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Journalistic practices and science reporting in the British press

Anders Hansen

Newspaper coverage of science is governed and shaped by both macro-level factors such as ownership and cultural resonances, and by the more micro-level factors of journalistic practices, professional values, and organizational arrangements. This study examines the characteristics and professional practices of specialist journalists involved in the coverage of science, medicine and related subjects in the British national press. It shows that they share many of their characteristics with specialist journalists in other areas: they value journalistic professionalism and skill more highly than formal training in their particular field of specialist reporting; they deploy conventional news-value criteria, but emphasize in particular the importance of a 'relevance to the reader' criterion in the selection of science news; they deploy elaborate routines for securing the credibility of their reporting, including the active cultivation of a relationship of mutual trust with their sources, and a source-orientation which is distinctly institutionally- and authority-focused. Popular and quality press journalists hold clearly different images of their target audiences, although for both categories of journalists the image of the readers owes more to journalistic judgement and casual feedback than to systematic readership data. The overriding key to understanding the work of these specialists is to recognize that they are, in their practices and professional beliefs, journalists first and specialists second.

Introduction

The coverage of science in the mass media is at once highly selective and highly uniform. It is 'selective' in the sense that some areas of science receive much more prominence than others, and in the sense that there are significant variations in the overall amount of science coverage carried by different media. It is highly uniform in the sense that the same kinds of science tend to become news in different media, and the relative prominence of different types of science varies little across different media. In these respects the coverage of science differs little from media coverage of other subjects. It is then not entirely surprising that attempts at understanding and accounting for the nature of science coverage have followed much the same avenues of inquiry as studies of media coverage of other topics and issues. Central to such studies has been a distinction between, on the one hand, macro-level structural constraints on the production of news, and, on the other hand, the micro-level practices, routines and orientations of journalists.

Early studies of selectivity and bias in news focused on the roles of individual 'gatekeepers' in determining what is reported. In the last two decades or so studies of news have emphasized the organizational structures of news media and the professional socialization and values of journalists as the key determinants in the production of
As well as seeing news as a ‘manufactured’, ‘constructed’ product rather than simply as random reactions to random events, or as a simple process of transporting chunks of information from senders to receivers, these studies have essentially sought to explain the nature of news in terms of organizational arrangements and professional values. What all of these studies have in common is a focus on news organizations and on the immediate actors (journalists, editors, sources, audiences, etc.) involved in the news process.

A recent criticism of these approaches is that they have tended to ignore or gloss over how news production is facilitated and influenced by the wider ‘cultural givens’ by which it is circumscribed. The latter dimension includes questions about how specific aspects of science become newsworthy primarily because they relate to, or ‘resonate’ with, widely held cultural beliefs and with social, political and economic developments already in the news. It also includes questions about how well science topics compete, in news terms, with other major issues of the day. While these macro-level factors set some broad parameters for the production of science coverage, it is to the more specific questions about journalistic practices, routines, and intentions that we must look for a fuller understanding of the coverage of science.

Although there has been little research on science reporters in this country, numerous American studies have examined the characteristics of science journalists and their working practices. With little divergence in either approaches or findings these studies have noted, inter alia, that science journalists are generally better educated than their colleagues, although not necessarily in science specifically; they enjoy a relatively high degree of autonomy in their work; they tend to stay with their specialization and cultivate, over time, a symbiotic relationship with their sources; they develop a ‘competitor-colleague’ relationship with fellow science journalists; and their image of the audience for science news is intuitive and rarely informed by readership surveys.

The aim of this article is to examine the key characteristics, practices and self-definitions of science journalists on British national newspapers, and to explore how these dimensions help explain the nature of science coverage.

Sample and method

A total of 31 semi-structured interviews were carried out during 1990 with specialist journalists prominently involved in reporting on science, technology, medicine, environmental issues and associated areas in the national daily and Sunday press. The journalists were drawn from the following national quality papers: the Telegraph (6 journalists), The Times (5), the Independent (5), the Guardian (7), the Observer (2); and from the following national tabloid papers: the Mirror (1), the Mail (3), and the Express (2). The interviews, which lasted on average one hour, were tape-recorded (with one exception, where the journalist agreed to the interview but refused the tape-recording of it) and later transcribed in full. The journalists were assured of confidentiality in the use of the interview transcripts, and are thus identified here only by type and by a number. The interview transcripts and the notes taken by the interviewer during each interview form the basis of this analysis.

The semi-structured interviews sought to explore a range of characteristics, including: information-seeking practices; organizational arrangements; the relationship with news editors; the cultivation and nature of source contacts; validation practices; images/perceptions of the audience for science news; and beliefs about the public role.
of science reporting. At the end of the interview each journalist was asked to fill in a questionnaire detailing his/her age, qualifications and professional training, length of time working as a journalist, and length of time covering science and related fields.

All of the interviewees were specialist journalists. While individual newspapers have varying degrees of sub-specialisms under the general areas of science, technology, medicine, health and environment (e.g. consumer affairs, transport, computing) the journalists interviewed here represented three primary specialisms: science/technology/computers (13 journalists), environment/agriculture (7), and health/medicine/social affairs (11).

Of the 31 journalists interviewed seven were women, and of these five had ‘medicine and health’ as their specialist area and two were ‘technology’ correspondents. All of the journalists interviewed had considerable experience as journalists. