hungary	220	3	.0	.1	77.4
Bulgaria	221	1	.0	.0	77.4
Rumania	222	2	.0	.1	77.5

Greece	225	3	.0	.1	77.6
Malta	227	1	.0	.0	77.6
Poland	230	3	.0	.1	77.7
Soviet, Russia	231	44	.7	1.5	79.2
Other	299	4	.1	.1	79.4
North America:					
North America	300	32	.5	1.1	80.4
USA	310	142	2.3	4.8	85.2
Eastcoast	311	35	.6	1.2	86.4
Westcoast	312	15	.2	.5	86.9
South	313	9	.1	.3	87.2
Midwest	314	2	.0	.1	87.3
Canada	320	7	.1	.2	87.5
South America:					
South America	400	2	.0	.1	87.6
Brazil	401	2	.0	.1	87.6
Argentina	402	3	.0	.1	87.7
Mexico	403	2	.0	.1	87.8
Caribbean	404	2	.0	.1	87.9
Venezuela	405	2	.0	.1	87.9
Colombia	406	1	.0	.0	88.0
Peru	407	2	.0	.1	88.0
Oth S-America	499	4	.1	.1	88.2
Asia:					
Asia	500	3	.0	.1	88.3
Turkey	501	2	.0	.1	88.3
USSR	502	1	.0	.0	88.4
Syria	503	1	.0	.0	88.4
S Arab. Peninsula	506	4	.1	.1	88.5
Israel	507	7	.1	.2	88.8
Iraq	508	3	.0	.1	88.9
Iran	509	2	.0	.1	88.9
Pakistan	510	1	.0	.0	89.0
India	512	11	.2	.4	89.3
Thailand	516	2	.0	.1	89.4
Vietnam	518	5	.1	.2	89.6
China	519	15	.2	.5	90.1
Japan	520	9	.1	.3	90.4
Malaysia	523	1	.0	.0	90.4
Bangladesh	524	1	.0	.0	90.5
South, North Korea	527	2	.0	.1	90.5
Other Asia	599	10	.2	.3	90.9
Africa:					
Africa	600	5	.1	.2	91.0
Morocco	603	2	.0	.1	91.1
Egypt	604	4	.1	.1	91.2
Lybia	605	1	.0	.0	91.3
E Africa	608	6	.1	.2	91.5
W Africa	609	2	.0	.1	91.5
Central Africa	611	1	.0	.0	91.6
Zaire	613	1	.0	.0	91.6
Angola	614	2	.0	.1	91.7
Southern Africa	615	2	.0	.1	91.7
Rhodesia Zimbabwe	616	2	.0	.1	91.8
S Africa	617	5	.1	.2	92.0
Other Africa	699	3	.0	.1	92.1
Australia:					
Australia	700	1	.0	.0	92.1
Australia	701	17	.3	.6	92.7
New Zealand	702	2	.0	.1	92.7
Pacific Isl. & Atolls	704	1	.0	.0	92.8
Antartica, Arctic					
Antartica, Arctic	800	2	.0	.1	92.8
the world	900	122	2.0	4.1	96.9
in space	901	6	.1	.2	97.1
on the sea	903	9	.1	.3	97.4
the first world, industrial	904	21	.3	.7	98.2

the second world, East bloc	905	1	.0	.0	98.2
the third world, developing	906	6	.1	.2	98.4
Anglo-American	908	13	.2	.4	98.8
Commonwealth	909	3	.0	.1	98.9
EEC	910	8	.1	.3	99.2
Nato countries	912	9	.1	.3	99.5
the middle East	913	1	.0	.0	99.5
the Allies	914	5	.1	.2	99.7
others	999	9	.1	.3	100.0
	.	3109	51.1	Missing	
Total		6083	100.0	100.0	

Valid cases 2974 Missing cases 3109

Q52 A shortened version of locality of benefit.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Britain	100	2124	34.9	71.4	71.4
Europe	200	236	3.9	7.9	79.4
North America	300	242	4.0	8.1	87.5
South America	400	20	.3	.7	88.2
Asia	500	80	1.3	2.7	90.9
Africa	600	36	.6	1.2	92.1
Australia	700	21	.3	.7	92.8
Antartica, Arctic	800	2	.0	.1	92.8
the world	900	122	2.0	4.1	96.9
in space	901	6	.1	.2	97.1
on the sea	903	9	.1	.3	97.4
the first world, industrial	904	21	.3	.7	98.2
the second world, East bloc	905	1	.0	.0	98.2
the third world, developing	906	6	.1	.2	98.4
Anglo-American	908	13	.2	.4	98.8
Commonwealth	909	3	.0	.1	98.9
EEC	910	8	.1	.3	99.2
Nato countries	912	9	.1	.3	99.5
the middle East	913	1	.0	.0	99.5
the Allies	914	5	.1	.2	99.7
others	999	9	.1	.3	100.0
	.	3109	51.1	Missing	
Total		6083	100.0	100.0	

Valid cases 2974 Missing cases 3109

Q53A-D Negative consequences, risk, cost.

Q53A Risk, cost mentioned.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	2523	41.5	100.0	100.0
.	.	3560	58.5	Missing	
	Total	6083	100.0	100.0	

Valid cases 2523 Missing cases 3560

Q53B Was there a probability argument.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	562	9.2	100.0	100.0
.	.	5521	90.8	Missing	
	Total	6083	100.0	100.0	

Valid cases 562 Missing cases 5521

Q53C First order (negative) consequences.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Social, well-being:					
social well-being	10	61	1.0	2.4	2.4
health	11	389	6.4	15.5	17.9
mortality	12	312	5.1	12.4	30.4
safety	13	125	2.1	5.0	35.3
mental state	14	102	1.7	4.1	39.4
Cultural, symbolic, moral:					
cultural, symbolic	20	18	.3	.7	40.1
national prestige	21	23	.4	.9	41.0
progress	22	14	.2	.6	41.6
ethical, moral status	23	122	2.0	4.9	46.5
variety	24	6	.1	.2	46.7
education, culture	25	53	.9	2.1	48.8
discrimination, deprivation	26	99	1.6	3.9	52.7
Politics, power:					
politics,power	30	33	.5	1.3	54.1
change	31	23	.4	.9	55.0
stability, unrest	32	49	.8	2.0	56.9
others	33	32	.5	1.3	58.2
Economical, financial:					
economical	40	65	1.1	2.6	60.8
jobs	41	88	1.4	3.5	64.3
work conditions, safety	42	6	.1	.2	64.5
work hours	43	7	.1	.3	64.8
wages, living standard	44	36	.6	1.4	66.3
profit,loss	45	269	4.4	10.7	77.0
markets, business opport.	46	43	.7	1.7	78.7
growth	47	40	.7	1.6	80.3
competition situation	48	87	1.4	3.5	83.7
service, product quality	49	101	1.7	4.0	87.8
Scientific:					
scientific	50	5	.1	.2	88.0
knowledge	51	66	1.1	2.6	90.6

manpower mobility(brain drain)	52	29	.5	1.2	91.8
infrastructure	53	14	.2	.6	92.3
Ecological, environmental:					
ecological, environmental	60	56	.9	2.2	94.5
radioactivity	61	38	.6	1.5	96.1
biodiversity, conservation	62	25	.4	1.0	97.1
pollution, cleaning	63	54	.9	2.2	99.2
desertification, draught	64	3	.0	.1	99.3
erosion, deforestation	65	7	.1	.3	99.6
energy provision	66	10	.2	.4	100.0
.	.	3573	58.7	Missing	
Total		6083	100.0	100.0	
Valid cases	2510	Missing cases	3573		

Q53C A shortened version of first order negative consequences.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
social,well-being	10	989	16.3	39.4	39.4
cultural,symbolic	20	335	5.5	13.3	52.7
politics,power	30	137	2.3	5.5	58.2
economical	40	742	12.2	29.6	87.8
scientific	50	114	1.9	4.5	92.3
ecology,environment	60	193	3.2	7.7	100.0
.	.	3573	58.7	Missing	
Total		6083	100.0	100.0	
Valid cases	2510	Missing cases	3573		

Q53D Second order (negative) consequences.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Social, well-being:					
social well-being	10	25	.4	2.8	2.8
health	11	117	1.9	13.0	15.7
mortality	12	104	1.7	11.5	27.2
safety	13	48	.8	5.3	32.6
mental state	14	60	1.0	6.6	39.2
Cultural, symbolic, moral:					
cultural,symbolic, moral	20	10	.2	1.1	40.3
national prestige	21	13	.2	1.4	41.7
progress	22	13	.2	1.4	43.2
ethical, moral status	23	31	.5	3.4	46.6
variety	24	3	.0	.3	47.0
education, culture	25	13	.2	1.4	48.4
discrimination, deprivation	26	24	.4	2.7	51.1
Politics, power:					
politics,power	30	10	.2	1.1	52.2
change	31	8	.1	.9	53.0
stability, unrest	32	24	.4	2.7	55.7
others	33	9	.1	1.0	56.7
Economical, financial:					
Economical, financial	40	26	.4	2.9	59.6
jobs	41	29	.5	3.2	62.8
work conditions, safety	42	9	.1	1.0	63.8
work hours	43	4	.1	.4	64.2
wages, living standard	44	28	.5	3.1	67.3

profit, loss	45	59	1.0	6.5	73.9
markets, business opport.	46	17	.3	1.9	75.7
growth	47	28	.5	3.1	78.8
competition situation	48	50	.8	5.5	84.4
service, product quality	49	29	.5	3.2	87.6

Scientific:

scientific	50	2	.0	.2	87.8
knowledge	51	18	.3	2.0	89.8
Manpower mobility(brain drain)	52	7	.1	.8	90.6
infrastructure	53	6	.1	.7	91.3

Ecological, environmental:

ecological, environmental	60	17	.3	1.9	93.1
radioactivity	61	17	.3	1.9	95.0
biodiversity, conservation	62	11	.2	1.2	96.2
pollution, cleaning	63	22	.4	2.4	98.7
desertification, draught	64	2	.0	.2	98.9
erosion, draught	65	2	.0	.2	99.1
energy provision	66	8	.1	.9	100.0
.		5180	85.2	Missing	
Total		6083	100.0	100.0	

Valid cases 903 Missing cases 5180

Q53D A shortened version of secondary negative consequences.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
social, well-being	10	354	5.8	39.2	39.2
cultural, symbolic	20	107	1.8	11.8	51.1
politics, power	30	51	.8	5.6	56.7
economical	40	279	4.6	30.9	87.6
scientific	50	33	.5	3.7	91.3
ecology, environment	60	79	1.3	8.7	100.0
.		5180	85.2	Missing	
Total		6083	100.0	100.0	

Valid cases 903 Missing cases 5180

Q54 Kind of losing agent.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
material, non-human	10	24	.4	1.0	1.0
living environment,	20	120	2.0	4.8	5.8
body parts, organs	30	1	.0	.0	5.8
individuals	40	97	1.6	3.9	9.8
expert	41	48	.8	1.9	11.7
authority	42	83	1.4	3.3	15.0
worker	43	178	2.9	7.2	22.2
celebrity	44	21	.3	.8	23.1
receiver: patient, prisoner	45	216	3.6	8.7	31.8
in need: child, disabled	46	242	4.0	9.8	41.5
spokesperson	47	2	.0	.1	41.6
choice: client, consumer	48	277	4.6	11.2	52.8
man on the street	49	87	1.4	3.5	56.3
network/group of people	50	104	1.7	4.2	60.5
formal institution	60	596	9.8	24.0	84.5
general public	70	325	5.3	13.1	97.6
international community	80	29	.5	1.2	98.8
humanity as a whole	90	28	.5	1.1	99.9
abstract idea	95	3	.0	.1	100.0
.	.	3602	59.2	Missing	
Total		6083	100.0	100.0	

Valid cases 2481 Missing cases 3602

Q55 Area of agency of loser.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
General public:					
general public	1	934	15.4	37.7	37.7
women only	2	64	1.1	2.6	40.3
men only	3	6	.1	.2	40.5
children	4	145	2.4	5.8	46.3
elderly	5	11	.2	.4	46.8
embryo	6	6	.1	.2	47.0
Political:					
political	100	31	.5	1.3	48.3
civil service	101	17	.3	.7	49.0
cabinet, PM	102	120	2.0	4.8	53.8
governm.commission	103	4	.1	.2	54.0
police, prison	104	24	.4	1.0	54.9
NHS, health org.	105	13	.2	.5	55.5
opposition	106	1	.0	.0	55.5
Parliament	107	1	.0	.0	55.5
House of Lords	108	1	.0	.0	55.6
Conservative party	109	4	.1	.2	55.7
Labour party	110	5	.1	.2	55.9
Liberal party	111	1	.0	.0	56.0
Other political parties	112	6	.1	.2	56.2
Trade unions	113	4	.1	.2	56.4
Employers	114	4	.1	.2	56.6
Pressure group	115	11	.2	.4	57.0
Judiciary	116	2	.0	.1	57.1
Professional society	117	5	.1	.2	57.3
Military	118	92	1.5	3.7	61.0
Secret service	119	5	.1	.2	61.2
Monarchy	120	4	.1	.2	61.4
EC, EEC	121	2	.0	.1	61.4
UH organization	122	4	.1	.2	61.6
NATO	123	8	.1	.3	61.9
other	199	9	.1	.4	62.3

Ethical and cultural:

charity	201	1	.0	.0	62.3
education	202	45	.7	1.8	64.1
religion	203	6	.1	.2	64.4
music,opera	204	4	.1	.2	64.5
visual arts	205	3	.0	.1	64.7
media,press	206	13	.2	.5	65.2
sports	207	35	.6	1.4	66.6
literature	208	4	.1	.2	66.8
theatre	209	1	.0	.0	66.8
cinema, film	211	4	.1	.2	67.0
spec. interest group	212	5	.1	.2	67.2
ethnic groups	214	4	.1	.2	67.3
heritage, Royalty	215	6	.1	.2	67.6
Other	299	9	.1	.4	67.9

Production, economical, business:

economical	300	139	2.3	5.6	73.5
Primary economical	310	2	.0	.1	73.6
energy sector	311	46	.8	1.9	75.5
agricult.industry	312	29	.5	1.2	76.6
fishing industry	313	3	.0	.1	76.8
other primary	319	11	.2	.4	77.2
Secondary economical	320	8	.1	.3	77.5
chemical industry	321	15	.2	.6	78.1
machine industry	322	1	.0	.0	78.2
car industry	323	27	.4	1.1	79.3
shipping industry	324	13	.2	.5	79.8
aircraft industry	325	38	.6	1.5	81.3
textile industry	326	3	.0	.1	81.4
defense industry	327	1	.0	.0	81.5
food industry	328	6	.1	.2	81.7
construction	329	18	.3	.7	82.5
computer industry	330	22	.4	.9	83.3
engineering business	331	12	.2	.5	83.8
household goods	332	2	.0	.1	83.9
other secondary	339	20	.3	.8	84.7
Tertiary economic	340	1	.0	.0	84.8
banking	341	5	.1	.2	85.0
insurance	342	4	.1	.2	85.1
London City	343	13	.2	.5	85.6
tourist	344	2	.0	.1	85.7
Telecommunication	346	6	.1	.2	86.0
Business consultancy	347	3	.0	.1	86.1
Transport	348	34	.6	1.4	87.5
Health services	349	29	.5	1.2	88.6
Archit.,engineering	350	2	.0	.1	88.7
Other tertiary	359	16	.3	.6	89.4

Scientific, technical.

scientific	400	42	.7	1.7	91.0
University	401	36	.6	1.5	92.5
Industry research	402	1	.0	.0	92.5
Indep.think tank	403	1	.0	.0	92.6
Government, research institute	404	12	.2	.5	93.1
Nature, natural phenomena	406	99	1.6	4.0	97.1
scient.organization	407	6	.1	.2	97.3
hospitals	408	47	.8	1.9	99.2
research laboratories	409	6	.1	.2	99.4
Other scientific	410	14	.2	.6	100.0
.		3604	59.2	Missing	

Total 6083 100.0 100.0

Valid cases 2479 Missing cases 3604

Q55 A shortened version of area of agency of loser.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
general public	1	1166	19.2	47.0	47.0
political	100	378	6.2	15.2	62.3
cultural	200	140	2.3	5.6	67.9
economical	300	230	3.8	9.3	77.2
secondary economical	320	186	3.1	7.5	84.7
tertiary economical	340	115	1.9	4.6	89.4
scientific	400	264	4.3	10.6	100.0
.	.	3604	59.2	Missing	
Total		6083	100.0	100.0	

Valid cases 2479 Missing cases 3604

Q56 Gender of loser.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
male	1	233	3.8	16.1	16.1
female	2	139	2.3	9.6	25.7
mixed	3	400	6.6	27.6	53.2
unspecified	4	678	11.1	46.8	100.0
.	.	4633	76.2	Missing	
Total		6083	100.0	100.0	

Valid cases 1450 Missing cases 4633

Q57 Locality of risk.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Britain:					
Britain	100	1414	23.2	59.5	59.5
Greater London	101	88	1.4	3.7	63.2
South	102	80	1.3	3.4	66.5
Midland	103	31	.5	1.3	67.8
North	104	41	.7	1.7	69.6
Scotland	105	25	.4	1.1	70.6
Wales	106	13	.2	.5	71.2
Northern Ireland	107	9	.1	.4	71.5
Cambridge	108	4	.1	.2	71.7
Oxford	109	2	.0	.1	71.8
Other, continental (Europe):					
Europe	200	37	.6	1.6	73.3
(West)Germany	201	31	.5	1.3	74.6
France	203	18	.3	.8	75.4
Italy	204	11	.2	.5	75.9
Spain	205	7	.1	.3	76.2
Portugal	206	2	.0	.1	76.2
Holland	207	2	.0	.1	76.3
Belgium	208	2	.0	.1	76.4
Ireland	209	2	.0	.1	76.5
Luxembourg	210	2	.0	.1	76.6
Denmark	211	1	.0	.0	76.6
Sweden	212	4	.1	.2	76.8
Czechoslovakia	216	4	.1	.2	77.0
Switzerland	217	6	.1	.3	77.2
Hungary	220	2	.0	.1	77.3
Bulgaria	221	1	.0	.0	77.3
Rumania	222	4	.1	.2	77.5
Jugoslavia	223	3	.0	.1	77.6

Greece	225	3	.0	.1	77.8
Iceland	226	1	.0	.0	77.8
Cyprus	228	1	.0	.0	77.8
Poland	230	2	.0	.1	77.9
Soviet,Russia	231	33	.5	1.4	79.3
Other	299	2	.0	.1	79.4
North America:					
North America	300	17	.3	.7	80.1
USA	310	107	1.8	4.5	84.6
Eastcoast	311	20	.3	.8	85.4
Westcoast	312	14	.2	.6	86.0
South	313	6	.1	.3	86.3
Midwest	314	2	.0	.1	86.4
Canada	320	5	.1	.2	86.6
The Plains	326	1	.0	.0	86.6
South America:					
South America	400	1	.0	.0	86.7
Brazil	401	2	.0	.1	86.8
Argentina	402	2	.0	.1	86.8
Carribean	404	2	.0	.1	86.9
Venezuela	405	1	.0	.0	87.0
Colombia	406	2	.0	.1	87.0
Bolivia	408	1	.0	.0	87.1
Oth S-America	499	3	.0	.1	87.2
Asia:					
Asia	500	3	.0	.1	87.3
Jordania	505	1	.0	.0	87.4
S Arab. Peninsula	506	1	.0	.0	87.4
Israel	507	6	.1	.3	87.7
Iraq	508	1	.0	.0	87.7
Iran	509	2	.0	.1	87.8
Pakistan	510	1	.0	.0	87.8
Afghanistan	511	2	.0	.1	87.9
India	512	10	.2	.4	88.4
Burma	515	1	.0	.0	88.4
Thailand	516	1	.0	.0	88.4
Vietnam	518	6	.1	.3	88.7
China	519	11	.2	.5	89.2
Japan	520	10	.2	.4	89.6
Philippines	521	1	.0	.0	89.6
Indonesia	522	2	.0	.1	89.7
Malaysia	523	1	.0	.0	89.7
S,N Korea	527	2	.0	.1	89.8
Oth Asia	599	5	.1	.2	90.0
Africa:					
Africa	600	2	.0	.1	90.1
Morocco	603	1	.0	.0	90.2
Egypt	604	4	.1	.2	90.3
Lybia	605	1	.0	.0	90.4
E Africa	608	3	.0	.1	90.5
W Africa	609	4	.1	.2	90.7
Congo	612	2	.0	.1	90.7
Angola	614	1	.0	.0	90.8
Southern Africa	615	2	.0	.1	90.9
Rhodesia Zimbabwe	616	2	.0	.1	91.0
S Africa	617	5	.1	.2	91.2
Other Africa	699	1	.0	.0	91.2
Australia:					
Australia	701	19	.3	.8	92.0
New Zealand	702	4	.1	.2	92.2
Pacific Isl. & Atoll	704	3	.0	.1	92.3
Antartica, Arctic					
Antartica, Arctic	800	6	.1	.3	92.6
the world	900	93	1.5	3.9	96.5
in space	901	3	.0	.1	96.6
on the sea	903	17	.3	.7	97.3

the first world, industrial	904	11	.2	.5	97.8
the second world, East bloc	905	2	.0	.1	97.9
the third world, developing	906	7	.1	.3	98.1
Anglo-American	908	9	.1	.4	98.5
Commonwealth	909	1	.0	.0	98.6
EEC	910	6	.1	.3	98.8
OECD	911	1	.0	.0	98.9
Nato countries	912	15	.2	.6	99.5
the Allies	914	4	.1	.2	99.7
other	999	8	.1	.3	100.0
.		3705	60.9	Missing	
Total		6083	100.0	100.0	

Valid cases 2378 Missing cases 3705

Q57 A shortened version of the locality of risk.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Britain	100	1707	28.1	71.8	71.8
Europe	200	181	3.0	7.6	79.4
North America	300	172	2.8	7.2	86.6
South America	400	14	.2	.6	87.2
Asia	500	67	1.1	2.8	90.0
Africa	600	28	.5	1.2	91.2
Australia	700	26	.4	1.1	92.3
Antartica, Arctic	800	6	.1	.3	92.6
the world	900	93	1.5	3.9	96.5
in space	901	3	.0	.1	96.6
on the sea	903	17	.3	.7	97.3
the first world, industrial	904	11	.2	.5	97.8
the second world, East bloc	905	2	.0	.1	97.9
the third world, developing	906	7	.1	.3	98.1
Anglo-American	908	9	.1	.4	98.5
Commonwealth	909	1	.0	.0	98.6
EEC	910	6	.1	.3	98.8
OECD	911	1	.0	.0	98.9
Nato countries	912	15	.2	.6	99.5
the Allies	914	4	.1	.2	99.7
other	999	8	.1	.3	100.0
.		3705	60.9	Missing	
Total		6083	100.0	100.0	

Valid cases 2378 Missing cases 3705

Moral.

Q58 Call for actions.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
active resistance to change	1	33	.5	2.7	2.7
refusal of change	2	12	.2	1.0	3.7
renounce the change	3	19	.3	1.5	5.2
fate - cannot do anything	4	5	.1	.4	5.6
passive consent to changes	5	22	.4	1.8	7.4
realize change	6	327	5.4	26.6	34.0
active support to change	7	626	10.3	51.0	85.0
other	8	184	3.0	15.0	100.0
.	.	4855	79.8	Missing	
Total		6083	100.0	100.0	

Valid cases 1228 Missing cases 4855

Q59 Area of called agency.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
General public:					
general public	1	245	4.0	20.0	20.0
women only	2	16	.3	1.3	21.4
men only	3	1	.0	.1	21.4
children	4	19	.3	1.6	23.0
elderly	5	1	.0	.1	23.1
Political (power):					
political	100	58	1.0	4.7	27.8
civil service	101	26	.4	2.1	30.0
cabinet, PM	102	218	3.6	17.8	47.8
governm.commission	103	13	.2	1.1	48.9
police, prison	104	17	.3	1.4	50.2
NHS, health organization	105	29	.5	2.4	52.6
Parliament	107	18	.3	1.5	54.1
House of Lords	108	4	.1	.3	54.4
Conservative party	109	5	.1	.4	54.8
Labour party	110	1	.0	.1	54.9
Liberal party	111	1	.0	.1	55.0
Trade unions	113	4	.1	.3	55.3
Employers	114	1	.0	.1	55.4
Pressure group	115	9	.1	.7	56.1
Judiciary	116	10	.2	.8	57.0
Professional society	117	8	.1	.7	57.6
Military	118	27	.4	2.2	59.8
Secret service	119	1	.0	.1	59.9
EC, EEC	121	8	.1	.7	60.6
UN organization	122	10	.2	.8	61.4
NATO	123	4	.1	.3	61.7
other	199	8	.1	.7	62.4
Ethical and cultural (truth, beauty):					
cultural	200	2	.0	.2	62.5
education	202	51	.8	4.2	66.7
religion	203	6	.1	.5	67.2
music, opera	204	1	.0	.1	67.3
visual arts	205	1	.0	.1	67.3
media, press	206	10	.2	.8	68.2
sports	207	10	.2	.8	69.0
cinema, film	211	1	.0	.1	69.1
spec. interest group	212	5	.1	.4	69.5
protest groups	213	2	.0	.2	69.6
heritage, Royalty	215	4	.1	.3	70.0
Other	299	7	.1	.6	70.5

Production, economical, business:

economical	300	58	1.0	4.7	75.3
Primary economical	310	2	.0	.2	75.5
energy sector	311	25	.4	2.0	77.5
agricult.industry	312	13	.2	1.1	78.6
fishing industry	313	1	.0	.1	78.6
other primary	319	3	.0	.2	78.9
Secondary economical	320	2	.0	.2	79.1
chemical industry	321	8	.1	.7	79.7
car industry	323	11	.2	.9	80.6
shipping industry	324	3	.0	.2	80.9
aircraft industry	325	9	.1	.7	81.6
food industry	328	11	.2	.9	82.5
construction	329	14	.2	1.1	83.6
computer industry	330	6	.1	.5	84.1
engineering business	331	1	.0	.1	84.2
household goods	332	2	.0	.2	84.4
other secondary	339	9	.1	.7	85.1
Tertiary economical:					
banking	341	5	.1	.4	85.5
insurance	342	2	.0	.2	85.7
London City	343	2	.0	.2	85.8
catering	345	2	.0	.2	86.0
Transport	348	11	.2	.9	86.9
Health services	349	33	.5	2.7	89.6
Archit.,engineering	350	1	.0	.1	89.7
Other tertiary	359	8	.1	.7	90.3

Scientific, technical.

scientific	400	32	.5	2.6	93.0
University	401	18	.3	1.5	94.4
Industry research	402	1	.0	.1	94.5
Independent 'think tank'	403	1	.0	.1	94.6
Government, research institute	404	7	.1	.6	95.2
Funds, foundations	405	1	.0	.1	95.3
Nature, natural phenomena	406	12	.2	1.0	96.2
scient.organization	407	6	.1	.5	96.7
hospitals	408	21	.3	1.7	98.4
research laboratories	409	9	.1	.7	99.2
Other scientific	410	10	.2	.8	100.0
.		4861	79.9	Missing	
Total		6083	100.0	100.0	

Valid cases 1222 Missing cases 4861

Q59 A shortened version of called agency.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
general public	1	282	4.6	23.1	23.1
political	100	480	7.9	39.3	62.4
cultural	200	100	1.6	8.2	70.5
economical	300	102	1.7	8.3	78.9
secondary economical	320	76	1.2	6.2	85.1
tertiary economical	340	64	1.1	5.2	90.3
scientific	400	118	1.9	9.7	100.0
.		4861	79.9	Missing	
Total		6083	100.0	100.0	

Valid cases 1222 Missing cases 4861

Comand file.

Comand file for shortened version of variables.

recode Q14 - News value

(19=9) (29=9) (39=9) (49=9) (59=9) (26=236) (27=7) (57=7)
(67=7) (28=8) (68=8) (78=8) (110=10).

recode Q31, Q42, Q45, Q50, Q55, Q59 - Area of agency

(1 thru 6 = 1)
(100 thru 199 = 100) (200 thru 299 = 200) (300 thru 319 = 300)
(320 thru 339 = 320) (340 thru 359 = 340) (400 thru 410 = 400).

recode Q38, Q52, Q57 - Geographical location

(100 thru 109 = 100) (200 thru 299 = 200) (300 thru 399 = 300)
(400 thru 499 = 400) (500 thru 599 = 500) (600 thru 699 = 600)
(701 thru 710 = 700).

recode Q36 - Academic fields

(100 thru 199 = 100) (200 thru 299 = 200) (300 thru 399 = 300)
(400 thru 499 = 400) (500 thru 599 = 500) (600 thru 699 = 600)
(700 thru 799 = 700) (800 thru 899 = 800).

recode Q48c Q48d Q53c Q53d - Consequences

(10 thru 14 = 10) (20 thru 26 = 20) (30 thru 33 = 30) (40 thru 49 = 40)
(50 thru 53 = 50) (60 thru 66 = 60).

recode Q29 - Kind of authorship

(4100 thru 4999 = 400) (5400 thru 5410 = 400) (5001 thru 5006 = 5001)
(5100 thru 5359 = 300).

Appendix

Names of first author

Authors are listed in alphabetical order with paper, year, month and day.

Codes for papers are as follows:

1. Daily Express
3. Daily Mirror
4. Daily Telegraph
6. The Guardian
7. The Independent
8. The Sun
9. The Times

Author	Paper	Year	Month	Day
A.T.	4	62	8	24
ACKEN	3	62	8	29
ADLER.M	9	86	7	8
ADRIAN	9	60	7	17
ALAM.S	4	92	9	19
ALBERGE.D	7	90	4	7
ALBERGE.D	7	90	7	31
ALDOS.D.	6	76	6	29
ALDOUS.T	9	70	9	25
ALI.M	9	86	1	20
ALLAN.J	4	78	12	20
ALLAN.J	4	80	2	16
ALLEN-MILL	4	78	6	22
ALLEN.G	9	76	11	17
ALLEN.W	4	54	12	21
ALMOND.P	4	90	8	9
ALMOND.P	4	90	8	9
AMERY.J	4	82	12	31
ANDERSON.E	9	50	1	14
ANDRADE.E	9	60	7	17
ANGELL.O	4	62	3	23
APPLEBEY.J	4	56	9	6
APPLEBEY.J	4	58	8	16
APPLEBEY.J	4	58	3	24
ARCHER.A	3	62	10	8
ARDILL.J	6	66	4	4
ARDILL.J	6	76	3	23
ARDILL.J	6	76	8	13
ARDILL.J	6	76	3	23
ARLOTT.J	6	76	1	7
ARMITAGE.J	3	46	2	11
ARMITAGE.J	3	46	4	10
ARMSTRONG.	6	66	11	15
ARMSTRONG.	6	76	8	13
ARNOLD.F	6	66	4	28
ARNOLD.H	8	76	7	10
ARNOLD.H	8	76	1	2
ASHER.M	4	76	6	4
ASHWICK.E	1	60	4	26
ASKILL.J	8	80	3	5
ASSERSON	1	76	5	17
ATKINSON.C	9	80	2	22
ATKINSON.C	9	80	4	25
ATKINSON.R	4	84	11	20
ATTWOOD.T	9	70	9	2
B-JAMES.A	4	80	10	9
B-SMITH.R	4	62	8	24
B.B.B.	3	48	11	3
BACKLAND.C	3	80	11	3
BACON.I	3	68	6	1
BAILEY.E	4	90	7	23
BAILEY.E	4	92	7	25
BAILEY.J	9	46	5	7
BAILY.M	9	80	4	19
BAILY.M	9	70	5	12
BAILY.M	9	80	4	25
BAINBRIDGE	9	80	12	29
BAKER.B	4	72	2	12
BAKER.B	4	80	1	8
BAKER.B	4	80	12	10
BAKER.B	4	64	12	29
BAKER.M	9	86	7	12
BAKER.P	4	60	10	11
BAKER.P	4	84	12	22
BALL.I	4	82	3	10
BALL.I	4	78	9	26
BALL.I	4	82	12	31
BALL.I	4	78	4	7
BALL.I	4	76	8	24
BALL.I	4	66	2	10
BALL.I	4	76	4	21
BALL.I	4	86	1	31
BALL.I	4	86	10	20
BALL.I	4	76	8	24
BALL.I	4	80	5	8
BALL.I	4	60	1	16

Author	Paper	Year	Month	Day
BALL.I	4	76	6	4
BALL.I	4	70	4	30
BALL.I	4	84	11	27
BALL.I	4	64	7	8
BALL.I	4	84	5	19
BALL.I	4	84	3	19
BALL.J	1	66	2	23
BANK.J	9	66	2	5
BANKSIDE.H	9	76	10	9
BARB.W	9	80	3	24
BARBER.S	4	78	3	29
BARFIELD.R	9	66	7	5
BARKER.G	4	76	1	22
BARKER.W	9	80	7	26
BARKLEY.W	1	56	2	29
BARKLEY.W	1	56	7	31
BARNA.T	9	80	2	22
BARNES.G	3	88	6	30
BARNES.W	6	56	12	8
BARNET.Y	3	88	11	5
BARNETT.C	6	76	7	14
BARRETT.A	9	80	4	25
BARTLETT.G	4	82	7	5
BARTON.D	8	90	7	23
BASING.J	6	76	6	29
BATE.H	4	62	8	31
BATE.H	4	64	5	1
BATE.H	4	64	5	11
BATT.A	1	66	12	10
BAYAT.A	4	88	9	12
BEACHCOMBR	1	56	1	14
BEACHCOMBR	1	50	6	10
BEACHCOMBR	1	56	10	12
BEACHCOMBR	1	56	1	24
BEACHCOMBR	1	70	4	11
BEACHCOMBR	1	70	8	15
BEACHCOMBR	1	60	6	8
BEARD.N	7	90	2	12
BEAUMONT.A	7	90	10	25
BEAUMONT.T	4	76	6	4
BECKET.M	4	72	2	21
BECKET.M	4	88	9	12
BECKET.M	4	88	1	15
BECKET.M	4	74	8	3
BECKET.M	4	88	1	15
BECKET.M	4	86	10	20
BECKET.M	4	76	1	7
BECKET.M	4	86	10	20
BECKET.M	4	92	12	2
BECKET.M	4	92	12	2
BECKET.M	4	84	6	11
BECKET.M	4	84	3	19
BECKETT.A	4	80	12	27
BECKETT.A	4	80	4	17
BECKETT.F	7	90	10	25
BEDFORD.R	3	52	9	26
BEDFORD.R	3	58	3	28
BEDFORD.R	3	58	4	14
BEDFORD.R	3	52	9	5
BEDFORD.R	3	62	8	3
BEDFORD.R	3	64	1	31
BEDFORD.R	3	62	4	17
BEDFORD.R	3	62	8	29
BEDFORD.R	3	64	1	3
BEDFORD.R	3	62	11	1
BEDFORD.R	3	64	1	10
BEDFORD.R	3	62	10	8
BEDFORD.R	3	78	7	19
BEDFORD.R	3	62	12	7
BEDFORD.R	3	62	10	17
BEDFORD.R	3	54	5	25
BEDFORD.R	3	72	11	13
BEDFORD.R	3	62	9	21
BEDFORD.R	3	62	4	17
BEDFORD.R	3	82	6	23
BEDFORD.R	3	72	9	13

Author	Paper	Year	Month	Day	Author	Paper	Year	Month	Day
BEDFORD.R	3	52	10	30	BETJEMAN.J	4	60	11	14
BEDFORD.R	3	84	12	23	BEVAN.A	3	54	4	2
BEDFORD.R	3	78	5	10	BEVINS.J	4	68	7	19
BEDFORD.R	3	74	9	12	BIGGS.R	9	86	10	25
BEDFORD.R	3	72	1	1	BILLING.H	4	84	3	19
BEDFORD.R	3	56	6	13	BINGLEY.A	4	64	2	6
BEDFORD.R	3	60	6	8	BINYON.M	9	80	2	22
BEDFORD.R	3	60	3	7	BINYON.M	9	80	8	11
BEDFORD.R	3	60	3	7	BINYON.M	9	86	1	20
BEDFORD.R	3	60	10	26	BINYON.M	9	86	6	4
BEDFORD.R	3	50	1	18	BINYON.M	9	86	6	4
BEDFORD.R	3	50	1	18	BIRKENHEAD	4	66	2	10
BEDFORD.R	3	76	7	3	BIRKENHEAD	4	64	3	26
BEDFORD.R	3	60	8	19	BISHOP.G	4	46	7	26
BEDFORD.R	3	60	8	20	BISHOP.P	4	92	9	19
BEDFORD.R	3	70	2	24	BISHOP.P	4	90	2	6
BEDFORD.R	3	70	7	18	BLACK.D	7	90	7	31
BEDLOW.R	4	88	11	17	BLACK.D	7	90	8	8
BEDLOW.R	4	86	10	20	BLACK.D	7	90	6	22
BEDLOW.R	4	70	11	3	BLACK.D	7	90	4	7
BEDLOW.R	4	86	6	30	BLACK.D	7	90	4	7
BEESTON.R	4	78	4	26	BLACK.E	8	90	6	21
BEESTON.R	4	82	3	9	BLACK.I	3	88	4	15
BEESTON.R	4	82	1	8	BLACK.R	9	66	4	5
BEESTON.R	4	72	4	11	BLACKFRIAR	9	66	5	21
BEESTON.R	4	74	1	7	BLACKMAN.R	3	62	8	29
BEESTON.R	4	72	5	3	BLACKMAN.R	3	64	9	23
BEESTON.R	4	74	10	2	BLACKMAN.R	3	64	2	10
BEESTON.R	4	74	10	2	BLAKE.D	9	80	3	27
BEETHAM.T	6	66	4	28	BLAKE.J	1	60	4	26
BELL.C	4	64	5	11	BLANDEN.M	6	66	7	16
BELL.G	9	70	12	29	BLANDEN.M	6	66	7	2
BELL.G	9	86	7	12	BLOCH.D	9	80	4	19
BELL.J	3	86	5	21	BLOSSOM	1	56	1	14
BELLAMY.C	7	90	5	25	BLOSSOM	1	70	4	11
BELLAMY.C	7	90	5	25	BLUMER.T	4	52	9	25
BELLAMY.F	3	74	2	27	BLUNDELL.J	4	76	1	22
BELOFF.M	4	76	7	22	BLUNSDEN.J	9	80	4	19
BELOFF.M	4	60	10	26	BLUNSDEN.J	9	86	4	28
BELOFF.N	4	80	10	9	BLUNSDEN.J	9	86	7	12
BENNETT.A	1	76	4	2	BLYTH.R	9	70	11	9
BENNETT.W	7	90	5	25	BOLTON.R	4	88	7	28
BENNETT.W	7	90	4	7	BONARJEE.P	6	46	6	15
BENNY.A	4	82	7	5	BONAVIA.D	9	70	9	25
BENSON.D	1	66	2	23	BONAVIA.D	9	70	6	20
BENSON.R	7	90	10	25	BOND.P	8	80	4	8
BERESFORD	9	50	12	4	BONNER.G	9	80	4	25
BERGIN.J	9	46	6	25	BONNER.H	8	76	6	30
BERKELEY.R	4	60	6	28	BOOKER.C	4	80	12	27
BERNARD.B	4	86	1	21	BORN.G	7	90	2	12
BERNAYS.R	4	72	1	1	BOSTON.R	6	76	8	3
BERRY.	4	78	12	20	BOTLEY.C	4	48	8	4
BERRY.A	4	78	12	20	BOUCH.W	4	48	8	4
BERRY.A	4	78	6	22	BOWEN.C	4	66	7	27
BERRY.A	4	82	3	9	BOWER.R	4	62	8	31
BERRY.A	4	78	1	10	BOWES.S	1	46	1	11
BERRY.A	4	88	10	11	BOYD.F	6	66	5	27
BERRY.A	4	88	1	15	BOYES.R	9	86	11	18
BERRY.A	4	88	11	17	BOYLE.E	9	80	8	11
BERRY.A	4	86	10	20	BOYNE.H	4	70	5	15
BERRY.A	4	86	6	7	BOYNE.H	4	70	4	30
BERRY.A	4	90	1	8	BOYNE.H	4	64	7	8
BERRY.A	4	80	4	26	BOYNE.H	4	68	9	25
BERRY.A	4	80	1	8	BRADBURY.D	3	78	1	23
BERRY.A	4	80	4	26	BRADIE.I	4	82	7	5
BERRY.A	4	92	5	16	BRADLEY.D	9	80	3	27
BERRY.A	4	92	5	16	BRADLEY.I	9	80	8	11
BERRY.A	4	92	5	12	BRADLEY.I	9	80	8	11
BERRY.A	4	92	9	19	BRADY.C	4	82	7	9
BERRY.A	4	70	6	29	BRAGG.L	9	60	7	17
BERRY.A	4	84	3	19	BRAID.M	7	90	11	22
BERTHOUD.R	9	76	7	31	BRAMWELL.C	4	78	3	29
BERTHOUD.R	9	80	2	22	BRAMWELL.C	4	76	1	22
BERTIN.L	4	54	10	8	BRAUND.P	3	90	3	19
BERTIN.L	4	56	3	27	BRENNAN.J	9	76	11	8
BERTIN.L	4	56	3	22	BRIAN.S	4	82	1	8

Author	Paper	Year	Month	Day
BRIGGS.A	7	90	2	12
BRIGGS.P	3	64	2	10
BRITTAIN.V	4	68	7	9
BROCKLEHST	4	58	1	21
BRODIE.I	4	82	12	15
BRODIE.I	4	88	3	25
BRODIE.I	4	86	1	31
BRODIE.I	4	86	10	20
BRODIE.I	4	76	7	22
BRODIE.I	4	80	10	9
BRODIE.I	4	90	2	16
BRODIE.I	4	92	9	19
BRODIE.I	4	90	5	30
BRODIE.I	4	84	5	19
BROGAN.C	4	52	7	11
BROMPTON.S	9	86	6	6
BROOME.G	8	76	7	22
BROOME.L	9	50	12	29
BROWN.D	3	62	4	17
BROWN.D	4	90	5	30
BROWN.D	4	90	5	30
BROWN.D	4	90	3	14
BROWN.D	4	90	7	23
BROWN.D	4	92	9	19
BROWN.F	9	86	11	18
BROWN.F	4	60	11	10
BROWN.G	4	78	1	10
BROWN.G	4	82	7	26
BROWN.G	4	82	7	5
BROWN.G	4	86	6	30
BROWN.G	4	84	9	27
BROWN.M	7	90	11	5
BROWN.T	1	70	3	23
BROWN.T	4	90	5	30
BRUTON.R	4	92	5	16
BRYANT.T	4	92	5	16
BRYDSON.J	4	84	11	20
BUCKLAND.C	3	80	11	3
BUCKLAND.C	3	80	11	3
BULLOCH.J	4	76	4	22
BUNYAN.N	4	92	9	19
BURHOP.E	9	50	12	29
BURTON.A	4	62	8	31
BURTON.M	4	62	8	31
BURTON.M	4	62	8	24
BURTON.P	3	74	9	26
BURTON.P	3	82	12	3
BURTON.P	3	84	8	6
BURTON.R	4	92	9	19
BUSCALL.E	4	90	7	23
BUTCHER.T	4	92	3	28
BUTILIER.A	9	70	9	25
BUTLAND.M	4	56	8	20
BUTLER.L	3	90	9	26
BUTLER.T	4	72	3	3
BUTT.R	9	76	5	6
BUTT.R	9	80	3	27
BUXTON.P	9	46	2	23
BVISSERET.	4	78	8	8
C.D.	9	86	1	20
C.M.	4	92	1	6
C.M.	4	92	12	2
C.MCG.	4	90	3	5
CABLE.A	8	90	9	27
CADBURY.L	9	70	9	25
CAIRNCROSS	9	70	5	19
CALLA.P	3	84	8	2
CALLAN.P	3	78	7	19
CALLAN.P	3	86	5	21
CALLOW.C	9	70	11	9
CALLOW.C	9	70	9	25
CALVIN.M	4	88	7	28
CAMBELL.C	4	82	7	26
CAMERON.I	3	84	3	9
CAMERON.I	3	82	11	2
CAMERON.J	1	46	7	2

Author	Paper	Year	Month	Day
CAMPBELL.C	4	82	7	5
CAMPBELL.F	7	90	11	22
CAMPBELL.H	4	90	7	23
CAMPBELL.M	4	64	1	18
CAMPBELL.M	4	62	8	24
CANDY.E	9	70	6	20
CARDEW.B	1	50	2	16
CARDEW.B	1	50	2	16
CARDEW.B	1	66	2	17
CARDEW.B	1	56	10	12
CARDEW.B	1	56	1	24
CARDEW.B	1	70	5	15
CARDEW.B	1	70	3	23
CARDEW.B	1	70	10	12
CARDEW.B	1	60	6	8
CARLIN.J	7	90	2	12
CARR.W	4	62	8	24
CARR.W	4	60	11	11
CARRATT.J	9	70	11	9
CARSON.I	9	76	6	22
CARVEL.J	6	76	7	1
CASEY.J	4	92	7	25
CASSANDRA	3	58	3	28
CASSANDRA	3	54	9	7
CASSANDRA	3	48	3	25
CASSANDRA	3	48	12	9
CASSANDRA	3	58	10	15
CASSANDRA	3	64	9	23
CASSANDRA	3	54	4	26
CASSANDRA	3	54	5	31
CASSANDRA	3	60	3	7
CASSANDRA	3	66	4	15
CASSANDRA	3	56	12	28
CASSANDRA	3	56	6	13
CASSANDRA.	3	64	6	4
CATNACH.T	4	86	9	26
CAUTHERY.P	4	72	4	1
CAVE.T	9	80	7	7
CHALFONT	9	80	7	7
CHALFONT+	9	76	11	8
CHALONER.L	6	66	5	27
CHAMBERS.P	1	60	5	7
CHAMPAGNE	4	60	10	26
CHAMPION.R	3	74	11	25
CHAMPION.R	3	62	4	3
CHAMPION.R	3	56	5	4
CHAMPION.R	3	56	6	13
CHAMPION.R	.	.	.	.
CHAMPION.R	3	60	3	7
CHANTER.L	4	62	8	24
CHANTER.L	4	54	9	3
CHANTER.L	4	58	9	12
CHAPMAN.C	9	70	5	19
CHAPMAN.R	6	76	8	13
CHAPMAN.R	6	76	3	23
CHAPMAN.S	9	60	7	17
CHAPPELL.J	4	62	5	24
CHAPPELL.J	4	50	12	28
CHAPPLE.V	8	86	6	24
CHARLESTON	1	66	8	12
CHECKLEY.J	3	68	5	14
CHESSER.E	3	60	1	27
CHESTERTON	3	48	4	15
CHESTERTON	3	52	12	18
CHESTERTON	3	50	5	19
CHESWORTH	1	66	8	12
CHEVINS.H	4	52	9	25
CHEVINS.H	4	48	11	6
CHEVINS.H	4	56	7	9
CHEVINS.H	4	50	3	30
CHEVINS.H	4	58	10	15
CHILDE.L	4	82	5	8
CHOATE.R	9	76	11	17
CHOATE.R	9	76	10	9
CHOATE.R	9	80	3	24
CHRISTMAS.	6	76	8	13

Author	Paper	Year	Month	Day
CHRISTMAS.	6	76	9	17
CHURCH.M	9	76	3	23
CHURCHILLW	4	50	10	26
CHURCHHOUSE	4	74	3	1
CLARE	3	52	9	24
CLARE.J	4	92	1	6
CLARK.C	4	62	3	30
CLARK.M	9	86	7	12
CLARK.M	9	86	10	25
CLARKE.D	3	78	2	18
CLARKE.K	4	86	6	30
CLARKE.K	4	84	9	27
CLARKE.K	4	84	11	20
CLAYLON.J	3	52	9	26
CLAYTON.H	9	76	11	17
CLAYTON.H	9	76	5	6
CLAYTON.H	9	80	2	22
CLAYTON.H	9	80	8	11
CLAYTON.H	9	80	12	29
CLAYTON.H	9	80	4	25
CLAYTON.H	9	86	4	28
CLAYTON.H	3	78	9	26
CLEMENS.D	3	68	7	3
CLIFFORD.B	9	60	10	28
CLIFFORD.D	3	62	12	7
CLIFFORD.L	4	90	7	23
CLOUGH.P	9	86	7	8
CLOUGH.P	9	86	1	20
CLOUGH.P	9	86	6	4
CLOVER.C	4	88	1	21
CLOVER.C	4	90	8	23
CLOVER.C	4	90	3	5
CLOVER.C	4	92	12	2
CLOVER.C	4	90	7	23
CLOVER.C	4	92	12	2
CLOVER.C	4	92	9	19
CLOVER.C	4	88	7	28
COCKCROFT	9	60	7	17
COCKCROFT.	4	72	4	29
COHEN.N	7	90	5	25
COHEN.N	7	90	6	22
COLBY.R	4	62	8	31
COLE.R	7	90	8	8
COLE.R	7	90	4	7
COLEMAN.T	6	66	5	27
COLEMAN.V	8	90	5	11
COLEMAN.V	8	90	12	13
COLEMAN.V	8	90	9	27
COLLIER.J	3	90	10	10
COLLIER.J	3	90	9	26
COLLINS.A	4	80	9	8
COLLINS.N	4	88	1	15
COLLINS.N	4	86	10	20
COLLINS.W	4	62	3	23
COLSTON.C	4	54	3	9
COLUMBUS.J	9	66	7	5
COMFORT.N	4	78	4	13
COMFORT.N	4	78	3	29
COMFORT.N	4	78	3	29
COMFORT.N	4	80	10	9
COMFORT.N	4	80	9	8
COMFORT.N	4	84	11	20
CONFINO.J	4	92	3	28
CONGDON.T	9	76	5	6
CONGDON.T	9	76	6	16
CONGDON.T	4	82	7	26
CONI.N	4	86	6	30
CONNEW.P	3	72	5	27
CONNEW.P	3	82	12	23
CONNEW.P	3	74	2	27
CONNEW.P	3	84	8	8
CONNOR.W	3	52	9	5
CONNOR.W	3	54	9	7
CONWAY.B	4	82	7	5
CONYERS.T	4	82	12	15
COOK.C	6	76	7	1

Author	Paper	Year	Month	Day
COOK.C	.	.	.	.
COOKE.A	6	46	6	15
COOKE.A	6	46	10	4
COOKE.R	9	86	7	8
COOPER.E	4	82	7	26
COOPER.C	6	76	3	23
COOPER.E	4	88	9	12
COOPER.G	4	88	7	6
COOPER.G	4	86	10	15
COOPER.G	4	86	10	20
COOPER.G	4	86	1	21
COOPER.G	4	86	1	31
COOPER.G	4	80	2	16
COOPER.G	4	80	5	8
COOPER.G	4	84	11	27
COOPER.G	4	80	10	9
COOPER.J	1	50	12	14
COOPER.K	4	92	12	2
COOPER.W	4	62	4	4
COOTE.A	1	76	9	22
COOTE.C	4	46	1	14
COPPS.A	4	82	7	26
CORINA.M	9	70	5	12
CORLESS.F	3	88	6	30
CORNWELL.R	7	90	3	6
CORWA.M	9	70	11	9
COTON.A	4	60	11	11
COUGHLIN.C	4	78	4	7
COUGHLIN.C	4	88	3	25
COULDWELL.	4	88	1	15
COULTER.E	9	86	11	18
COUPER.H	4	92	12	2
COURTAULD	4	92	3	28
COUSINS.G	4	60	1	16
COUSINS.W	4	70	7	7
COVENEY.J	4	60	1	2
COWDRY.Q	4	88	11	17
COWDRY.Q	4	88	9	12
COWIE.I	4	90	5	30
COWIE.I	4	92	7	25
COWIE.I	4	92	5	16
COWIE.I	4	92	9	19
COWTON.R	9	86	7	8
COWTON.R	9	86	7	12
COWTON.R	9	86	6	4
COWTON.R	9	86	11	19
CRADDOCK.D	9	70	11	9
CRADDOCK.M	6	66	4	4
CRAIG.M	4	92	9	19
CREW.B	9	80	3	24
CRICKMER.C	3	88	4	15
CRITCHLEY	4	76	4	22
CROOME.A	4	64	7	29
CROOME.A	4	70	11	3
CROSS.D	9	76	6	22
CROSSLAND.	9	76	6	16
CRUMP.J	4	60	1	16
CUFLEY.CF	6	66	4	28
CULLISON.A	4	68	1	25
CULPIN.C	9	66	7	5
CUNNINGHAM	6	76	7	1
CUNNINGHAM	9	86	11	19
CUNNINGHAM	1	70	10	12
CUNNINGHAM	8	90	6	27
CURTIS.T	4	86	9	26
CURTISS.J	4	86	3	7
D.F.B.	4	78	12	20
D.H.	9	86	4	28
D.H.	9	86	4	28
D.M.	4	58	1	21
D.R.H.	6	46	3	20
D.S.	4	62	8	24
DALE.H	9	60	7	17
DALEA	9	80	3	27
DALL.J	4	68	2	8
DANIELS.W	3	72	2	25

Author	Paper	Year	Month	Day
DANIELS.W	3	64	2	10
DANIELS.W	3	80	9	17
DANZIG.J	3	80	8	11
DANZIG.J	3	80	12	1
DARBYSHIRE	4	92	6	2
DARLINGTON	.	.	.	.
DARLINGTON	4	54	10	8
DAVENPORT	9	86	6	6
DAVENPORT	9	86	11	18
DAVENPORT.	4	88	1	15
DAVEY.D	9	70	11	9
DAVIES.C	4	78	7	13
DAVIES.G	9	86	10	25
DAVIES.H	4	80	4	26
DAVIES.H	4	70	7	7
DAVIES.H	4	92	12	2
DAVIES.H	4	88	7	28
DAVIES.N	3	86	5	1
DAVIES.N	3	86	5	1
DAVIES.N	3	86	5	1
DAVIES.N	3	70	3	26
DAVIES.P	4	60	10	11
DAVIES.P	4	86	3	7
DAVIES.P	4	70	4	30
DAVIES.P	4	68	2	8
DAVIES.P	4	68	7	9
DAVIS.B	9	80	2	22
DAVIS.C	3	54	5	31
DAVIS.C	3	64	1	3
DAVIS.C	4	50	9	29
DAVIS.N	3	68	6	1
DAVIS.V	1	66	4	19
DAVIS.W	6	66	7	2
DAVIS.W	6	66	5	17
DAVIS.W	6	66	4	4
DAVIS.W	6	66	7	16
DAVISON.R	6	46	3	21
DAWSON.J	4	64	5	1
DAY-LEWIS	4	86	1	21
DAY-LEWIS	4	84	9	27
DAY-LEWIS	4	84	11	20
DAY-LEWIS	4	64	3	26
DAY-LEWIS	4	68	5	10
DAY.S	7	90	11	5
DAYTON.L	4	92	1	6
DEACON.G	.	.	.	.
DEBELINS.H	9	80	2	22
DEEDES.W	4	68	11	5
DEESON.A	6	66	4	28
DEIDRE	8	86	3	18
DELANO.A	3	78	2	18
DELANO.A	3	72	9	13
DELANO.A	3	78	1	23
DELANO.T	3	66	4	19
DELNO.T	3	84	8	2
DENBIGH.K	9	70	9	25
DENIS.N	4	88	9	12
DERRICK.J	4	70	4	30
DERRY.T	4	62	3	23
DESBOROUGH	3	70	3	26
DESTROUMIL	4	82	5	8
DEVLIN.T	9	76	6	16
DEVLIN.T	9	76	3	23
DEVLIN.T	9	76	11	17
DEXTER.J	3	58	3	28
DIAMANT.R	4	66	2	10
DICKSON.M	7	90	6	22
DIMONT.M	3	76	7	27
DIMSDALE	9	76	4	20
DIXON.B	8	86	4	5
DOBSON.C	1	60	5	14
DODD.C	9	80	8	11
DODD.J	8	76	11	27
DODD.M	3	74	6	14
DODD.S	3	82	12	23
DODD.S	3	82	11	2

Author	Paper	Year	Month	Day
DONALDSON	4	74	1	7
DONALDSON	4	76	1	22
DONALDSON	4	76	4	21
DONALDSON	4	76	7	22
DONALDSON	4	76	1	14
DONALDSON	4	66	1	28
DONALDSON	4	66	9	5
DONALDSON	4	70	2	19
DONALDSON	4	64	2	6
DONALDSON	4	64	1	18
DONALDSON	4	68	7	19
DONALDSON	4	68	2	1
DONALDSON	4	64	7	8
DONALDSON.	4	72	11	17
DONALDSON.	4	72	3	3
DONALDSON.	4	78	7	13
DONALDSON.	4	72	5	3
DONALDSON.	4	62	7	2
DONALDSON.	4	72	2	21
DONALDSONE	4	78	3	29
DONALDSSON	4	78	4	7
DORAN.A	4	80	12	27
DOUGLAS-HO	9	70	4	27
DOUGLAS	4	62	8	25
DOULL.M	4	92	7	25
DOVER.C	4	72	4	29
DOVER.C	4	74	1	7
DOVER.C	4	74	10	2
DOVER.C	4	74	10	21
DOVER.C	4	76	7	22
DOVER.C	4	76	6	4
DOVER.C	4	76	11	3
DOVER.C	4	66	8	26
DOVER.C	4	76	8	24
DOVER.C	4	76	4	22
DOVER.C	4	68	8	22
DOVER.L	4	72	2	12
DOVER.L	4	72	4	13
DOWDEN.R	7	90	11	5
DOWDNEY.M	3	82	12	23
DOWDNEY.M	3	78	10	17
DOWDNEY.M	3	76	7	3
DOWNTON.E	4	56	3	27
DOWNTON.E	4	60	11	11
DOXAT.J	4	86	10	20
DOYLE.C	4	88	10	11
DOYLE.C	4	88	10	11
DOYLE.C	4	90	2	6
DOYLE.C	4	90	2	16
DOYLE.C	4	92	12	2
DOYLE.C	4	92	6	2
DOYLE.C	4	92	5	12
DRAN.J	4	72	4	1
DRAZIN.F	3	50	10	14
DREW.J	9	60	4	19
DRUMMOND.J	9	80	7	26
DRUMMOND.M	9	86	7	12
DRYDEN.C	4	82	5	8
DRYDEN.C	4	78	9	26
DRYDEN.C	4	82	7	26
DRYDEN.C	4	78	7	13
DRYDEN.C	4	88	9	12
DRYDEN.C	4	76	1	14
DRYDEN.C	4	66	3	26
DRYDEN.C	4	66	7	13
DRYDEN.C	4	90	5	30
DUNCAN.L	9	70	7	11
DUNCAN.S	3	62	8	3
DUNCAN.S	3	64	2	10
DUNDEE.R	9	80	3	27
DUNKLETT.J	6	66	5	17
DUNKLEY.C	9	70	5	19
DUNKLEY.J	6	66	7	2
DUNKLEY.J	6	66	5	27
DUNN.E	4	92	7	25
DUNSFORD.J	4	78	4	7

Author	Paper	Year	Month	Day
DURMAN.P	7	90	11	5
DWYER.D	9	70	5	12
DWYER.D	9	70	5	12
DYMOCK.E	6	76	3	23
E.A.	9	60	7	17
E.H.	9	76	5	6
E.H.	9	76	5	6
E.W.	4	78	1	10
EADIE.A	9	86	6	26
EASTABROOK	4	54	10	9
EBAN.A	4	80	9	8
EBBETTS.L	1	76	2	2
EDEN.A	9	60	1	20
EDGAR.D	1	56	7	31
EDGHILL.S	4	92	12	2
EDMONDS.M	4	92	9	19
EDMUNDS.L	4	76	4	22
EDMUNDS.L	4	86	1	31
EDMUNDS.L	4	76	1	7
EDMUNDS.L	4	80	1	26
EDWARDS.T	6	46	3	21
EDWARDS.C	1	56	1	24
EDWARDS.D	3	78	7	19
EDWARDS.R	7	90	2	12
EGGAR.R	3	84	3	9
EISENHAMMR	7	90	10	25
EISENSTEIN	9	80	7	7
ELLIOT.S.	4	62	8	31
ELLIOT.V	4	82	7	26
ELLIOT.V	4	82	3	9
ELLIOT.V	4	82	7	5
ELLIOTT.H	9	86	10	25
ELLIOTT.M	4	70	2	19
ELLIOTT.M	4	70	2	7
ELLIS.B	4	88	7	6
ELLIS.C	4	60	6	25
ELLIS.F	1	60	7	14
ELLIS.G	3	72	9	13
ELLIS.R	8	86	9	29
EVAN.P	9	86	1	20
EVANS.G	4	54	9	3
EVANS.I	9	56	8	20
EVANS.J	4	72	2	12
EVANS.K	9	86	11	18
EVANS.M	1	76	8	12
EVANS.P	9	70	11	9
EVANS.P	9	80	7	26
EVANS.P	4	88	9	12
EVANS.T	1	56	11	14
EVANS.T	1	66	2	17
EVANS.V	1	50	11	4
EWANS.P	9	70	9	25
EYSENCK.H	9	76	11	8
EZARD.J	6	76	6	29
FAGAN.M	7	90	3	6
FAGAN.M	7	90	3	6
FAGAN.M	7	90	3	6
FAGAN.M	7	90	6	22
FAGAN.M	7	90	4	7
FAGAN.M	7	90	8	8
FAGAN.M	7	90	10	25
FAGG.W	9	50	12	4
FAINBERG.V	6	76	12	31
FAIRBROTHER	9	70	9	19
FAIRCHILD	4	82	1	8
FAIREY.E	9	80	3	27
FAIRHALL.D	6	76	12	10
FAIRHALL.D	6	66	5	17
FAIRHALL.D	6	66	12	24
FAIRHALL.J	6	76	9	17
FAIRHALL.J	6	76	9	17
FAIRHALL.J	6	76	12	31
FAIRPLAY	6	46	2	16
FALK.R	9	50	12	4
FALLOWS.G	3	66	6	20
FARCLOUGH.	3	64	2	22

Author	Paper	Year	Month	Day
FARELL.N	4	88	10	11
FARR.M	4	80	9	8
FAULKNER.A	4	72	4	11
FAUX.R	9	80	2	22
FEATHER.V	9	50	12	1
FEDDEN.R	4	48	7	13
FEDDEN.R	4	54	12	14
FELTON.D	9	86	1	20
FENNEL.E	4	82	7	26
FENNELL.E	9	86	7	8
FENNELL.E	9	86	11	19
FENNELL.E	4	84	3	19
FENTON.B	4	88	1	15
FENTON.B	4	88	3	25
FERGUSON.C	9	86	4	28
FERGUSON.J	9	86	10	25
FERRIHAN.A	9	80	4	25
FERRIMAN.A	9	80	3	24
FERRIMAN.A	9	80	7	26
FEUCHTWNGR	4	92	12	2
FIELD.M	4	78	9	26
FIELD.M	4	86	1	21
FIELD.M	4	66	8	26
FIELD.M	4	86	1	21
FIELD.M	4	80	4	17
FIELD.M	4	84	11	20
FIELD.M	4	70	5	15
FIELD.M	4	70	4	30
FIELD.M	4	58	10	15
FIELD.X	3	76	8	21
FIELD.X	3	56	1	21
FIELDER.M	8	90	3	30
FILDES.C	4	90	7	23
FILDES.C	4	90	7	23
FILDES.C	4	92	9	19
FILDES.C	4	92	12	2
FILDES.C	4	92	7	25
FISHER.F	4	92	7	25
FISHER.G	4	48	11	6
FITZGIBBON	4	58	3	24
FLECK.A	9	60	7	17
FLEET.K	4	72	2	21
FLEET.K	9	86	7	8
FLEET.K	9	86	11	19
FLETCHER.D	4	82	7	9
FLETCHER.D	4	82	11	3
FLETCHER.D	4	82	7	26
FLETCHER.D	4	88	10	11
FLETCHER.D	4	88	3	25
FLETCHER.D	4	88	4	30
FLETCHER.D	4	92	1	6
FLETCHER.D	4	86	10	15
FLETCHER.D	4	86	9	26
FLETCHER.D	4	86	1	24
FLETCHER.D	4	92	1	6
FLETCHER.D	4	80	10	9
FLETCHER.D	4	80	12	27
FLETCHER.D	4	80	4	17
FLETCHER.D	4	80	2	16
FLETCHER.D	4	90	5	30
FLETCHER.D	4	80	4	17
FLETCHER.D	4	90	2	16
FLETCHER.D	4	70	2	7
FLETCHER.D	4	92	7	25
FLETCHER.D	4	92	7	25
FLETCHER.D	4	92	12	2
FLETCHER.D	4	84	11	20
FLETCHER.D	4	84	11	20
FLETCHER.D	4	92	12	2
FLETCHER.D	4	92	1	8
FLETCHER.D	4	92	6	2
FLETCHER.D	4	70	9	19
FLETCHER.D	4	92	12	2
FLETCHER.D	4	84	3	19
FLETCHER.D	4	84	5	19
FLETCHER.K	4	86	6	7

Author	Paper	Year	Month	Day
FLETCHER.M	9	86	11	19
FLOWER.D	9	60	5	19
FLOYD.D	4	76	4	22
FLOYD.D	4	60	6	28
FOGLE.B	4	92	9	19
FOLEY.T	4	62	8	25
FOOT.P	3	84	8	2
FOOT.P	3	86	5	1
FORDHAM.P	6	66	5	17
FORSYTH.G	4	60	10	26
FOSTER.C	4	78	6	22
FOX.R	4	92	9	19
FOX.R	4	92	12	2
FRANCIS.E	4	64	5	1
FRANKHAM.J	8	76	12	1
FRANKLIN	3	68	7	3
FRANKLIN	3	64	1	31
FRANKLIN	8	90	5	22
FRANKLIN.C	4	68	5	10
FRANKS.A	9	86	6	6
FREEBORN.A	4	84	3	19
FRNKLIN	3	62	12	7
FROST.J	4	64	5	1
FUCHS.V	9	56	2	23
FURNEAUX.B	4	70	11	3
FURSDON.E	4	82	11	3
FURSDON.E	4	82	11	3
FURSDON.E	4	82	3	9
FURSDON.E	4	82	12	15
FYALL.A	1	66	2	3
G-LITTLE.E	9	50	2	8
G-YOOLL.A	7	90	11	5
G-JAMES.I	4	80	9	8
G-JAMES.I	4	80	12	10
G-JAMES.I	4	80	5	8
G-BROWN.L	4	92	3	28
G-SMITH.C	4	58	8	16
GALLUP.G	4	64	7	29
GANDER	4	48	7	13
GANDER.L	4	48	11	6
GANDER.L	4	62	7	2
GANDER.L	4	62	8	31
GANDER.L	4	66	1	28
GANDER.L	4	66	9	5
GANDER.L	4	54	3	1
GANDER.L	4	58	3	24
GANDER.L	4	62	12	19
GANDER.L	4	58	9	29
GANDER.M	4	62	8	24
GARBUTT.C	3	90	9	26
GARDNER.R	3	90	9	26
GARNER.J	9	80	3	27
GARNER.L	4	88	7	6
GARNER.R	3	90	8	30
GARRETT.E	4	66	9	5
GARTLAND.P	9	86	10	25
GAVRON.J	4	88	4	30
GAY.M	8	76	6	30
GEDDES.D	9	80	3	27
GEDDES.D	9	80	8	11
GEDDES.D	9	80	3	27
GEDDES.D	9	86	6	26
GEDYE.R	4	90	2	16
GEORGATOS	4	88	4	30
GERMAN.C	4	74	12	28
GERMAN.C	4	80	12	10
GERMAN.C	4	80	9	8
GERMAN.C	4	70	2	7
GIBB.F	9	80	2	22
GIBBS.G	4	80	9	8
GIBBS.N	4	60	11	14
GIBBS.P	4	50	9	29
GIBBS.P	4	58	3	24
GIBBS.S	4	92	7	25
GIBSON.H	6	46	10	4

Author	Paper	Year	Month	Day
GIBSON.H	4	46	2	28
GIDOOMAL.S	7	90	10	25
GILBRIDE.F	3	90	10	10
GILES	1	46	10	22
GILL.P	4	78	1	10
GILL.P	4	72	3	3
GILMORE.J	6	66	11	15
GILMORE.J	6	66	5	17
GLAZIER.J	4	78	3	29
GLENDINNIG	4	62	4	4
GLENTON.G	3	68	6	1
GLYN.R	4	62	7	2
GODFREY.P	9	76	10	9
GODLEY.W	9	80	7	26
GODLEY.W	9	80	4	25
GODSON.D	4	92	5	14
GODWIN.H	9	60	7	17
GODWIN.S	7	90	4	7
GOLDSMITH	4	80	4	17
GOLZEN.G	4	82	7	5
GOLZEN.G	9	86	6	26
GOOCH.A	4	88	1	15
GOOCH.A	4	88	9	12
GOOCH.A	4	88	7	28
GOODEVE.C	9	56	6	20
GOODHART.A	4	60	6	25
GOODHART.P	4	70	2	19
GOODMAN.E	4	70	9	19
GOODMAN.E	4	70	6	29
GOODMAN.G	3	78	9	22
GOODMAN.G	3	78	7	19
GOODMAN.G	3	70	8	25
GORDON.I	.	.	.	.
GORING.M	9	86	6	6
GOURLAY.D	6	66	7	2
GRAHAM.D	9	50	12	1
GRAHAM.G	9	70	9	19
GRAHAM.G	9	70	7	11
GRANT.J	1	60	7	14
GRANT.N	3	62	8	3
GRANT.V	4	70	4	30
GRANTHAM.R	.	.	.	.
GRASLING.K	9	80	3	24
GRAVES.D	4	86	1	31
GRAVES.D	4	84	12	22
GREDDES.D	9	80	3	24
GREEN.C	9	56	3	19
GREEN.D	4	88	1	21
GREEN.F	3	62	9	21
GREEN.F	3	62	4	3
GREEN.R	4	64	7	29
GREENWOOD	4	50	9	29
GREGOR.G	3	74	11	1
GREGOR.G	3	64	6	4
GRENBY.T	4	84	11	27
GRENVILLE	4	84	3	19
GRIBB.F	9	80	7	26
GRIBBEN.R	4	78	12	20
GRIBBEN.R	4	72	2	12
GRIBBEN.R	4	88	9	12
GRIBBEN.R	4	82	7	26
GRIBBEN.R	4	88	4	30
GRIBBEN.R	4	88	11	17
GRIBBEN.R	4	76	1	7
GRIBBEN.R	4	86	3	7
GRIBBEN.R	4	86	10	15
GRIBBEN.R	4	90	1	8
GRIBBEN.R	4	80	9	8
GRIBBEN.R	4	80	9	8
GRIBBEN.R	4	80	12	27
GRIBBEN.R	4	80	1	8
GRIBBEN.R	4	90	3	5
GRIBBEN.R	4	80	5	8
GRIBBEN.R	4	92	9	19
GRIBBEN.R	4	92	3	28
GRIBBEN.R	4	92	12	2

Author	Paper	Year	Month	Day
GRIBBEN.R	4	70	9	19
GRIBBEN.R	4	92	5	13
GRIBBEN.R	4	70	7	7
GRIBBEN.R	4	88	7	28
GRIBBLE.R	9	80	3	27
GRIFFITH.E	9	80	7	26
GRIFFITHS	4	90	3	5
GRIFFITHS	7	90	5	25
GRIFFITHS.	3	64	11	21
GRIGG.J	9	86	7	12
GRIGSBY.J	4	78	1	10
GRIGSBY.J	4	82	7	26
GRIGSBY.J	4	82	12	15
GRIGSBY.J	4	78	6	22
GRIGSBY.J	4	82	7	26
GRIGSBY.J	4	78	3	29
GRIGSBY.J	4	88	11	17
GRIGSBY.J	4	90	3	14
GROOM.A	4	82	12	31
GROOM.A	4	84	5	19
GROSE.R	8	90	4	11
GROSS.D	9	80	12	29
GROSVENOR	1	66	4	21
GROSVENOR	1	66	2	17
GROSVENOR	1	70	2	5
GROVE.J	4	60	11	10
GRUGEON.D	4	66	7	27
GUEST.P	7	90	4	7
GUICHARD.K	9	70	9	25
GULLICK.D	9	80	4	25
GUNDRAY.E	6	66	4	4
GUNDRY.D	4	86	1	31
GUNDRY.D	4	80	10	9
GURDON.H	4	90	1	8
H-JONES.G	4	64	2	6
HADDEN.C	4	92	5	16
HADLINGTON	4	92	1	6
HADLINGTON	4	92	12	2
HAGERTY.B	3	74	9	26
HAINES.J	3	88	2	24
HALCROW.M	4	80	12	27
HALDANE.C	4	50	11	13
HALE.R	4	78	8	8
HALL.A	8	90	9	27
HALL.B	1	66	2	3
HALL.C	7	90	5	25
HALL.C	7	90	3	6
HALL.C	7	90	10	25
HALL.C	7	90	8	8
HALL.C	7	90	10	25
HALL.C	7	90	10	25
HALL.C	7	90	10	25
HALL.M	3	68	11	2
HALL.M	3	82	5	12
HALL.M	3	82	8	12
HALL.M	3	70	3	26
HALL.M	3	80	12	29
HALL.N	4	62	8	31
HALL.N	4	54	7	26
HALL.N	4	50	9	1
HALL.N	4	50	9	29
HALL.R	9	80	3	27
HALSTEAD.B	7	90	5	25
HAMBLEDON	4	76	1	22
HAMMOND.A	9	70	9	2
HAMMOND.N	9	76	4	20
HAMMOND.N	9	70	9	2
HAMMOND.N	9	86	7	12
HAMMOND.N	9	86	4	28
HAMMOND.N	9	86	4	28
HAMPSON.C	3	78	9	26
HANCOCK.D	3	90	8	30
HANDY.P	3	72	5	27
HANSON.M	6	76	7	1
HAPPOLD.F	9	70	11	9
HARDING.J	3	78	1	23
HARDMAN.R	4	88	9	12

Author	Paper	Year	Month	Day
HARGREAVES	4	88	1	21
HARGROVE.C	9	70	9	25
HARGROVE.C	9	80	7	7
HARLEY.G	3	52	9	24
HARLOW.J	4	90	2	6
HARRINGTON	4	76	1	22
HARRIS.D	9	76	11	17
HARRIS.D	9	80	7	7
HARRIS.D	9	80	8	11
HARRIS.D	4	78	4	7
HARRIS.D	4	70	5	15
HARRIS.E	9	80	2	22
HARRIS.L	1	70	2	5
HARRIS.P	3	68	6	28
HARRIS.P	3	64	9	28
HARRIS.P	3	60	8	19
HARRIS.P	3	66	4	15
HARRIS.P	3	66	4	19
HARRIS.P	3	70	3	26
HARRIS.T	4	62	5	24
HARRIS.T	4	60	1	16
HARRIS.T	4	68	7	9
HARRISON.J	4	70	2	7
HARRISON.M	7	90	11	5
HARRISON.M	7	90	3	6
HARRISON.M	7	90	2	12
HARRISON.M	7	70	6	22
HARRISON.M	7	90	8	8
HARROD.D	4	70	7	7
HARROD.D	4	68	1	25
HARROD.R	9	46	2	23
HART-DAVIS	7	90	4	7
HART.M	4	74	3	19
HARTLEY.H	9	60	7	17
HARTSTON.W	7	90	3	6
HARVEY.F	4	56	2	10
HARVEY.R	4	90	8	9
HARVEY.S	4	90	8	23
HASELER.J	9	80	8	11
HATFIELD.M	9	80	7	7
HAUSMAN.J	9	86	10	25
HAVARD.J	9	86	7	8
HAWTHOME.G	6	66	7	2
HAWTHOME.G	6	66	7	16
HAWTHOME.G	6	66	4	28
HAWTHORNE	9	86	10	25
HAWTHORNE	9	86	10	25
HAYEK.F	9	80	3	27
HAYS.P	6	56	5	3
HAZELHURST	9	76	10	9
HAZELHURST	9	80	12	29
HEAD.R	3	64	10	13
HEAD.R	3	78	9	22
HEAD.R	3	68	5	14
HEAD.R	3	76	5	3
HEAD.R	3	86	4	14
HEALY.P	9	76	6	16
HEATH	7	90	2	12
HEATON.C	9	46	12	19
HEDGES.A	4	60	11	10
HEFFER.E	6	76	8	3
HEILBRON.J	4	92	1	6
HELLER.F	9	70	9	25
HELM.S	7	90	5	25
HEMS.A	9	70	11	9
HENDERSON	4	74	10	21
HENNESEY.P	9	80	3	24
HENNESSY.P	9	80	7	7
HENNESSY.P	7	90	11	5
HENNESSY.P	8	90	12	13
HEPBURN.I	8	76	8	28
HEPPNER.S	6	66	4	28
HEWSON.D	9	80	7	7
HEWSON.D	9	86	4	28
HICKEY.W	1	70	1	27
HICKLING.J	4	72	11	17

Author	Paper	Year	Month	Day
HICKMAN.B	6	66	4	28
HIGGINBOTT	4	82	12	15
HIGGINS.S	8	80	4	8
HIGGINS.S	8	90	6	21
HIGHFIELD	4	86	10	20
HIGHFIELD	4	86	10	20
HIGHFIELD	4	86	9	26
HIGHFIELD	4	92	1	6
HIGHFIELD	4	90	8	23
HIGHFIELD	4	90	2	16
HIGHFIELD	4	90	1	8
HIGHFIELD	4	90	3	5
HIGHFIELD	4	90	8	23
HIGHFIELD	4	90	1	8
HIGHFIELD	4	90	1	8
HIGHFIELD	4	90	3	5
HIGHFIELD	4	92	2	26
HIGHFIELD	4	92	5	14
HIGHFIELD	4	92	5	13
HIGHFIELD	4	92	5	16
HIGHFIELD	4	92	9	19
HIGHFIELD	4	92	3	28
HIGHFIELD	4	92	5	13
HIGHFIELD	4	90	8	9
HIGHFIELD	4	92	12	2
HIGHFIELD	4	92	1	8
HIGHFIELD	4	92	12	2
HIGHFIELD	4	90	7	23
HIGHFIELD	4	92	9	19
HIGHFIELD	4	88	9	8
HIGHFIELD	4	88	7	6
HIGHFIELD	4	88	7	28
HIGHFIELD	4	88	9	8
HIGHFIELD	4	88	7	28
HIGHFIELD	4	88	7	28
HIGHFIELD	4	86	10	15
HIGHFIELD.	4	88	1	15
HIGHFIELD.	4	88	11	17
HIGHFIELD.	4	88	11	17
HIGNETT.S	9	70	11	9
HILDRETH.J	6	76	7	1
HILDREW.P	6	76	7	14
HILL.G	9	86	6	4
HILL.J	8	80	6	3
HILL.J	1	66	12	10
HILL.K	9	66	3	16
HILL.P	9	76	6	22
HILL.P	9	80	3	27
HILL.P	9	80	2	22
HILL.P	9	80	4	25
HILL.R	3	52	9	5
HILL.R	3	64	9	23
HILL.R	3	66	1	25
HILLMAN.J	6	76	12	10
HILLMAN.J	6	76	8	3
HILLMORE.P	6	76	6	30
HILTON.M	4	62	3	23
HINDLE.T	4	90	7	23
HINDLEY.K	9	86	10	25
HINSHELW'D	.	.	.	.
HINTON.C	9	60	7	17
HIRST.N	9	80	4	25
HIRST.N	9	80	4	25
HIRST.N	9	80	3	24
HIRST.N	9	80	2	22
HIRST.N	9	80	3	27
HIRST.N	9	80	7	7
HIRST.N	9	80	4	25
HISCOCK.J	4	88	10	11
HOBHOUSE.J	4	72	4	11
HODGES.L	.	.	.	.
HODGES.L	9	86	7	12
HODGES.L	4	88	9	8
HODGES.L	4	88	7	28
HODGKIN.E	9	76	7	31
HODGSON.G	9	86	4	28

Author	Paper	Year	Month	Day
HOFFER.P	4	90	7	23
HOGG.M	4	62	8	31
HOGG.S	9	86	4	28
HOHNSON.B	9	70	9	2
HOLDEN.W	4	92	12	2
HOLDEN.W	4	92	9	19
HOLDEN.W	4	88	9	8
HOLFORD.J	4	48	8	4
HOLLINGWOR	6	66	12	24
HOLLINGWOR	6	66	4	28
HOLLINGWOR	4	72	4	11
HOLLINGWOR	4	72	5	3
HOLLINGWTH	4	76	4	22
HOLLINGWTH	4	86	10	20
HOLLINGWTH	4	80	12	27
HOLLOWAY.D	4	62	8	31
HOLLOWAY.D	4	72	4	13
HOLLOWAY.D	4	66	2	10
HOLLOWAY.D	4	80	5	8
HOLLOWAY.D	4	80	1	26
HOLLOWAY.D	4	80	4	17
HOLLOWAY.D	4	92	9	19
HOLLOWAY.D	4	62	8	24
HOLMES.P	7	90	3	6
HOLMES.R	9	70	11	9
HOLMES.R	4	78	3	29
HOLWELL.	9	76	6	16
HOOD.W	1	76	3	16
HOPE.A	9	76	4	20
HOPE.A	4	60	10	11
HOPE.A	4	60	6	28
HOPE.A	4	70	8	27
HOPE.A	4	58	5	27
HOPKINS.G	9	80	4	25
HOPKIRK.P	9	70	11	9
HOPPIT.D	4	80	1	26
HORDEN.P	4	82	3	9
HORDEN.P	4	82	7	26
HORDEN.P	4	82	3	10
HORNSBY.M	9	76	6	16
HORNSBY.M	9	70	9	2
HORNSSELL.M	9	76	10	9
HORSNELL.M	9	80	7	26
HORSNELL.M	9	86	6	6
HORTEN.M	4	90	7	23
HORTEN.M	4	92	12	2
HOSKINS.P	1	46	10	16
HOTSPUR	4	50	10	26
HOUGH.R	4	88	4	30
HOUGH.R	4	80	4	17
HOUGHTON.P	9	76	7	31
HOWELL.D	4	76	8	24
HOWELL.D	4	66	2	10
HOWITT.M	3	74	6	14
HOYLE.F	9	60	7	17
HUGHES.A	4	70	5	15
HUGHES.C	7	90	2	12
HUGHES.D	4	92	9	19
HUGHES.D	4	92	5	16
HUGHES.D	4	92	3	28
HUGHES.P	3	72	5	27
HUGHES.P	3	68	3	20
HUGHS.P	3	62	10	17
HULBERT.N	4	54	12	21
HUNT.L	7	90	5	25
HUNT.L	7	90	7	31
HUNT.L	7	90	7	31
HUNT.L	7	90	6	22
HUNT.L	7	90	10	25
HUNT.L	7	90	10	25
HUNTER.G	1	66	2	3
HURMAN.R	3	58	10	22
HUSBAND.J	3	84	11	16
HUTCHIN.K	4	86	10	20
HUTCHIN.K	4	86	6	28
HUTCHIN.K	4	86	6	7

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HUTCHIN.K	4	86	10	20	JOHNSON.P	4	80	4	26
HUTCHIN.K	4	92	6	2	JOHNSTON.P	4	88	11	17
HUTCHINGS	4	90	7	23	JOHNSTONE	9	86	7	8
HUTCHINGS	4	64	5	11	JOHNSTONE	4	50	3	30
HUTCHINSON	3	50	5	19	JOHNSTONE	9	86	6	26
HUXLEY.J	3	80	12	29	JOHNSTONE	9	86	6	26
HUXLEY.J	9	80	4	25	JOHNSTONE	9	86	6	4
HYKEL.V	4	88	9	12	JOHNSTONE	4	60	6	28
INGHAM.B	6	66	5	27	JOHNSTONE	4	64	1	18
IRWIN.K	3	78	5	10	JOLLY.H	9	76	3	16
IRWIN.K	3	84	8	8	JONES.B	3	72	2	25
ISHERWOOD	4	80	10	15	JONES.B	3	70	8	20
ISHERWOOD	4	88	7	28	JONES.G	4	84	11	20
IVENS.M	6	76	7	1	JONES.J	1	76	8	13
IZBICKI.J	4	82	7	26	JONES.P	6	76	6	30
IZBICKI.J	4	72	2	21	JORBAN.S	3	74	9	12
IZBICKI.J	4	72	4	11	JORDAN.S	1	60	5	7
IZBICKI.J	4	78	4	13	JORDAN.S	1	70	5	15
IZBICKI.J	4	74	10	21	JORDAN.S	1	60	7	14
IZBICKI.J	4	86	6	30	JORDAN.S	1	70	7	30
IZBICKI.J	4	76	8	24	JORDAN.S	1	60	9	24
IZBICKI.J	4	80	9	8	JUANN.P	6	56	12	11
IZBICKI.J	4	80	9	8	JUREY.P	4	60	10	11
IZBICKI.J	4	70	6	29	K-PEEBLES	4	90	1	8
IZBICKI.J	4	70	5	15	K.B.	3	80	2	8
IZBICKI.J	4	70	6	29	K.F.	9	86	6	6
IZBICKI.J	4	70	7	7	KANE.F	7	90	2	12
J.L.W.	4	88	4	30	KANE.P	3	78	5	10
J.L.W.	4	86	1	31	KANE.P	3	78	10	21
J.L.W.	4	86	6	30	KANE.P	3	88	11	5
J.L.W.	4	68	2	1	KARSHIN.P	9	80	7	26
JACKSON.P	4	88	1	15	KARTER.J	7	90	4	7
JACKSON.C	9	80	7	26	KAUFMAN.E	1	50	10	5
JACKSON.H	6	66	4	4	KAVANAGH.P	4	88	4	30
JACKSON.J	3	78	9	26	KAY.J	4	90	1	8
JACKSON.J	3	72	8	28	KAY.J	8	90	6	21
JACKSON.J	3	78	9	22	KAY.J	8	90	3	30
JACKSON.J	3	70	8	25	KAY.J	4	92	12	2
JACKSON.M	1	70	5	15	KEATLEY.P	6	66	5	17
JACKSON.P	4	88	1	15	KEEGAN.J	.	.	.	.
JACKSON.W	9	60	7	17	KEEGAN.V	6	66	5	17
JACOBS.E	9	80	3	24	KEELER.T	4	88	1	15
JAMES.C	3	46	7	27	KEEN.B	4	62	7	2
JAMES.D	4	52	7	11	KELF-COHEN	4	68	9	25
JAMES.P	3	72	10	23	KELSEY.B	7	90	10	25
JAMES.P	3	74	2	27	KELSEY.B	7	90	10	25
JAMES.P	3	74	9	12	KELSEY.B	7	90	10	25
JAMES.R	9	86	10	25	KEMBLE.B	1	70	2	19
JANET	3	78	2	13	KEMBLE.B	1	70	4	11
JANET	3	74	7	22	KEMP.J	4	72	11	17
JANET	3	78	5	10	KEMP.J	4	72	4	29
JANET	3	78	1	23	KENEALY.J	3	80	5	7
JANET	3	72	11	13	KENNEDY.M	4	62	8	24
JANET	3	72	10	23	KENNEDY.R	4	78	12	20
JANET	3	72	8	28	KENWORTHY	1	76	3	16
JANET	3	74	11	25	KENYON.A	7	90	6	22
JANKOWSKI	4	80	2	16	KEOGH.M	3	68	5	4
JARDINE.C	4	92	6	2	KEOGH.M	3	70	3	26
JARVIS.D	1	60	4	26	KERBY.H	4	62	4	4
JAY.P	9	76	5	6	KERR.D	3	78	7	19
JAY.P	9	70	12	29	KERR.D	3	86	4	18
JEFFERY.G	3	60	8	19	KERRIGAN.M	3	68	5	14
JEFFERY.T	4	92	3	28	KERSHAW.R	9	70	12	29
JEFFRY.G	3	68	6	28	KEWNEY.G	7	90	11	5
JEGER.L	6	66	12	6	KEYNES.R	9	86	6	4
JENKINS.J	7	90	6	22	KEYS.D	7	90	11	22
JENKINS.L	4	88	11	17	KEYS.D	7	90	2	12
JENKINS.P	7	90	10	25	KILEY.N	3	48	8	13
JENKINS.W	8	76	7	22	KILIAN.R	1	60	7	5
JHONSON.D	4	88	3	25	KILMARNOCK	7	90	6	22
JHONSTONE.	9	80	3	24	KING.A	4	92	9	19
JHONSTONE.	9	80	3	27	KING.A	4	92	3	28
JHONSTONE.	9	80	2	22	KING.J	1	70	11	4
JHONSTONE.	9	80	2	22	KING.N	4	50	11	14
JHONSTONE.	9	80	4	25	KINGMAN.S	4	92	1	14
JHONSTONE.	9	80	4	25	KINGSCOTT	9	86	11	18

Author	Paper	Year	Month	Day
KINLOCH.B	4	82	1	8
KINLOCH.B	4	88	10	11
KINSMAN.F	9	80	4	19
KIRBY.T	7	90	2	12
KIRBY.T	7	90	2	12
KIRBY.T	7	90	8	8
KISCH.C	4	60	11	11
KNEVITT.C	9	86	6	6
KNIFE.M	9	70	5	19
KNIGHT.A	4	78	12	20
KNIGHT.G	3	50	12	8
KNIGHT.P	4	66	1	28
KNIGHT.P	4	70	7	7
KNIGHT.P	4	64	9	23
KNIGHT.V	3	62	11	1
KNIGHT.V	3	70	12	1
KNOWLES.D	9	70	9	25
KNOWLES.W	4	78	4	26
KORVING.J	4	86	10	20
KORVING.M	4	72	2	21
KRAFFT.P	4	90	2	6
KRAFT.P	4	88	7	28
KURTI.N	9	66	4	22
LACOSTE.B	9	86	11	18
LAKEMAN.G	3	78	1	23
LAKEMAN.G	3	78	10	27
LAMBERT.J	9	80	7	26
LAN.A	3	78	7	19
LANCASTER	1	60	12	19
LANDAU.R	9	50	12	29
LANGFORD.J	3	78	10	21
LANGLEY.J	4	78	3	29
LANGLEY.J	4	78	4	26
LANGLEY.J	4	78	3	29
LANGLEY.J	3	52	9	5
LANGLEY.J	4	78	12	20
LANGLEY.J	4	72	3	3
LANGLEY.J	4	82	11	3
LANGLEY.J	4	74	9	18
LANGLEY.J	4	74	11	13
LANGLEY.J	4	72	4	13
LANGLEY.J	4	88	7	6
LANGLEY.J	4	82	3	10
LANGLEY.J	4	86	10	15
LANGLEY.J	4	66	1	28
LANGLEY.J	4	66	7	13
LANGLEY.J	4	66	3	22
LANGLEY.J	4	66	7	6
LANGLEY.J	4	76	1	7
LANGLEY.J	4	66	7	27
LANGLEY.J	4	90	3	14
LANGLEY.J	4	66	7	6
LANGLEY.J	4	92	5	16
LANGLEY.J	4	68	9	25
LANGLEY.J	4	84	6	9
LANGLEY.J	4	64	9	23
LARGE.P	6	76	12	10
LASKI.A	6	56	8	4
LAST.R	4	78	4	13
LAST.R	4	78	6	22
LAST.R	4	72	11	17
LAST.R	4	88	9	12
LAST.R	4	86	10	15
LAST.R	4	76	4	21
LAST.R	4	86	10	20
LAU.E	4	86	10	20
LAURENCE.C	4	88	1	15
LAURENCE.C	4	88	4	30
LAURENCE.C	4	84	9	27
LAURENCE.C	4	84	12	22
LAVIES.H	4	74	9	18
LAW.A	3	82	12	3
LAWLWSS.J	9	70	5	19
LAWRENCE.C	4	86	6	30
LAWRENCE.C	4	86	1	21
LAWRENCE.C	4	92	5	14

Author	Paper	Year	Month	Day
LAWRENCE.M	4	80	10	9
LAWS.F	4	68	8	22
LAWS.R	9	86	6	4
LAWSON.C	1	70	1	27
LAWSON.C	1	60	9	24
LAXTON.E	3	84	11	16
LEAPMAN.M	9	80	3	27
LEAPMAN.M	9	80	3	27
LEAPMAN.M	9	80	3	24
LEAPMAN.M	9	80	7	7
LEAPMAN.M	9	70	12	29
LEATHER.T	4	62	3	23
LEE.H	4	84	11	27
LEECH.C	4	60	1	2
LEECH.M	4	82	12	31
LEEMING.E	6	46	3	27
LEGGETT.J	7	90	11	5
LENIN.B	9	70	12	29
LEVER.L	9	86	1	20
LEVER.L	9	86	7	12
LEVI.M	4	86	3	7
LEWIS.J	6	76	3	23
LEWIS.P	4	80	2	16
LEWIS.R	4	74	3	1
LIGHTER.A	4	92	9	19
LINSTEAD.P	9	60	7	17
LLEWELLIN	7	90	4	7
LNAGLEY.J	4	86	3	7
LOCHHEAD.G	1	66	2	3
LOCKLEY.R	9	66	5	30
LOGAN.R	9	86	6	6
LONG.J	4	92	12	2
LONGLEY.C	9	70	9	25
LONGLEY.C	9	80	8	11
LOOCH.A	4	88	9	12
LOOCH.A	4	88	3	25
LOOCH.A	4	90	3	14
LORANT.H	1	56	1	24
LORD.J	3	54	5	31
LORD.R	4	76	1	7
LOSAK.D	4	78	4	26
LOSHAK.D	4	78	7	13
LOSHAK.D	4	78	12	20
LOSHAK.D	4	74	2	15
LOSHAK.D	4	76	1	7
LOUDON.B	4	76	7	22
LOUGHLIN.D	4	88	9	12
LOWRIE.H	1	66	2	25
LUCAS.J	4	74	10	21
LUCAS.J	4	92	7	25
LUCIE-SMIT	9	66	4	5
LUDLOW.D	3	64	1	31
LUDLOW.D	3	66	4	5
LUDLOW.D	3	66	6	21
LUFFINGHAM	4	50	11	13
LUMBY.E	4	70	4	30
LUMSDEN.A	9	70	9	2
LUTYENS.D	4	60	11	11
LYCETT.A	9	86	7	8
M-SMITH.B	3	66	4	20
M-SMITH.I	3	86	5	8
M.M.	9	86	4	28
M.M.S.	4	66	2	10
MACARTHUR.	6	66	4	28
MACARTHUR.	6	66	4	28
MACARTHUR.	9	70	6	20
MACARTHUR.	9	70	5	12
MACCOLL.R	1	56	2	29
MACCOLL.R	1	66	12	10
MACE.A	9	70	6	20
MACFADYEN	9	50	1	14
MACKENZIE	9	60	5	19
MACKIE.R	1	70	3	23
MACLEAN.G	8	76	8	10
MACLEAN.G	8	86	9	29
MADARIAGA.	6	46	10	12

Author	Paper	Year	Month	Day
MADDOX.B	4	90	3	14
MAGUIRE.K	4	92	1	6
MAGUIRE.K	4	92	2	26
MAGUIRE.K	4	90	2	16
MAGUIRE.K	4	92	1	8
MAGUIRE.T	4	86	6	30
MAITLAND.O	4	84	7	14
MALLARD.J	4	88	4	30
MALONE.M	3	64	2	10
MALONE.M	3	72	11	17
MALONE.M	3	74	2	27
MALONE.M	3	68	3	20
MALONE.M	3	66	4	19
MANGEOT.S	4	72	4	13
MANN.A	4	62	8	31
MANN.A	4	74	3	19
MANNING.C	4	70	2	19
MANTON.G	4	52	9	25
MARGERISON	4	80	12	27
MARK.R	1	70	8	15
MARK.R	1	60	5	7
MARK.R	1	60	7	5
MARKS.V	4	88	9	8
MARLAR.R	4	60	1	2
MARSDEN.E	9	70	11	9
MARSHALL.A	4	84	3	26
MARSHALL.B	3	72	8	28
MARSTON.P	4	88	3	25
MARSTON.P	4	88	11	17
MARSTON.P	4	90	5	30
MARSTON.P	4	92	5	16
MARSTON.P	4	92	12	2
MARSTON.P	4	90	8	9
MARSTON.P	4	92	7	25
MARTIN.A	3	84	7	18
MARTIN.D	9	60	7	17
MARTIN.G	.	.	.	.
MARTIN.H	4	48	8	4
MARTIN.H	4	66	7	16
MARTIN.W	6	66	12	6
MARTINO.A	3	82	8	12
MARVEL.J	4	90	2	16
MASON.J	4	88	3	25
MASSEY.H	9	60	7	17
MASSIE.D	9	76	6	16
MATFIELD.M	8	90	6	27
MATHER.K	9	60	7	17
MATHER.W	6	46	3	21
MATTHEWS.V	4	90	5	30
MATTHEWS.V	4	90	8	23
MATTHEWS.V	4	90	7	23
MATTHEWS.V	4	90	7	23
MATTHEWS.V	4	92	5	13
MATTHEWS.V	4	90	8	9
MATTHEWS.V	4	88	7	6
MATTHEWS.V	4	56	4	28
MATTHEWS.W	4	60	6	25
MAURICE.D	4	52	9	29
MAY.M	9	86	4	28
MAYNARD.J	4	58	7	8
MAYO.R	9	56	10	17
MAYS.K	4	88	7	28
MARTHUR.B	6	66	5	27
MCCARTHY.M	3	84	8	6
MCCARTHY.M	3	82	7	28
MCCARTHY.M	3	78	9	22
MCCONNELL.	3	82	7	28
MCDONALD.I	9	70	4	27
MCDONALD.P	3	76	7	27
MCELROY.A	6	76	7	1
MCELROY.A	6	76	9	17
MCGOURTY.C	4	92	1	6
MCGOURTY.C	4	90	1	8
MCGOURTY.C	4	90	8	23
MCGOURTY.C	4	90	1	8

Author	Paper	Year	Month	Day
MCGOURTY.C	4	90	3	5
MCGOURTY.C	4	90	1	8
MCGOURTY.C	4	90	7	23
MCGOURTY.C	4	90	8	9
MCGOURTY.C	4	92	12	2
MCGOURTY.C	4	92	12	2
MCGOURTY.C	4	92	3	28
MCGREGOR.A	9	80	8	11
MCILROY.A	4	72	3	3
MCILROY.A	4	88	9	12
MCILROY.A	4	88	11	17
MCILROY.A	4	72	4	13
MCILROY.A	4	72	5	3
MCINTOSH.T	9	86	10	25
MCKEE.V	4	92	7	25
MCKENZIE.W	4	52	9	29
MCKENZIE.W	4	56	3	22
MCKENZIE.W	4	60	10	26
MCKENZIE.W	4	60	10	26
MCKENZIE.W	4	50	10	20
MCKENZIE.W	4	64	5	20
MCKENZIE.W	4	64	2	6
MCKENZIE.W	4	62	4	4
MCKENZIE.W	4	58	9	29
MCKENZIE.W	4	58	1	21
MCKENZIE.W	4	62	3	30
MCKENZIE.W	4	58	9	29
MCKENZIE.W	4	62	12	19
MCKENZIE.W	4	64	7	8
MCKENZIE.W	4	64	7	29
MCKENZIE.W	4	64	7	29
MCKIE.D	9	60	7	17
MCKIE.R	9	80	4	25
MCLACHLAN	3	74	7	22
MCLAREN.H	4	66	7	27
MCLOUGHLIN	4	74	9	18
MCLOUGHUN.	4	72	11	17
MCMILLAN.J	1	70	5	15
MCRAE.H	6	76	12	31
MCRAE.H	7	90	5	25
MCRAE.H	7	90	7	31
MCRAE.H	8	76	7	22
MCRAE.H	7	90	4	7
MCSHANE.J	3	86	5	1
MCWILLIAMS	4	76	11	3
MEGALLI.N	4	80	10	9
MEICAL.T	4	90	1	8
MELFORD.M	4	58	5	27
MELLOR.P	3	76	2	2
MELLOR.P	3	76	2	2
MENNEM.P	3	64	10	13
MENNEM.P	3	64	11	21
MENNEM.P	3	58	10	22
MENNEM.P	3	64	9	23
MENNEM.P	3	62	10	17
MENNEM.P	3	68	12	30
MENNEM.P	3	72	8	28
MENNEM.P	3	72	11	13
MENNEM.P	3	64	11	21
MENNEM.P	3	78	2	18
MENNEM.P	3	72	10	23
MENNEM.P	3	62	9	21
MENNEM.P	3	60	5	18
MENNEM.P	3	66	6	20
MENNEM.P	3	66	4	20
MENNEM.P	3	60	10	18
MENNEM.P	3	70	8	20
MENNEM.P	3	80	12	1
MERER.J	7	90	7	31
MERRIN.T	3	80	11	3
MERTON.B	4	64	5	20
METCALFE.W	4	64	5	11
METFORD.J	4	60	11	14
MICHAELIS	4	66	2	10
MICHAELIS	4	66	1	28
MICHAELIS	4	70	11	3

Author	Paper	Year	Month	Day
MICHAELIS	4	66	9	5
MICHAELIS	4	66	9	5
MICHAELIS	4	70	2	19
MICHAELIS	4	70	10	30
MICHAELIS	4	70	4	30
MICHAELIS	4	70	8	27
MICHAELIS	4	64	7	8
MICHAELIS.	4	72	11	17
MICHAELIS.	3	84	8	18
MIDGLEY.S	7	90	5	25
MIDGLEY.S	7	90	6	22
MILES.T	3	56	4	21
MILLAR.I	8	90	12	13
MILLER.B	4	80	9	8
MILLER.H	4	82	12	15
MILLER.H	4	78	7	13
MILLER.H	4	78	3	29
MILLER.H	3	64	1	3
MILLER.H	4	80	4	26
MILLER.H	4	80	12	27
MILLER.H	4	80	9	8
MILLER.H	4	70	4	30
MILLER.H	4	70	5	15
MILLER.N	4	70	2	7
MILLER.O	6	66	12	6
MILLER.R	1	86	6	30
MILLHAM.D	9	70	4	27
MILLIKEN.R	7	90	2	12
MILLS.H	7	90	5	25
MILLWARD.D	4	92	3	28
MILNE.C	7	90	4	7
MILNER.R	6	66	5	27
MILNER.R	6	66	7	16
MINFORD.P	4	92	1	6
MINFORD.P	4	90	7	23
MINNOT.R	3	56	11	7
MITCHELL.D	4	54	9	3
MITCHELL.J	9	70	11	9
MODIANO.M	8	90	4	11
MODIANO.S	4	78	6	22
MODIANO.S	4	70	9	19
MONTAGU.V	4	70	7	7
MONTAGUE.A	7	90	11	5
MONTGOMERY	.	.	.	.
MONTGOMERY	8	90	6	21
MONTGOMERY	4	92	9	19
MOODY.G	4	88	1	15
MOODY.G	4	88	1	15
MOODY.P	4	88	1	15
MOON.P	9	50	12	4
MOONEY.B	1	76	4	2
MOORE.A	4	86	6	7
MOORE.C	6	66	4	28
MOORE.J	4	90	7	23
MOORE.J	7	90	6	22
MOORE.R	6	66	5	27
MOORE.S	3	70	12	9
MOORE.T	4	92	2	26
MOORE.T	4	92	2	26
MOORE.T	4	90	8	23
MOORE.T	4	92	5	16
MOORE.T	4	90	8	9
MOOREHEAD.	9	80	12	29
MORANT.A	9	86	4	28
MOREHEAD.C	9	80	2	22
MORGAN.A	9	46	8	15
MORGAN.B	9	86	7	8
MORGAN.B	7	90	4	7
MORGAN.H	4	46	2	28
MORGAN.J	4	54	10	8
MORGAN.L	6	76	7	14
MORRAH.P	4	56	3	27
MORRIS.B	9	86	7	12
MORRIS.B	9	86	6	4
MORRIS.M	6	76	12	31
MORRIS.M	6	76	12	10

Author	Paper	Year	Month	Day
MORRIS.S	6	76	12	31
MORROW.A	4	76	8	24
MORROW.A	4	76	5	22
MORROW.A	4	80	1	26
MORTIMER.E	9	80	3	27
MORTON-SMI	3	64	6	4
MOSS.R	4	80	9	8
MOSS.S	3	58	3	4
MOSSMAN.J	4	72	8	26
MGARTIN.L	3	84	11	16
MUCKER.A	6	76	6	30
MUCKER.A	6	76	8	13
MUGGERIDGE	4	52	5	23
MUGGERIDGE	4	50	3	24
MUIR.A	3	68	6	1
MUIR.A	3	64	11	21
MUIR.A	3	70	8	20
MUIR.K	9	70	9	25
MULLALY.T	4	74	8	3
MULLALY.T	4	80	12	27
MULLALY.T	4	58	7	8
MULVEY.S	4	92	12	2
MUNNION.C	4	82	3	9
MUNNION.C	4	70	7	7
MURPHY.C	4	46	4	4
MURPHY.J	8	90	5	11
MURPHY.P	4	92	7	25
MURPHY.P	4	92	3	28
MURPHY.P	4	92	9	19
MURRAY.G	9	50	1	14
MURRAY.I	9	80	12	29
MURREY.I	9	80	3	24
MURREY.I	9	80	3	24
MURREY.S	9	66	8	5
MYERS.G	4	70	7	7
MYERS.J	4	78	12	20
MYERS.J	4	70	2	19
MYERS.J	4	68	7	19
N.H.	9	80	4	25
NABAROFF.S	4	78	4	7
NAIRN.I	4	64	5	1
NAKANE.C	9	70	9	2
NARBOROUGH	4	78	3	29
NASH.E	7	90	6	22
NASH.K	4	70	6	29
NEAL.L	4	80	4	17
NEVIN.C	4	82	3	9
NEWSON.D	3	78	10	27
NEWSON.D	3	82	11	2
NEWSON.D	3	80	11	3
NICHOL.L	1	70	3	23
NICHOLS.P	9	80	8	11
NICHOLSON	4	92	5	16
NORFOLK	9	46	3	27
NORMAN.M	4	82	11	3
NORMAN.M	4	82	3	10
NORMAN.N	4	86	6	28
NORMAN.P	1	76	6	16
NORMAN.P	9	76	6	16
NORTH.R	3	62	12	7
NORTHCOTT	4	74	9	18
NORTHCOTT	4	70	10	30
NORTHEDGE	4	90	2	6
NORTHEDGE	4	84	7	14
NORTHEDGE	4	92	12	2
NORTON-TAY	6	76	3	23
NOSSAL.F	4	60	1	2
NURSE.K	4	80	12	27
O'BRIAN.D	9	76	7	31
O'BRIAN.J	4	82	3	9
O'BRIEN.B	4	78	1	10
O'BRIEN.R	4	82	7	26
O'BRIEN.R	4	72	4	1
O'DRISCOLL	4	82	7	9
O'DRISCOLL	4	74	3	19
O'DRISCOLL	4	72	4	3

Author	Paper	Year	Month	Day
O'DRISCOLL	4	70	7	7
O'HAGAN.W	4	82	12	15
O'HANLON.T	3	82	12	23
O'HANLON.T	3	82	7	28
O'HANLON.T	3	82	10	18
O'LEARY.C	4	92	9	19
O'LEARY.P	9	70	11	9
O'NEILL.D	4	80	4	26
O'SHEA.S	3	90	8	30
O'SULLIVAN	7	90	8	8
O'SULLIVAN	7	90	4	7
OBRIEN.K	3	88	1	23
OKLEY.J	9	76	6	16
OLLERENSHW	9	60	1	12
OPPENHEIM	4	62	3	23
OSBORN.A	4	72	2	21
OSBORN.A	4	72	4	1
OSBORN.A	4	74	10	2
OSBORNE.A	6	66	4	4
OSMAN.A	9	80	2	22
OVERY.P	9	76	6	22
OWEN.J	4	74	12	28
OWEN.J	4	70	2	19
OWEN.K	9	76	6	22
OWEN.K	9	76	6	22
OWEN.K	9	70	12	29
OWEN.K	9	80	2	22
OWEN.K	9	80	3	27
OWEN.K	9	70	9	25
OWEN.K	9	80	7	26
OWEN.K	9	70	12	29
OWEN.K	9	70	12	29
OWEN.R	9	86	4	28
OWEN.R	9	86	6	6
OWEN.R	9	86	6	26
OWEN.R	9	86	6	4
OWENS.A	9	70	9	25
P.N.	9	76	6	16
PACK.S	4	60	11	11
PAGE.F.H-	9	50	11	16
PAIN.D	7	90	5	25
PALLOT.P	4	88	11	17
PALLOT.P	4	88	9	12
PALLOT.P	4	90	8	23
PALLOT.P	4	90	1	8
PALLOT.P	4	90	2	6
PALLOT.P	4	90	1	8
PALLOT.P	4	90	3	14
PALLOT.P	4	90	2	16
PALLOT.P	4	92	5	16
PALLOT.P	4	92	6	2
PALLOT.P	4	92	5	16
PALLOT.P	4	92	5	16
PALLOT.P	4	92	12	2
PALLOT.P	4	90	7	23
PALLOT.P	4	92	12	2
PALLOT.P	4	92	1	8
PALLOT.P	.	.	.	.
PALLOT.P	4	92	5	12
PALLOT.P	4	84	3	19
PALLOT.P	4	90	2	6
PALMER.A	1	66	8	20
PALMER.F+	3	88	1	23
PALMER.J	6	66	12	6
PALMER.J	6	66	11	15
PALMER.J	3	84	5	18
PALMER.J	3	84	8	2
PALMER.J	3	88	4	15
PALMER.J	3	88	11	17
PALMER.J	3	88	6	30
PALMER.J	3	84	11	16
PALMER.J	3	90	3	19
PALMER.J	3	86	1	20
PALMER.J	3	90	10	10
PALMER.J	3	86	4	18
PALMER.J	3	86	4	14

Author	Paper	Year	Month	Day
PALMER.J	3	90	9	26
PANTIN.C	9	60	7	17
PARK.B	1	70	5	15
PARK.W	4	68	11	5
PARKER.A	8	90	12	13
PARKIN.M	6	66	4	4
PARKIN.R	4	82	7	5
PARKINSON	4	92	5	16
PARKINSON	4	62	3	30
PARRY.B	4	86	10	20
PARRY.B	4	86	6	30
PARRY.B	4	80	10	9
PARRY.B	4	86	3	7
PARSONS.T	4	92	5	16
PATERSON.P	4	64	5	11
PATNE.L	4	52	9	25
PATTINSON	1	70	10	12
PATTINSON.	3	88	11	5
PAUL.G	4	82	3	10
PAYNE.L	4	52	4	5
PAYNE.L	4	48	7	13
PAYNE.L	4	56	2	10
PAYNE.L	4	56	3	27
PAYNE.L	4	56	7	9
PAYNE.L	4	60	11	11
PAYNE.L	4	50	11	14
PAYNE.L	4	60	6	25
PAYNE.L	4	58	10	15
PEACOCK.J	3	76	6	28
PEARSON.C	4	92	12	2
PECK.R	4	66	2	10
PECK.R	4	64	5	1
PEEL.J	4	80	4	26
PEGG.D	9	70	9	2
PELLERAN.P	9	80	2	22
PEPPER.M	9	86	10	25
PERERA.J	4	90	7	23
PERFECT.F	4	64	3	26
PETERBORO	4	48	3	2
PETERBORO	4	56	3	22
PETERBORO	4	56	2	10
PETERBORO'	4	66	2	10
PETERBORO'	4	60	11	10
PETERBORO'	4	60	6	28
PETERBORO'	4	60	10	26
PETERBORO'	4	92	7	25
PETERBORO'	4	84	11	20
PETERBORO'	4	60	11	14
PETERBORO'	4	70	4	30
PETERBORO'	4	64	3	26
PETERBORO'	4	70	6	29
PETERBORO'	4	60	6	25
PETERBORO'	4	70	2	19
PETERBORO'	4	54	4	6
PETERBORO'	4	64	7	8
PETERBORO'	4	68	1	25
PETERBORO'	4	62	3	30
PETERBORO'	4	68	7	9
PETERBORO'	4	64	5	11
PETERBORO'	4	66	7	27
PETERBOROG	4	62	7	2
PETERBOROU	4	52	3	19
PETERBOROU	.	.	.	.
PETERBOROU	4	48	11	30
PETERBOROU	4	88	1	15
PETERBOROU	4	88	9	8
PETERBOROU	4	74	3	19
PETERBOROU	4	88	4	30
PETERBOROU	4	74	10	2
PETERBOURG	4	54	9	3
PETERSON.G	4	80	9	8
PETRE.J	4	90	3	5
PETRE.J	4	92	9	19
PETTY.J	4	82	1	8
PETTY.J	4	78	6	22
PETTY.J	4	82	12	15

Author	Paper	Year	Month	Day	Author	Paper	Year	Month	Day
PETTY.J	4	82	3	9	PRINCE.J	4	62	8	24
PETTY.J	4	78	4	13	PRINCE.J	4	66	8	26
PETTY.J	4	72	3	3	PRINCE.J	4	60	11	11
PETTY.J	4	72	11	17	PRINCE.J	4	70	10	30
PETTY.J	4	66	1	28	PRINCE.J	4	70	10	30
PETTY.J	4	76	1	22	PRINCE.J	4	66	2	10
PETTY.J	4	86	1	21	PRINCE.J	4	60	6	25
PETTY.J	4	86	1	21	PRINCE.J	4	60	11	10
PETTY.J	4	80	12	10	PRINCE.J	4	60	10	11
PETTY.J	4	80	12	10	PRINCE.J	4	66	9	5
PETTY.J	4	90	7	23	PRINCE.J	4	70	8	27
PEVSNER.N	4	76	6	4	PRINCE.J	4	60	11	14
PHILIPPS.J	4	54	3	1	PRINCE.J	4	64	5	1
PHILIPSON	4	82	1	8	PRINCE.J	4	70	8	27
PHILLIPD.D	4	84	11	20	PRINCE.J	4	70	6	29
PHILLIPS.A	6	46	3	20	PRINCE.J	4	64	1	18
PHILLIPS.A	6	76	9	7	PRINCE.J	4	64	5	11
PHILLIPS.E	3	78	7	19	PRINCE.J	4	64	5	20
PHILLIPS.P	8	76	8	7	PRINCE.J	4	70	4	30
PICKERING.	6	66	5	27	PRINCE.J	4	64	2	6
PICKUP.A	6	76	8	13	PRINCE.J	4	70	5	15
PIDDINGTON	4	56	3	27	PRINCE.J	4	68	2	1
PIKE.A	4	72	3	3	PRINCE.J	4	62	4	4
PILGER.J	3	66	4	15	PRINCE.J	4	58	8	4
PILKINTON.	6	66	4	4	PRINCE.J	4	68	11	5
PINCHER.C	1	46	10	22	PRINCE.J	4	62	3	23
PINCHER.C	1	56	8	9	PROOPS.M	3	68	12	30
PINCHER.C	1	46	5	14	PROOPS.M	3	74	2	22
PINCHER.C	1	56	11	8	PRYKE.D	3	86	6	21
PINCHER.C	1	56	11	14	PRYKE.P	4	82	7	9
PINCHER.C	1	56	2	29	PRYKE.P	4	86	9	26
PINCHER.C	1	56	10	12	PUDDEFOOT.	9	70	12	29
PINCHER.C	1	66	2	23	PUTMAN.P	4	48	3	2
PINCHER.C	1	50	6	10	Q27	PAPER	YEAR	MONTH	DAY
PINCHER.C	1	46	5	14	QUESTOR	4	86	1	16
PINCHER.C	1	60	6	8	QUILL.J	4	80	10	9
PINCHER.C	1	60	7	14	QVESTOR	4	88	1	15
PINCHER.C	1	60	4	26	R.H.	4	90	3	5
PINCHER.C	1	50	12	5	RADCLIFF.	9	70	5	19
PINCHER.C	1	60	12	19	RAIS.G	4	76	4	24
PINCOMBE.S	7	90	3	6	RAIS.G	4	86	1	24
PINE.R	4	82	3	9	RAIS.G	4	80	1	8
PIPPARD.A	9	60	7	17	RAIS.G	4	84	9	27
PITMAN.J	4	64	9	23	RAIS.G	4	64	1	18
PLAICE.E	3	72	10	23	RAIS.G	4	84	3	19
PLAICE.E	3	72	11	13	RAMSAY.I	3	72	10	23
PLAICE.E	3	74	2	22	RANDALL.C	4	78	3	29
PLENAAR.J	7	90	2	12	RANDALL.C	4	88	3	25
POCOCK.T	1	56	10	12	RANDALL.C	4	92	6	2
POLANTY.G	6	46	1	10	RANDALL.C	4	84	7	14
PONSONBY.G	9	50	12	4	RANKINE.K	4	92	12	2
POOLE.R	4	92	9	19	RASHID.A	7	90	5	25
POOLE.T	9	86	10	25	RAWLINS.F	9	60	7	17
POPIOLEK.M	4	92	12	2	RAYNOR.C	8	80	4	16
POPIOLEK.M	4	92	12	2	READ.A	9	80	3	24
PORRITT.J	4	92	3	28	READ.A	4	72	2	12
PORTEOUS.P	9	50	2	8	READ.S	8	90	3	30
PORTER.R	7	90	11	22	REDDAWAY.P	9	70	4	27
POTTER.T	3	76	5	3	REDFERN.J	1	66	2	17
POTTS.P	4	78	8	8	REDFERN.J	1	56	11	14
POULET.R	9	76	4	20	REDITT.J	9	80	2	22
POWELL.A	4	76	1	22	REED.A	9	70	9	25
POWELL.J	7	90	4	7	REED.A	9	70	6	20
POWELL.X	4	92	12	2	REED.A	9	70	5	12
POWELL.K	4	90	5	30	REED.A	9	70	9	2
POWELL.R	4	72	3	3	REED.A	9	70	4	27
PRENTICE.T	9	86	7	12	REED.A	9	80	7	26
PRENTICE.T	9	86	4	28	REES-MOGG	7	90	2	12
PRENTICE.T	9	86	6	26	REES.J	4	88	10	11
PRENTICE.T	9	86	11	19	REES.J	4	88	7	28
PRENTICE.T	9	86	6	26	REES.M	4	82	3	9
PRENTICE.T	9	86	11	18	RELTON.M	4	46	4	12
PRICE.J	7	90	11	22	RENDER.J	3	70	12	1
PRINCE.J	4	62	8	31	RENTON.A	7	90	11	5
PRINCE.J	4	62	7	2	RETTIE.J	4	86	3	7
PRINCE.J	.	.	.	.	RHIND.A	1	70	3	23

Author	Paper	Year	Month	Day
RICHARD.J	4	88	1	15
RICHARDS.C	7	90	8	8
RICHARDS.D	4	72	5	3
RICHARDS.J	4	86	1	31
RICHARDS.J	4	86	6	30
RICHARDS.J	4	86	1	16
RICKETTS.R	3	78	7	19
RIDLEY.M	4	86	9	26
RIDLEY.M	8	90	3	30
RIDLEY.N	6	76	7	1
RILEY.N	3	48	12	20
RILEY.N	4	58	7	8
RILEY.R	4	72	2	12
RIMMER.B	3	82	10	18
RITCHIE.B	9	70	9	2
RITCHIE.J	8	86	9	29
ROBERTS.E	3	64	1	10
ROBERTS.J	4	76	4	22
ROBERTS.N	6	66	5	27
ROBERTS.N	6	66	4	28
ROBERTSON	4	58	9	12
ROBIN.F	9	70	9	19
ROBINSON.A	3	84	7	18
ROBINSON.A	3	80	9	17
ROBINSON.B	7	90	2	12
ROBINSON.P	9	80	7	7
ROBINSON.R	9	60	7	17
ROBSON.P	9	86	6	6
ROCHA.J	4	76	1	22
RODDS.J	6	66	4	28
RODGERS.P	6	76	3	23
RODGERS.P	7	90	6	22
ROEBER.J	9	70	4	27
ROGERS.H	4	56	10	12
ROGERS.N	1	46	9	26
ROGERS.N	1	50	12	5
ROGERS.N	1	50	12	14
ROGERS.P	9	86	11	18
ROMILLY.G	3	52	11	21
ROPER.J	9	76	11	8
ROPER.J	9	70	9	25
ROPER.J	9	80	2	22
ROPER.J	9	70	5	12
ROPER.J	9	76	3	23
ROPER.J	9	70	11	9
ROPER.J	9	70	5	19
ROSE.H	6	66	5	27
ROSE.H	4	62	4	4
ROSE.R	9	66	3	16
ROSE.R	9	70	5	19
ROSE.R	9	70	6	20
ROSENBAUM	4	64	1	18
ROSS.D	1	76	9	22
ROSS.D	1	76	7	22
ROSS.M	4	62	5	24
ROTLAT.J	9	76	10	9
ROTHSCHILD	9	76	10	9
ROUD.R	6	76	3	23
ROUTLEDGE.	9	80	3	24
ROWLEY.A	9	70	11	9
ROY.A	4	76	4	21
RUBARTH.E	4	60	6	28
RUDOFKY.J	4	82	12	31
RUSSELL.A	4	90	5	30
RUSSELL.B	3	88	10	24
RUSSELL.N	7	90	2	12
RYDER.V	4	68	1	25
RYDER.V	4	58	8	16
RYDON.J	1	56	1	14
RYLE.M	9	60	7	17
RYLE.T	1	76	7	22
S-WILLIAMS	9	86	6	4
SAKER.H	3	62	8	29
SALFELD.F	4	72	4	13
SALFIELD.F	4	66	2	10
SALFIELD.F	4	70	4	30

Author	Paper	Year	Month	Day
SALTER.J	3	46	5	27
SAMSON.W	9	70	7	11
SAMSTAG.T	9	80	3	27
SAMSTAG.T	9	86	6	4
SANAI.D	7	90	4	7
SANDERS.R	4	80	10	9
SANDERSON	4	58	9	12
SANDIFORD.	3	68	11	30
SANDROCK.T	4	82	11	3
SANDROCK.T	4	74	1	7
SANDROCK.T	4	80	12	10
SANDROCK.T	4	84	9	27
SANDROCK.T	4	68	5	10
SARGENT.F	4	74	10	21
SARROOP.N	4	62	3	23
SARSON.R	9	86	11	18
SAUNDERS.K	8	86	3	15
SAUNDERS.O	9	60	7	17
SAVORY.T	9	60	7	17
SAYWOOD.L	1	66	2	17
SCHILD.J	3	78	5	10
SCHONFIELD	9	60	4	25
SCHOON.N	7	90	6	22
SCOTT.C	4	62	7	2
SCOTT.C	4	64	5	11
SCOTT.D	3	64	10	13
SCOTT.M	6	66	11	15
SCOTT.M	4	76	7	22
SCOTT.M	4	62	3	30
SCOTT.M	4	62	3	23
SCOTT.R	6	66	4	28
SCOTT.R	6	66	5	27
SCOTT.R	6	66	4	28
SCOTT.R	3	74	9	12
SCOTT.W	7	90	4	7
SCRUTON.R	9	86	11	18
SEAL.J	4	90	8	23
SEAR.R	3	68	3	20
SEAR.R	3	76	8	21
SEAR.R	3	76	5	7
SEARJEANT	9	86	7	8
SEARLE.I	4	60	6	25
SEEAR.N	9	70	4	27
SEGALL.A	4	86	10	15
SEGALL.A	4	86	1	31
SEGALL.A	4	86	3	7
SEGALL.A	4	86	10	20
SEGALL.A	4	86	1	21
SEGALL.A	4	92	12	2
SEGALL.A	4	92	5	16
SEGALL.A	4	92	12	2
SEGALL.A	4	92	7	25
SEGALL.A	4	92	9	19
SEGALL.A	4	88	7	28
SEGALL.AQ	4	88	3	25
SELBOUNNE	3	52	11	25
SELBOURNE	3	52	11	21
SENKUTTUNA	9	70	9	2
SENN.P	3	80	11	3
SETON.C	9	76	11	17
SETON.C	9	86	11	19
SETON.C	9	86	11	18
SEYMER.N	4	60	11	14
SHAKESPEAR	6	66	4	28
SHAKESPEAR	6	66	4	28
SHAKESPEAR	9	86	1	20
SHARMA.Y	4	90	2	6
SHARP.D	7	90	10	25
SHARPE.R	9	70	9	25
SHAW.J	4	86	10	20
SHAW.J	4	84	5	19
SHAW.T	4	78	8	8
SHAW.T	4	82	3	9
SHAW.T	4	88	3	25
SHAW.T	4	88	11	17
SHAW.T	4	92	12	2

Author	Paper	Year	Month	Day
SHAW.T	4	92	7	25
SHAW.T	4	90	7	23
SHEARMAN.J	1	70	4	27
SHEARS.D	4	78	3	29
SHEARS.D	4	82	1	8
SHEARS.D	4	82	12	15
SHEARS.D	4	86	6	30
SHEARS.D	4	76	6	4
SHEARS.D	4	80	12	27
SHEARS.D	4	64	5	20
SHEARS.D	4	64	5	1
SHEAVER.A	6	66	5	27
SHENTON.F	3	78	5	10
SHEPHERD.G	4	58	3	24
SHEPHERD.G	4	58	8	16
SHEPHERD.J	9	80	2	22
SHEPHERD.J	7	90	6	22
SHEPHERD.W	4	54	12	21
SHEREE.B	3	84	10	5
SHERVEY.S	4	74	8	3
SHIELDS.J	4	88	9	12
SHILS.E	9	60	7	15
SHORT.D	3	68	5	4
SHRIMPTON	4	92	9	19
SIEVE.H	4	70	2	19
SIGSWORTH.	3	62	8	3
SILK.B	4	82	11	3
SILVER.E	6	66	12	24
SIMEY.T	6	46	3	20
SIMONS.L	6	76	3	23
SIMPLE.P	4	78	4	13
SIMPLE.P	4	82	1	8
SIMPLE.P	4	78	4	7
SIMPLE.P	4	82	3	9
SIMPLE.P	4	78	1	10
SIMPLE.P	4	78	12	20
SIMPLE.P	4	88	9	8
SIMPLE.P	4	88	11	17
SIMPLE.P	4	74	9	18
SIMPLE.P	4	74	3	19
SIMPLE.P	4	74	3	1
SIMPLE.P	4	62	8	31
SIMPLE.P	4	74	11	13
SIMPLE.P	4	62	8	24
SIMPLE.P	4	72	4	11
SIMPLE.P	4	88	3	25
SIMPLE.P	4	78	6	22
SIMPLE.P	4	56	2	16
SIMPLE.P	4	66	8	26
SIMPLE.P	4	66	7	13
SIMPLE.P	4	66	1	28
SIMPLE.P	4	86	1	21
SIMPLE.P	4	86	1	31
SIMPLE.P	4	66	2	10
SIMPLE.P	4	70	10	30
SIMPLE.P	4	80	12	10
SIMPLE.P	4	60	11	10
SIMPLE.P	4	70	2	19
SIMPLE.P	4	64	2	6
SIMPLE.P	4	70	8	27
SIMPLE.P	4	84	9	27
SIMPLE.P	4	70	5	15
SIMPLE.P	4	62	3	23
SIMPLE.P	4	62	12	18
SIMPLE.P	4	68	5	10
SIMPLE.P	4	62	4	4
SIMPLE.P	4	88	7	6
SIMPLE.P	4	58	9	12
SIMPLE.P	4	64	7	29
SIMPLE.P	4	68	11	5
SIMPLE.P	4	84	11	20
SINGTON.A	4	68	5	10
SINGTON.A	4	68	7	9
SKELLON.R	8	90	7	23
SLATER.W	9	60	7	17
SMALLDON.J	4	72	5	3

Author	Paper	Year	Month	Day
SMALLDON.J	4	64	5	20
SMART.R	1	56	11	14
SMART.R	4	92	9	19
SMILEY.X	4	88	9	8
SMILEY.X	4	86	10	15
SMITH.A	4	78	9	26
SMITH.A	3	78	9	26
SMITH.A	3	78	10	17
SMITH.A	3	68	6	28
SMITH.A	3	84	10	5
SMITH.A	3	72	10	23
SMITH.A	3	68	5	4
SMITH.A	3	64	10	13
SMITH.A	3	82	1	9
SMITH.A	3	68	6	28
SMITH.A	3	64	11	21
SMITH.A	4	62	8	24
SMITH.A	3	84	7	18
SMITH.A	3	74	11	1
SMITH.A	3	74	11	1
SMITH.A	3	82	12	3
SMITH.A	3	74	1	5
SMITH.A	4	62	8	25
SMITH.A	3	78	2	13
SMITH.A	4	62	8	25
SMITH.A	4	62	8	24
SMITH.A	4	60	11	11
SMITH.A	3	66	4	19
SMITH.A	3	66	4	15
SMITH.A	3	66	6	20
SMITH.A	4	60	11	10
SMITH.A	3	66	4	15
SMITH.A	4	60	10	26
SMITH.A	3	70	1	19
SMITH.A	4	64	5	11
SMITH.A	4	58	8	16
SMITH.A	4	58	3	24
SMITH.A	4	58	9	12
SMITH.A	7	90	11	5
SMITH.D	9	86	7	12
SMITH.D	9	86	7	8
SMITH.D	9	86	6	26
SMITH.F	4	62	3	23
SMITH.G	9	76	11	17
SMITH.G	9	80	4	25
SMITH.G	4	84	6	9
SMITH.J	3	72	11	23
SMITH.J	3	66	4	20
SMITH.J	3	70	5	5
SMITH.J	3	70	3	26
SMITH.S	1	56	1	24
SMYTHE.T	4	80	1	26
SNOW.T	8	80	7	21
SNOW.T	8	86	7	14
SNOW.W	1	56	2	14
SOAMES.N	9	86	7	8
SOMMERLAD.	9	66	7	5
SOUNDERS.D	4	82	12	31
SOUTHWELL	9	46	3	27
SPERO.T	4	82	12	15
SPIEGELBER	9	70	11	9
SPIELBERG.	9	70	9	25
SPRIGGE.C	6	56	5	31
SPRIGGS.N	4	60	1	2
SPROUT.I	9	80	12	29
ST.ANDLEY.	4	54	12	21
STACEY.S	4	90	2	6
STACEY.S	4	92	5	12
STAFFORD.R	1	56	2	29
STAGG.J	3	52	6	26
STAMFORD.M	4	62	5	24
STAMM.T	9	50	6	24
STAMP.E	9	80	12	29
STAMP.G	4	86	10	20
STANHOPE.H	9	76	10	9
STANHOPE.H	9	76	6	22

Author	Paper	Year	Month	Day	Author	Paper	Year	Month	Day
STANHOPE.H	9	70	6	20	THOMAS.M	9	70	9	25
STANHOPE.H	9	80	2	22	THOMAS.N	3	88	11	17
STANHOPE.H	9	80	8	11	THOMAS.S	9	50	1	14
STANLEY.A	9	80	12	29	THOMAS.W	4	62	8	31
STAPLETON.	3	78	7	19	THOMAS.W	4	60	10	26
STEED.T	4	78	4	26	THOMAS.W	4	60	11	10
STEELE.A	4	68	9	25	THOMAS.W	4	64	5	20
STEELE.J	4	92	12	2	THOMAS.W	4	62	3	30
STEELE.J	4	92	5	12	THOMPSON.A	9	80	8	11
STEGGLES.J	3	78	2	13	THOMPSON.D	3	70	3	26
STENFIELD.	4	78	4	26	THOMPSON.K	1	70	9	7
STEPHENS.P	3	74	2	27	THOMPSON.K	4	90	5	30
STEPHENS.P	3	78	9	26	THOMPSON.R	4	76	8	24
STEPHENSON	9	70	11	9	THOMPSON.S	3	78	10	17
STERN.J	.	.	.	.	THOMPSON.S	4	84	11	27
STEVENS	3	68	7	3	THOMPSON.W	4	62	5	24
STEVENS.R	4	60	11	10	THOMPSON.W	4	72	4	1
STEWART.R	4	72	5	3	THOMPSON.W	4	60	11	10
STEWART.I	4	92	12	2	THOMPSON.W	4	60	11	11
STIDDER.S	3	78	10	27	THOMSON.D	9	66	4	27
STIDDER.S	3	80	5	7	THOMSON.D	9	66	3	16
STOBIE.I	4	88	1	15	THOMSON.I.	9	86	6	4
STOODART.R	6	76	7	1	THOMSON.W	4	78	4	13
STOKES.P	4	88	4	30	THOMSON.W	4	74	10	21
STOKES.P	4	88	10	11	THOMSON.W	4	76	5	22
STOKES.P	4	90	5	30	THOMSON.W	4	80	10	9
STOKES.P	4	92	9	19	THORNTON.G	9	60	7	17
STONE.L	3	70	12	1	THORNTON.P	4	70	8	27
STONE.M	9	70	9	19	THORPE.D	4	70	2	7
STONE.M	9	70	7	11	THURLOW.D	1	76	5	17
STONE.N	4	86	6	30	THURLOW.D	1	70	2	5
STONE.N	4	86	6	7	THYNNE.J	4	90	2	16
STONELAY.J	3	62	10	17	TIDSALL.P	9	80	3	24
STONELEY.J	3	62	4	3	TIGHE.C	4	86	10	20
STOTT.D	4	48	11	30	TIGHE.C	4	90	3	14
STOTT.R	3	72	10	23	TIGHE.C	4	90	1	8
STOTT.R	3	76	2	2	TIMBS.O	7	90	3	6
STRETCH.K	9	60	5	19	TIMBS.O	9	86	6	6
STRINGER.	.	.	.	.	TIMBS.O	7	90	7	31
STRZALKOWK	4	78	4	13	TIMMIMS.N	9	80	7	26
SUMNER.G	6	66	5	27	TIMMINS.N	9	80	3	27
SUMNER.G	6	66	11	15	TIMMINS.N	9	80	7	7
SUMNER.G	6	66	11	15	TIMMINS.N	9	86	4	28
SUTHERLAND	3	80	5	7	TIMMS.E	4	82	12	15
SUTTON.G	9	60	7	17	TINKER.A	8	86	7	14
SVADES.J	4	82	5	8	TINKER.A	8	86	9	6
SYMON.P	9	76	4	20	TISDALL.C	6	76	12	10
SYMON.P	9	70	4	27	TISDALL.P	9	76	7	31
T.J.	6	76	12	31	TISDALL.P	9	70	11	9
T.W.M.	6	46	9	10	TISDALL.P	9	80	7	7
TANDON.B	4	78	3	29	TITMAN.R	3	68	5	4
TANDON.B	4	82	3	9	TITMAN.W	9	86	11	19
TANDON.B	4	80	2	16	TODD.R	3	78	9	22
TATTERSALL	3	70	12	1	TODD.R	3	68	11	30
TAY.B	3	68	9	21	TODD.R	3	76	4	28
TAY.B	3	52	1	2	TODD.R	3	76	5	3
TAY.B	3	68	9	21	TODD.R	3	90	9	26
TAY.B	3	72	5	27	TODD.R	3	70	12	9
TAY.B	3	68	7	3	TORDAY.P	7	90	2	12
TAYLOR.D	4	92	5	16	TORY.P	3	84	7	18
TAYLOR.E	4	70	9	19	TOSS.R	3	82	8	12
TAYLOR.F	4	82	12	15	TOTH.R	6	76	3	23
TAYLOR.S	9	86	11	18	TOULSON.L	8	80	3	5
TEED.P	9	60	7	17	TOULSON.L	8	76	11	27
TEESDALE.E	9	70	11	9	TOWNROE.B	9	46	11	16
TEMPLE.G	.	.	.	.	TOWNSEND.E	9	76	4	20
TEMPUS	9	86	11	19	TOWNSEND.E	9	80	8	11
TENDLER.S	9	76	11	8	TOWNSEND.E	9	80	4	25
TESSEL.S	9	70	4	27	TOWNSEND.P	9	76	11	17
THAPAR.N	7	90	4	7	TROFIMOV.Y	4	90	7	23
THAW.G	3	76	6	28	TUCKER.A	6	66	12	24
THAW.G	3	70	12	9	TUCKER.A	6	66	4	4
THEBERGE.J	4	60	10	11	TUCKER.A	6	66	4	4
THIRKETTLE	4	92	3	28	TUCKER.A	6	66	5	17
THOMAS.C	9	86	6	4	TUCKER.A	6	76	7	1
THOMAS.J	1	70	1	27	TUCKER.A	6	76	9	17

Author	Paper	Year	Month	Day
TUCKER.A	6	76	7	14
TULLETT.T	3	64	6	4
TURNER.E	6	66	4	4
TURNER.G	4	80	10	9
TURNER.R	9	76	7	31
TYRER.N	4	92	5	12
URTON.W	4	70	9	19
UTLEY.T	4	86	10	20
V.M.	4	88	7	6
VALE.E	3	78	7	19
VALE.E	3	72	11	17
VALE.E	3	88	9	2
VALE.E	3	88	8	3
VAN-DOOREN	.	.	.	.
VAN'T HOFF	4	82	1	8
VAUGHAN.L	7	90	6	22
VENIS.P	9	76	11	17
VICHY	3	54	5	25
VIELVOYE.R	9	76	11	17
VIELVOYE.R	9	76	6	16
VIELVOYE.R	9	76	6	22
VIELVOYE.R	9	76	3	23
VINCENT.S	3	58	7	8
VINE.B	1	70	2	19
VOAK.S	8	80	3	5
VOAK.S	8	76	8	10
VOAK.S	8	90	12	13
VOAK.S	8	76	7	22
VOAK.S	8	86	3	18
VOAK.S	8	90	9	27
VOAK.S	8	90	7	23
VOGL.F	9	76	4	20
VOGL.F	9	80	4	25
VOTOLATO.G	7	90	8	8
VOYSEY.H	9	86	7	8
W-SHIELDS	4	76	4	22
W.T.	4	76	7	22
WADE.D	4	92	3	28
WADE.J	4	88	1	15
WADE.J	4	90	1	8
WADE.N	4	82	7	5
WADE.N	4	86	1	31
WADE.N	4	76	1	7
WADE.N	4	80	1	8
WADE.N	4	80	2	16
WADE.N	4	84	3	19
WAGER.L	9	60	7	17
WAGLAND.A	4	54	3	1
WAIDSAX.H	6	76	6	29
WAINO.A	7	90	8	8
WAINWRIGHT	9	80	7	26
WAITE.E	3	84	5	18
WAITE.K	3	84	10	5
WAITE.K	3	72	11	23
WALKER.C	4	82	3	10
WALKER.C	9	86	6	4
WALKER.D	4	86	10	15
WALKER.M	6	76	12	10
WALKER.M	6	76	7	1
WALKER.M	6	76	7	14
WALKER.R	4	72	2	21
WALLACE.M	9	86	1	20
WALSH.G	3	86	11	20
WALSH.J	3	88	8	3
WALTER.E	3	62	12	7
WALTERS.J	3	48	8	13
WALTERS.S	8	90	9	27
WALTON.J	3	90	10	10
WARD.C	3	72	9	13
WARD.C	3	70	1	19
WARD.F	9	70	11	9
WARD.I	4	70	4	30
WARD.I	4	84	11	27
WARD.J	4	56	3	22
WARD.M	7	90	11	5
WARDEN.A	9	86	11	18

Author	Paper	Year	Month	Day
WARING.B	4	62	12	18
WARMAN.C	9	86	6	26
WARNER.D	4	84	11	20
WARREN.B	3	82	12	23
WARTH.D	3	54	5	25
WATERHOUSE	6	76	3	23
WATERHOUSE	3	54	4	26
WATERHOUSE	3	78	1	23
WATERTON.W	1	56	2	14
WATKIN.D	4	80	4	17
WATSON.S	4	78	8	8
WATTS.S	9	86	4	28
WAUGH.A	9	70	7	11
WAUGH.A	4	92	12	2
WAUGH.A	4	92	7	25
WAYMARK.P	9	76	5	6
WAYMARK.P	9	76	6	16
WAYMARK.P	9	80	2	22
WAYMARK.P	9	80	4	25
WEAVER.M	4	72	11	17
WEAVER.M	4	82	11	3
WEAVER.M	4	78	12	20
WEAVER.M	4	82	7	9
WEAVER.M	4	86	10	15
WEAVER.M	4	92	9	19
WEBB.C	9	86	7	8
WEBB.C	9	86	6	6
WEBB.C	9	86	6	6
WEBBER.G	3	82	11	2
WEBSTER.P	9	86	1	20
WEBSTER.P	9	86	6	26
WEBSTER.P	9	86	6	26
WEBSTER.P	4	62	4	4
WEDGEWOOD.	4	62	8	24
WEDGEWOOD.	4	62	8	31
WEEKS.J	4	78	9	26
WEEKS.J	4	86	10	20
WELCH.C	4	52	3	19
WELCH.C	4	72	4	13
WELCH.C	4	62	3	23
WELCH.J	4	76	6	4
WELSH.K	4	82	7	26
WESTLAKE.M	9	76	6	22
WETTERN.D	4	76	4	21
WETTERN.D	4	84	7	14
WETTERN.D	4	84	12	22
WETTERN.D	4	84	6	9
WHALE.J	6	46	2	16
WHARTON.K	4	60	10	26
WHARTON.K	4	64	7	8
WHEATCROFT	4	86	10	15
WHEATCROFT	4	90	8	9
WHEATCROFT	4	92	7	25
WHEATLEY.D	1	46	10	9
WHEELWRGHT	9	86	11	18
WHEELWRIGT	9	86	11	18
WHERWOOD.J	4	88	11	17
WHETNALL.N	4	86	9	26
WHIPPLE.G	4	62	3	30
WHITCOMB.N	3	62	4	3
WHITCOME.N	3	62	4	3
WHITE.J	4	70	6	29
WHITE.S	9	70	11	9
WHITE.S	3	82	6	23
WHITE.S	3	86	4	18
WHITMORE	4	54	7	26
WHITFIELD	7	90	8	8
WHITLOCK.R	9	80	8	11
WHITMAKER.	3	88	2	24
WHITMORE.F	4	66	8	26
WHITMORE.F	4	56	2	10
WHITMORE.F	4	50	3	30
WHITMORE.F	4	60	11	10
WHITMORE.F	4	60	6	28
WHITMORE.J	9	80	4	19
WHITTEN.D	4	78	8	8

Author	Paper	Year	Month	Day	Author	Paper	Year	Month	Day
WHYMANT.R	4	88	3	25	WRIGHT.P	9	76	6	22
WIDDUP.C	3	56	1	4	WRIGHT.P	9	76	11	17
WIGG.R	.	.	.	.	WRIGHT.P	1	76	6	22
WIGG.R	9	76	6	22	WRIGHT.P	9	76	3	23
WIGG.R	9	86	7	12	WRIGHT.P	9	76	6	22
WIGHAM.E	9	76	3	23	WRIGHT.P	9	76	6	16
WIGHTMAN.J	4	86	1	31	WRIGHT.P	9	76	5	6
WIGHTMAN.J	4	80	10	9	WRIGHT.P	9	70	4	27
WIGMORE.B	3	82	8	12	WRIGHT.P	9	70	7	11
WIGMORE.B	3	88	9	2	WRIGHT.P	9	80	3	24
WIGMORE.B	3	82	10	18	WRIGHT.P	9	70	5	19
WILKES.A	7	90	7	31	WRIGHT.P	9	80	3	27
WILKES.M	9	60	7	17	WRIGHT.P	9	80	2	22
WILKIE.D	9	60	7	17	WRIGHT.P	9	70	5	12
WILKIE.T	7	90	10	25	WRIGHT.P	9	80	3	27
WILKINSON	4	86	10	15	WRIGHT.P	9	70	9	19
WILKINSON	1	66	4	19	WRIGHT.P	9	70	5	12
WILKINSON	4	86	10	20	WRIGHT.P	9	80	4	25
WILKINSON	1	70	8	15	WRIGHT.P	9	80	7	7
WILKINSON	1	70	5	15	WRIGHT.P	9	80	8	11
WILKINSON.	4	82	1	8	WRIGHT.P	3	62	9	21
WILLIAMS.A	9	70	6	20	WRIGHT.P	9	86	1	20
WILLIAMS.D	.	.	.	.	WRIGHT.P	9	86	4	28
WILLIAMS.D	4	80	4	17	WRIGHT.P	9	86	10	25
WILLIAMS.E	7	90	11	22	WRIGHT.P	9	86	6	6
WILLIAMS.F	7	90	11	5	WRIGHT.P	9	86	6	26
WILLIAMS.F	4	84	7	14	WRIGHT.P	9	86	6	26
WILLIAMS.J	4	78	3	29	WRTIS.T	4	88	9	8
WILLIAMS.J	4	78	8	8	WYATT.W	3	72	2	11
WILLIAMS.J	7	90	4	7	YORKIST	9	50	12	29
WILLIAMSON	4	82	12	31	YOUNG.D	9	86	6	4
WILLIAMSON	4	74	2	15	YOUNG.I	9	86	6	4
WILLIAMSON	4	74	12	28	YOUNG.J	9	80	12	29
WILLMOTT.J	9	80	4	25	YOUNG.J	9	86	4	28
WILSON-SMI	.	.	.	.	YOUNG.N	4	82	7	26
WILSON.C	7	90	2	12	YOUNG.R	9	80	2	22
WILSON.D	9	70	9	2	YOUNG.R	9	80	2	22
WILSON.G	6	76	6	29	YOUNG.R	9	86	6	6
WILSON.J	3	68	12	30	YOUNG.S	3	74	9	26
WILSON.J	3	66	6	20	YOUNG.S	3	74	11	25
WILSON.L	9	66	7	5	YUDKIN.K	9	80	4	25
WILSON.P	3	72	5	27	ZIMAN.H	4	62	8	24
WILSON.P	3	62	4	3	ZIMAN.H	4	66	2	10
WILSON.P	4	90	2	6	ZIMAN.H	4	54	4	6
WILSON.P	4	70	8	27	ZIMAN.H	4	62	3	30
WINCHESTER	6	76	6	30					
WINCHESTER	6	76	8	13					
WINCHESTER	6	76	9	17					
WINCHESTER	6	76	6	30					
WINN.D	7	90	3	6					
WISEBURGH.	9	70	9	25					
WITCHER.T	4	92	5	13					
WITHEROW.I	9	80	7	7					
WOLFF.H	4	92	12	2					
WOLFF.M	1	60	6	8					
WOLFF.W	3	74	6	14					
WOLFF.W	3	68	7	3					
WOLFF.W	3	72	5	27					
WOLFF.W	3	66	6	21					
WOLFF.W	3	66	1	25					
WOLMAR.C	7	90	7	31					
WOLMAR.C	7	90	10	25					
WOLSTEINHO	3	68	12	30					
WOMBWELL.P	4	88	7	28					
WOOD.B	3	78	10	27					
WOODALL.P	9	60	1	12					
WOODCOCK.C	6	76	3	23					
WOODCOCK.C	6	76	7	14					
WOODCOCK.C	4	62	3	30					
WOODCOCK.E	4	50	11	13					
WOODESON.J	4	62	3	30					
WOODFORDE	4	60	11	14					
WOON.P	1	60	5	14					
WORSLEY.G	7	90	8	8					
WRIGHT.C	4	92	5	14					
WRIGHT.J	7	90	11	5					

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Science and Technology in the British Press 1946-90

Volume IV

Coding Frame

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July 1993

Version 3:2

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Guidelines for the selection of articles

Table 2: Guidelines to select science and technology materials from newspapers

The basic rule: do not only look at the headlines, but scan quickly the articles to look for scientific references (jargon, scientists, data, graphics, research reference, research institution)

1. No distinction between natural and social science/economic research.
2. Look for buzz words like 'science', 'technology', 'health' or 'environment', or technical terms.
3. Look for pictures with technical devices.
4. Any kind of research: reports, descriptions.
5. Scientific expert citations: persons, labs, university, R&D units
6. Usage of scientific jargon and presentation: graphs, charts, tables, polls, numeric results
7. Be more generous with the popular press; they report more rarely

Excluded are: astrology columns, weather forecasts, business news as information about individual companies, clearly political discussions of economics without academic reference; stock market reports; market reports; illustrative maps; classified advertising; polling results as they report the political horse race and are not part of a social analysis.

Overview of the coding frame.

Primary coding:

Variables:		Value-range:
CODER	Identification number of primary coder	1-6
NUMBER	Identification number of the article	1-43000
PAPER	Name and number of articles per paper	1-9
DAY	Calendar day of month when article published	1-31
MONTH	Month when article was published	1-12
YEAR	Year when articles was published	46-92
WEEKDAY	Day of the week when article was published	1-6
PAGE	Page on which the article was published	1-999
FOLDER	Folder in which the article was found	1-3
SECTION	Section of the newspaper the article appeared in	1-9
LOCATION	Location of article within folder	1-6
PAGESEC	Part of the page in which the article was found	1-1234
SIZE	Size of article in sq cm	1-9999
TOTPAG	Total number of pages of the paper	1-999
SUBPAG	Total number of pages of the supplement	1-999
MAGPAG	Total number of pages of the magazine	1-999
DOUBT	How certain coder was of selection of article	1-2

Secondary coding:

CODER2	Identification number of secondary coder	1-43
NUMBER	Identification number of article	1-43000

Attention structuring.

Q3	Headline size	1-999
Q4	Subheadline/s	0-1
Q5A-C	Optical structuring	1-4
Q6	Extension of headline over the columns	1-8
Q7A-G	Illustrations	1-9
Q8	Content of the main illustration	1-10
Q9	Size of illustrations in sq cm	1-9999
Q10	Variations of type setting	0-1

Elements of writing style

Q11	How scientific/technical is the article	1-9 rating
Q12	Type of lead	1-9
Q13A-G	Selection criteria	0-1
Q14	News values	1-10
Q15	Controversy in article	0-1
Q16	Balance of controversy	1-2
Q17	Newspaper events and themes	1-42
Q18	Valuation tone	0-5 rating
Q19A-G	Story tone	1-7 sem diff
Q20	Source type	1-17
Q21	Personalization	1-9 rating
Q22	Stereotype of scientist	0-9

Citations, quotations, references

Q23	Number of expert citations	1-2
Q24	Form of expert citations	1-4
Q25A-B	Contextualization of citations	1-5
Q26	Cross references	1-4

Story teller: Who is telling the story

Q27	Name of first author - [Smith J]	string
Q28	Gender of author(s)	1-4
Q29	*Kind of authorship	combined

Main agent in the narrative

Q30	*Kind of agent	10-95
Q31	*Area of agency	1-410
Q32	*Gender of agent	1-4
Q33A-H	Characteristic of main agent	1-7 sem diff

The scientific event

Q34	Innovation cycle	1-9
Q35A-E	Scientific, technical processes	0-1
Q36	Academic field	100-999
Q37	'Big science'- strategic technology after 1945	1-10
Q38	*Locality, geographical	100-999
Q39	Research collaboration	1-3
Q40	Time horizon into the future	1-9 rating
Q41	Time horizon into the past	1-9 rating
Q42	*Historical explanation - area of agency	1-410

Background agent

Q43	Saliency of background agent	0-1
Q44	*Kind of agent	10-95
Q45	*Area of agency	1-410
Q46	Gender of agent	1-4

Consequences

Q47	Locus of control: can one do something about it	1-3
Q48A-D	Positive consequences, benefit, utilities	10-69
Q49	*Kind of winning agent	10-95
Q50	*Area of agency	1-410
Q51	Gender of agent	1-4
Q52	*Locality of benefits	100-999
Q53A-D	Negative consequences, risk, cost	10-69
Q54	*Kind of losing agent	10-95
Q55	*Area of agency	1-410
Q56	Gender of agent	1-4
Q57	*Locality of risk	100-999

Moral

Q58	Call for actions	1-8 rating
Q59	*Area of called agency	1-410

*Modular variables, see Technical report II - Methodology.

Primary coding frame

CODER	Identification number of primary coder each coder is assigned a identification number	1-6
NUMBER	Identification number of the article each article is assigned an identification nummer; running number	1-9999
PAPER	Name and number of articles per newspaper each newspaper is identified with a value as follows: 1: Daily Express 3: Daily Mirror 4: Daily Telegraph 6: The Guardian 7: The Independent 8: The Sun 9: The Times	1-9
DAY	Calandar day of month when article was published day of the month, a number from 1 to 31	1-31
MONTH	Month when article was published month of the year, a number from 1 to 12 (1=January; 2=February etc)	1-12
YEAR	Year when article was published year, two digit number from 46 to 90 (1946=46; 1948=48 etc)	46-90
WEEKDAY	Code of the weekday each day of the week is identified with a number from 1 to 7 1: Monday 2: Tuesday 3: Wednesday 4: Thursday 5: Friday 6: Saturday 7: Sunday	1-7

PAGE Page-number of article 1-999
number on the page of the paper or magazine, where the article is found

FOLDER Folder in which the article is found 1-3

- 1: main folder of paper
- 2: supplementary section (e.g. Independent Business on Sunday Guardian Education supplement)
- 3: colour magazine within the paper (e.g. Independent on Saturdays/Sundays, Mail on Sunday)

rule: folders continue the numbering of main folder, supplements not

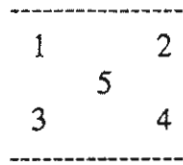
SECTION Section of the newspaper 1-9
In which part of the paper is the science article ?
Classification according to the newspaper's layout

- 1: Home news
 - 2: Foreign news
 - 3: Editorials
 - 4: Features: special section like health, law, media, women etc.
 - 5: Financial and business sections
 - 6: Sport section
 - 7: Special science/technology section
 - 8: Letters
 - 9: Other - (obitaries included)
-

LOCATION Location of article within folder 1-6

- 1: Front page main folder
- 2: Back page main folder
- 3: Front page additional folder
- 4: Back page additional folder
- 5: Anywhere in the middle
- 6: Double page on one sheet, (special page to keep)

PAGESEC Part of the page - page divided in 4 parts 1-1234
In which sector of the page is the article mostly located



- 5: exactly in the middle; if it extends the size of a quadrant use the
- 6: double page, for example in the middle
- 12: upper half
- 34: lower half
- 13: left side
- 24: right side
- 1234: whole page

In case an article is continued at another page, code the first location of the article only.

SIZE Size of article in sq cm 1-9999
rounded measured; total size of the article including
continuations at another page.

TOTPAGE Total number of pages of the paper 1-999
Total number of pages of the main folder, being either
a paper or a magazine, excluding supplements; if the
paper has a supplement or a 'magazine within the paper',
count the pages separately.
logic: totpage + subpage + magpage = total pages of the issue.

SUBPAGE Total number of pages of the supplement 1-99
number of pages of the supplement (not colour magazines),
where the articles is found. If there are several supplements
that are not colour magazines, add up the total pages of all
supplements.

MAGPAGE Total number of pages of the magazine 1-999
number of pages of the magazine or colour supplement,
where the articles is found.

DOUBT How certain coder is of selection 0-1
If there is doubt about whether it should be included.

- : no doubt, clear candidate of a science article
- 1: borderline case

Secondary coding frame

General coding conventions:

1. If only two options
no = 0
yes = 1
 2. If code is not applicable we code as system missing variable
 3. Do not read the article until you reach category
 4. In cases where a category does not apply, we do not code the field
 5. Institutions that are mentioned as agents are recorded
 6. Textual reading only, coding only with regard to the text
stick always to the text as narrative
-

Formal Categories

Coder2	second coder, not identical with primary coder	1-99
Number	number of the articles (copied from article =primary number)	1-99999
Attention structuring		
Q3	Size of headline inclusive of a frame of 0.5 cm in sq cm	1-999
Q4	Subheadlines comment: headlines between the paragraphs	no = (-)/yes = 1 0-1
Q5	Optical structuring	
a	Abstract/summary of articles	no = (-) /yes = 1 0-1
b	Number of inserts or add-ons	none = (-) 1-9
c	Inserts or add-ons	1-2
	none	-
	all related	1
	at least one unrelated	2
Q6	Extension of headline over the columns (for Budd score) comment: count the number of columns	1-8
Q7	Illustration used (main illustration)	
a	number of illustrations if none, go to code Q10	1-9
b	pictures (photo, drawing)	no = (-)/yes = 1
c	table (data or words)	
d	graphical representation of data	
e	caricature, cartoon	
f	diagram, schema, maps	
g	other	

Q8 Content of the main illustration 1-10
(main theme, figure in background)

comment: take your first impression without reading the text

person (agent)	1
body part, organ	2
plant	3
animal	4
microorganism, cell	5
technical device	6
building, technical structure	7
symbols	8
data, graphs, maps	9
images from space	10

Q9 Size of illustrations in sq cm 1-9999
comment: in case of several illustration
measure all illustrations in total

Q10 Variations in type setting used no = (-)/yes = 1 0-1
comment: do not consider titles, only the actual text

Now read the article !!

Elements of writing style

Q11 How technically / scientifically is the article written ? 1-9
comment: rate the focus on matters scientific / technical on this scale

marginally scientific 1 ----- 9 science / technology focused

Q12 Type of lead, first paragraph (after Lewenstein) 1-5

anecdotal	1
life experience	2
citation, reference to authority	3
event	4
prediction	5
'battle cry'; call for action	6
opinion	7
other	9

Q13 Selection criteria (why was the article selected in the first place) 0-1
no=(-)/yes=1

- a any science/technology activity mentioned
- b expert mentioned
- c rhetoric, jargon
- d data presented, results, graphs, technical device
- e research study mentioned / ongoing project (Latour: technoscience)
- f research body mentioned
- g science / technology policy issue, government

Q14 News values
 take your main impression as to why that event was presented as news;
 chose maximum three news values and code in three digits

novelty, invention, innovation, breakthrough	1
surprise, unexpectedness	2
reference to elite person / institution	3
bad news: deviance, catastrophe, accident	4
controversy of any kind (political, moral, scientific)	5
competition (business, national, sport, military)	6
chronicle, repetition	7
news breeds news	8
protest: demonstration, public gathering	9
photograph picture	10
not applicable, other	-

Q15 Controversy no = (-) yes = 1 0-1
 textual coding, only with regards to the article

Q16 Balance of controversy 1-2

none	-
balanced	1
imbalance, partisan	2

Q17 Newspaper events, themes, changes, live area 1-42
 comment: one code only for the main theme

see appendix C5 for detailed list

Q18 Valuation, 'anti-science' tone of the article (rating scale) 0-5
 comment: code in any case: tone as given by the author

neutral	0
affirmative: overwhelming discourse of great promise	1
dominant discourse of promise, progress	2
mixed, ambiguous	3
dominant discourse of concern	4
critical: overwhelming discourse of great concern	5

Q19 Story tone (Semantic differential) 1-7
 comment: if not applicable, put (-); if applicable, but neutral, put '4'
 comment: rate according to your overall impression

- | | | |
|---|--------------|-----------------------------------|
| a | enlightening | dogmatic, preaching, 'party line' |
| b | criticizing | advocating, affirmative |
| c | humorless | humorous |
| d | pessimistic | optimistic |
| e | biased | impartial, both sided |
| f | sensational | sober, serious |
| g | factual | speculative |

1 ----- 7

Q20 Story type by immediate source - use best judgement 1-15

- | | |
|---|----|
| wire service: API, Reuters | 1 |
| full interview | 2 |
| partial interview | 3 |
| background article, feature, fiction, editorial | 4 |
| testimony, confession | 5 |
| Combinations of news and human interest | 6 |
| on-site reportage: e.g. parliament, law courts | 7 |
| reference to scientific/technical journal article | 8 |
| research/technical report, poll, survey | 9 |
| book review | 10 |
| journalist's investigation, 'leak' | 11 |
| letter to the editor | 12 |
| obituary | 13 |
| conference, lecture | 14 |
| reference to another medium (press, radio, TV) | 15 |
| joke, spoof | 16 |
| press release, press conference | 17 |
| other | 99 |

Q21 Degree of personalization (rating) 1-9
 comment: rate according to your overall impression rating; critical question:
 could the story be told without names involved; if not it is a very
 personalized story

very impersonal 1 ----- 9 very personalized
 institutional

Q22	Stereotype of scientist presented (LaFollette, 1990)	1-9
	none, not applicable	-
	magician and wizard, genius	1
	impartial expert, judge	2
	creator, destroyer, healer, curer (religious metaphors)	3
	heroes, front, frontier, pioneer (military metaphors)	4
	people like you and me, next door neighbours	5
	financially interested, greedy, selfish	6
	escentric, mad scientist	7
	removed, out of touch: object of 'Thrakien laughter'	8
	mixed stereotypes: heartless, cheat, charlatan	9

Citations, quotations, references

Q23 number of expert / authority quotations / citations (expert = engineer, scientist) 1-2
comment: citations can be from the same person

none	-
single	1
several	2

Q24 Form of expert citation 1-4

none	-
direct quote	1
indirect	2
referred to	3
mixed	4

Q25 Contextualization of expert citations (van den Berg, 1992) 1-5

a relation among sources

identity	several of same source, compatible	1
inconsistency	same source, incompatible	2
convergence	different source, compatible	3
contradiction	different source, incompatible	4
unclear	undecidable, impartial	5

b relation between author opinion and source 1-5

consent (chameleon)	implicit compatibility with author	1
contrast	implicit incompatibility with author	2
supporting comment	explicit compatibility with author	3
deflating comment	explicit incompatibility with author	4
unclear	undecidable, impartial	5

Q26 Crossreferences to other newspaper articles 1-4

none	-
to the same issue	1
to a previous issue	2
to another paper	3
to a series of articles	4

Story Teller: who is telling the story (author)

Q27 Name of first author 'string variable' [Smith J] string
 comment: record only the first author if there are several

Q28 Gender of author(s) 1-4

no name, not applicable	-
male	1
female	2
mixed	3
not identifiable	4

Q29 kind of authorship
 comment: who is telling the story; what is the media role
 combined coding:

news wire service	0001
named but not specified journalist	0002
specialist journalist	3+[C5] (3 digits)
expert (scientist, professor etc.)	4+[C2] (4 digits)
lay person	5+[C1] (4 digits)
other	0009

for specialist journalist specify with list C5 - news areas

for scientific / technical expert specify with list C2 - academic fields

mathematics	100
physical	200
earth sciences	300
biological	400
medical	500
social sciences	600
engineering	700
parascience	800
S&T whole	900
other	999

for lay person specify with list C1 - area of agency

general public	001
political	100
cultural	200
economical	300
scientific	400

Main agent in the narrative: who or what

Instruction: The main agent is the 'main protagonist', but not necessary a scientific agent; it is the subject of the primary news story: who is doing what to whom, when and where. Look both at the headline and at the first paragraph; take the text somewhat literal: what is the focus subject that is described or is doing something ?

Q30	Kind of agent		10-95
	material, non-human	10	
	living environment, animals	20	
	body parts and organs	30	
	individuals	40+function[1 digit}	
	network/group of people	50	
	formal institutions	60	
	national public	70	
	international community	80	
	humanity as a whole	90	
	disease, virus, bacteria	91	
	pharmaceuticals	92	
	toxic waste	93	
	atomic, radiation	94	
	abstract idea	95	
	unspecified	-	
	Function		
	other	0	
	researcher	1	
	decision maker: manager, authority	2	
	worker, employee	3	
	celebrity, Royals	4	
	receiver: patient, prisoner	5	
	in need: child, disabled, elderly, 'women'	6	
	spokesperson	7	
	choice: client, consumer, customer	8	
	man on the street, 'Clapham omnibus'	9	

Q31 Area of agency 1-410

general public	001
political	100
cultural	200
economical	300
scientific	400

see appendix C1 - area of agency - for detailed codes

Q32 Gender of agent 1-4

not applicable	-
male	1
female	2
mixed	3
unspecified	4

if variable Q30 is coded 40 to 70, code variable Q33

Q33 Characteristic of agents; all types of agents (after Ruhrmann, 1991) 1-7

comment: rate the agent according to adjectives and qualifications, that are used in the text; **code (-) if the code is not applicable;** code 4 if the code is applicable but neutral.

a	reliable	not reliable
b	secretive	open
c	incompetent	competent
d	responsible	irresponsible
e	powerful	powerless
f	emotional	rational
g	constructive	destructive
h	unsuccessful	successful

1 ----- 7

Scientific Event

Comment: what is being done? What is the scientific event in the story; the research event around the main agent; identify the scientific narrative within the main narrative.

Q34 Location within the Innovation cycle 1-9
 comment: which stage of the innovation cycle is described; if several categories apply, chose **only one** and decide on the focus.

discovery, invention, prototype	1
process innovation, production method	2
product innovation, consumer product	3
diffusion, widespread selling	4
testing, diagnosis, screening, selection	5
conditions (legal, policy)	6
allocation of resources, treatment	7
polls, social survey	8
others	9

Q35 Scientific or technical processes involved 0-1
 comment: code only if **explicitly** mentioned

a	method explained	no = (-) / yes = 1
b	ongoing, starting project	
c	terminated project; results given	
d	theory explained	
e	results explained	

Q36 Academic field involved (source: British Encyclopedia 1992) 100-999

history, philosophy, mathematics	100
physical (physics, chemistry, astronomy)	200
earth sciences	300
biological	400
medical	500
social sciences	600
technology and engineering	700
parascience	800
scientific enterprise as a whole	900
others	999

see detailed list of codings C2

Q37 'Big science' - Strategic technology after 1945
(selection variable) 1-10

nuclear power, weapons	1
genetic engineering, biotechnology	2
information technology, computing, communication	3
space technology	4
war with cancer	5
environment, protection, pollution	6
HIV and AIDS	7
the pill and birth control, family planning	8
alternative energy, energy conservation	9
medical technology; transplantations	10
not applicable	-

Q38 Locality of the event/ main action 100-999
where is the research mainly being conducted; leading country ?

unspecified	-
Britain	100
Europe	200
North America	300
South America	400
Asia	500
Africa	600
Australia	700
Antarctica, Arctic	800
the world	900
in space	901
in the air	902
on the sea	903
the first world, industrial	904
the second world, Eastern block	905
the third world, developing	906
Anglo-American	908
Commonwealth	909
EEC	910
OECD	911
Nato countries	912
The Middle East	913
the Allies	914
other	999

see detailed list of locations C3

Q39 Research collaboration 1-3
 comment: is a cross-national collaboration explicitly mentioned

no research project mentioned	-
collaboration within Britain	1
Britain with other countries	2
any collaboration without Britain	3

Q40 Time horizon into the future 1-9

none	-
future; up to 1 yr	1
up to 5 yrs	2
up to 10 yrs	3
up to 25 yrs	4
within a life time (26-70 yrs)	5
wider into the future (centuries)	6
evolutionary time, geological time	7
unspecified	9

Q41 Time horizon into the past 1-9

none	-
past; up to 1 yr	1
up to 5 yrs	2
up to 10 yr	3
up to 25 yrs	4
within living memory	5
earlier, longer back, historical time	6
geological, evolutionary time	7
unspecified	9

Q42 In terms of what is a historical explanation given ? 1-410
 comment: if there is a horizon into the past, how is the event explained; which area of agency is made responsible?

no explanation	---
other	001
political	100
cultural	200
economical	300
scientific	400

see appendix C1 for detailed codes

Background Agent and Conditions:

Comment: Who or what is backing up / making possible the scientific research; what are the interests involved; who are the sponsoring agencies ?

Q43	Saliency of background conditions		0-1
	implicit	-	
	explicit	1	
<hr/>			
Q44	Kind of agent		10-95
	material, non-human	10	
	living environment, animals	20	
	body parts and organs	30	
	individuals	40+function[1 digit}	
	network/group of people	50	
	formal institutions	60	
	national public	70	
	international community	80	
	humanity as a whole	90	
	disease, virus, bacteria	91	
	pharmaceuticals	92	
	toxic waste	93	
	atomic, radiation	94	
	abstract idea	95	
	unspecified	-	
	Function		
	other	0	
	researcher	1	
	decision maker: manager, authority	2	
	worker, employee	3	
	celebrity, Royals	4	
	receiver: patient, prisoner	5	
	in need: child, disabled, elderly, 'women'	6	
	spokesperson	7	
	choice: client, consumer, customer	8	
	man on the street, 'Clapham omnibus'	9	

Q45	Area of agency		000-999
	general public	001	
	political	100	
	cultural	200	
	economical	300	
	scientific	400	

see appendix C1 for detailed codes

Q46	Gender of agent		1-4
	not applicable	0	
	male	1	
	female	2	
	mixed	3	
	unspecified	4	

Consequences and effects

Consequences of the scientific event regardless of being in the main or the subnarrative

Q47	The argument of control: can one do something about it?		1-3
	not applicable	-	
	totally controllable (context dependent)	1	
	partially controllable	2	
	uncontrollable (context independent)	3	
	'the natural course of things'		
<hr/>			
Q48	Social utilities, benefits, uses (positive consequences)		
a	utilities, benefits, uses mentioned		0-1
	no	-	
	yes	1	
b	if yes, probability argument		0-1
	no	-	
	yes	1	
c	first order (first mentioned, major stress)		10-69
	none	-	
	social, well-being	10	
	cultural, symbolic, moral	20	
	political, power	30	
	economical, financial	40	
	scientific	50	
	ecological, environmental	60	
d	second order (secondary mentioning)		10-69
	none	-	
	social, well-being	10	
	cultural, symbolic, moral	20	
	political, power	30	
	economical, financial	40	
	scientific	50	
	ecological, environmental	60	

see detailed list of dimensions C4

Q49	Kind of winner		10-95
	material, non-human	10	
	living environment, animals	20	
	body parts and organs	30	
	individuals	40+function[1 digit}	
	network/group of people	50	
	formal institutions	60	
	national public	70	
	international community	80	
	humanity as a whole	90	
	disease, virus, bacteria	91	
	pharmaceuticals	92	
	toxic waste	93	
	atomic, radiation	94	
	abstract idea	95	
	unspecified	-	
Function	other	0	
	researcher	1	
	decision maker: manager, authority	2	
	worker, employee	3	
	celebrity, Royals	4	
	receiver: patient, prisoner	5	
	in need: child, disabled, elderly, 'women'	6	
	spokesperson	7	
	choice: client, consumer, customer	8	
	man on the street, 'Clapham omnibus'	9	

Q50	Area of agency		1-410
	general public	001	
	political	100	
	cultural	200	
	economical	300	
	scientific	400	

see appendix C1 for detailed codes

Q51	Gender of winner		1-4
	not applicable	-	
	male	1	
	female	2	
	mixed	3	
	unspecified	4	

Q52	Locality of the effects (winner)		100-999
	where are effects mainly being felt ?		
	unspecified	-	
	Britain	100	
	Europe	200	
	North America	300	
	South America	400	
	Asia	500	
	Africa	600	
	Australia	700	
	Antarctica, Arctic	800	
	the world	900	
	in space	901	
	in the air	902	
	on the sea	903	
	the first world, industrial	904	
	the second world, Eastern block	905	
	the third world, developing	906	
	Anglo-American	908	
	Commonwealth	909	
	EEC	910	
	OECD	911	
	Nato countries	912	
	The Middle East	913	
	the Allies	914	
	other	999	

see detailed list of locations C3

Q53	Social costs, damage (negative consequences)		
a	risks, costs, damage		0-1
	no	-	
	yes	1	
b	if yes, probability argument		0-1
	no	-	
	yes	1	
c	first order (first mentioned, major stress)		10-69
	none, unspecified	-	
	social, well-being	10	
	cultural, symbolic, moral	20	
	political, power	30	
	economical, financial	40	
	scientific	50	
	ecological, environmental	60	
d	second order (secondary mentioning)		10-69
	none, unspecified	-	
	social, well-being	10	
	cultural, symbolic, moral	20	
	political, power	30	
	economical, financial	40	
	scientific	50	
	ecological, environmental	60	

see detailed list of dimensions C4

Q54 Kind of loser

10-95

	material, non-human	10
	living environment, animals	20
	body parts and organs	30
	individuals	40+function[1 digit}
	network/group of people	50
	formal institutions	60
	national public	70
	international community	80
	humanity as a whole	90
	disease, virus, bacteria	91
	pharmaceuticals	92
	toxic waste	93
	atomic, radiation	94
	abstract idea	95
	unspecified	-
Function	other	0
	researcher	1
	decision maker: manager, authority	2
	worker, employee	3
	celebrity, Royals	4
	receiver: patient, prisoner	5
	in need: child, disabled, elderly, 'women'	6
	spokesperson	7
	choice: client, consumer, customer	8
	man on the street, 'Clapham omnibus'	9

Q55 Area of agency

000-999

	general public	001
	political	100
	cultural	200
	economical	300
	scientific	400

see appendix C1 for detailed codes

Q56 Gender of loser

1-4

	not applicable	-
	male	1
	female	2
	mixed	3
	unspecified	4

Q57	Locality of the effects (loser)		100-999
	where are effects mainly being felt ?		
	unspecified	-	
	Britain	100	
	Europe	200	
	North America	300	
	South America	400	
	Asia	500	
	Africa	600	
	Australia	700	
	Antarctica, Arctic	800	
	the world	900	
	in space	901	
	in the air	902	
	on the sea	903	
	the first world, industrial	904	
	the second world, Eastern block	905	
	the third world, developing	906	
	Anglo-American	908	
	Commonwealth	909	
	EEC	910	
	OECD	911	
	Nato countries	912	
	The Middle East	913	
	the Allies	914	
	other	999	
	see detailed list of locations C3		

Suggested moral of the scientific narrative

Comment: Is there a call for action in the story; does the situation call out for any action; What kind of action is called for and who is addressed ? What are the **demand characteristics** of the situation as described ?

Q58 Call for actions in the article (rating scale) 1-8

active resistance to change	1
refusal of change	2
renounce the change	3
fate; cannot do anything; let's see	4
passive consent to changes	5
realize change	6
active support of changes	7
other	8

Q59 Area of agency, kinds of reasons given 1-410

the general public	001
political	100
cultural	200
economical	300
scientific	400

see appendix C1 for detailed codes

Appendix to coding frame

C1 Areas of Agency, social constituencies

4-dimensional definition of agents: kind x area x function x gender

general public	001
women only	002
men only	003
children	004
elderly	005
empryo	006
political (power)	100
civil service, bureaucracy, local govern	101
cabinet, ministry, PM, President	102
special government commission	103
low enforcement agencies: police, prison	104
NHS, health organisations	105
opposition	106
House of Commons, parliament	107
House of Lords, second chamber	108
Conservative party (British only)	109
Labour party (British only)	110
Liberal party (British only)	111
other political party, non British	112
trade unions	113
employers, Institute of Directors	114
pressure group, interest groups, NGO	115
judiciary	116
professional: law society, medical society	117
military (army, navy, air force)	118
secrete service: DI5, DI6, CIA	119
Monarchy	120
EC, EEC, Coal and Steal Union	121
United Nations Organisations	122
NATO	123
other	199

ethical and cultural (truth, beauty) 200

charity	201
education	202
religion	203
music, opera	204
visual arts (painting, sculpture)	205
media, press, TV	206
sports	207
literature	208
theatre	209
dance	210
cinema, film	211
special interest group; e.g. ramblers	212
protest groups	213
ethnic groups	214
heritage, Royalty	215
others	299

production, economical, business (money) 300

primary: 310

energy sector (gas etc.)	311
agricultural industry	312
fishing industry	313
other primary	319

secondary: 320

chemical industry, pharmaceutical	321
machine industry	322
car industry	323
shipping industry	324
aircraft industry	325
textile industry	326
defense industry	327
food industry	328
construction (railway, street, housing)	329
computer industry (hardware, software)	330
engineering business	331
household goods, domestic appliances	332
other secondary	339

tertiary:	340
banking	341
insurance	342
London City	343
tourist	344
catering	345
telecommunication	346
business consultancy	347
transport (buses, rail, shipping)	348
NHS, hospital management, doctors	349
architecture, engineering	350
other tertiary	359
scientific, technical (inst truth)	400
university	401
industry research	402
independent 'think tank'	403
government research institute	404
funds, foundations	405
nature, natural phenomenon	406
scientific professional organisation	407
research hospitals	408
research laboratories	409
other; e.g. zoos, museums	410

C2 Academic fields

Academic field of science (British Encyclopedia 1992)

history, philosophy, mathematics	100
history, archeology	101
epistemology of sciences	102
statistics, mathematics, logic	103
other	199
physical (physics, chemistry, astronomy)	200
physics	201
chemistry, biochemistry	202
astronomy, cosmology	203
other	299
earth sciences	300
geology	301
hydrology	302
atmospheric	303
other	399
biological	400
molecular	401
cell	402
organismic	404
population	405
taxonomy	406
other	499
medical	500
medical care	502
surgery	503
dentistry	504
pharmacy	505
nursing	504
veterinary	506
forensic, pathological	507
psychiatric	508
dietry, nutrition	509
opticians	510
other	599

social sciences	600
anthropology	601
sociology	602
economics	603
psychology	604
political science	605
geography	606
linguistics	607
management	608
educational science	609
demography	610
other	699
technology and engineering	700
energy, power	701
chemical	702
traffic	703
information, communication	704
military	705
medical	706
electro	707
printing	708
agriculture, food	709
operations research	710
automation, computing, process control	711
new material	712
architecture	713
construction	714
other	799
parascience	800
astrology	801
telepathy	802
UFOs	803
telekinesis	804
crop circles	805
other	899
Science and technology as a whole	900
other	999

C3 Detailed locations (countries of the world, status 1990)

Britain	100
Greater London	101
South	102
Midland	103
North	104
Scotland	105
Wales	106
Northern Ireland	107
Cambridge	108
Oxford	109
Other, continental Europe	200
(West) Germany	201
East Germany	202
France	203
Italy	204
Spain	205
Portugal	206
Holland	207
Belgium	208
Ireland	209
Luxembourg	210
Denmark	211
Sweden	212
Norway	213
Finland	214
Baltic Countries	215
Czechoslovakia	216
Switzerland	217
Liechtenstein	218
Austria	219
Hungary	220
Bulgaria	221
Rumania	222
Jugoslavia, Balkan	223
Albania	224
Greece	225

Asia	500
Turkey	501
Ussr	502
Syria	503
Lebanon	504
Jordanian	505
South Arabian Peninsula	506
Israel	507
Iraq	508
Iran	509
Pakistan	510
Afghanistan	511
India	512
Nepal	513
Mongolia	514
Burma	515
Thailand	516
Laos	517
Vietnam	518
China	519
Japan	520
Philippines	521
Indonesia	522
Malaysia	523
Bangladesh	524
Far East	525
South East Asia	526
South, North Korea	527
other	599

Africa	600
Algeria	601
Tunisia	602
Morocco	603
Egypt	604
Libya	605
Sudan	606
Ethiopia	607
East Africa	608
West Africa	609
Saharan Africa	610
Central Africa	611
Congo	612
Zaire	613
Angola	614
Southern Africa	615
Rhodesia, Zimbabwe	616
South Africa	617
other	699
Australia	700
Australia	701
New Zealand	702
Tasmania	703
Pacific Islands and Atolls	704
Antarctica, arctic	800
the entire world, United Nations	900
in space	901
in the air	902
on the sea	903
the first world, industrial	904
the second world, Eastern block	905
the third world, developing	906
Anglo-American	908
Commonwealth	909
EEC	910
OECD	911
Nato countries	912
The Middle East	913
The Allies	914
other	999

C4 Detailed dimensions of evaluation (kinds of benefits and costs)

Each of these categories can be positive or negative, depending whether it is codes under benefit or cost

social, well-being	10
health	11
no of death/lives, mortality	12
security, safety	13
mental states	14
cultural, symbolic, moral	20
national prestige	21
progress	22
ethical, moral status	23
variety	24
education, culture	25
discrimination, deprivation	26
politics, power	30
change	31
stability, unrest	32
others	33
economical, financial	40
jobs	41
working conditions, safety	42
working hours	43
wages, living standard	44
profits or loss	45
business opportunities, markets	46
growth	47
competition situation	48
service, product quality	49
scientific	50
knowledge	51
manpower mobility (brain drain)	52
infrastructure	53
ecological, environmental	60
radioactivity	61
biodiversity, conservation	62
pollution, cleaning	63
desertification, draught	64
deforestation, erosion	65
energy provision	66

C5 Type of specialist journalist; news areas

These categories are unordered, because they have been extended as it was required by the coding process

working life	1
health, food, nutrition (practice)	2
wildlife, natural history	3
environment as a problem	4
science or technology	5
defense, military, war	6
space	7
energy	8
traffic, transport	9
science policy, man power, funding	10
agriculture, farming	11
gardening	12
credit, property, housing market	13
crime and forensic issues	14
legislation, laws	15
human interest, 'gossip', celebrity	16
social survey, opinion polling	17
living standard, consumer issues	18
business, industry,	19
politics	20
education	21
fashion	22
labour relations	23
travelling, leisure	24
sport	25
the arts	26
women's issues	27
family, parenting	28
hobby, 'do it yourself'	29
motoring	30
computing	31
children's section	32
entertainments (TV, film, radio)	33
history	34
Royalty	35

letter to the editor	36
obituaries	37
illness	38
financial	39
national economy	40
foreign news	41
religious issues, cults	42
fiction, serialisation	43
pets	44
other, not specified	99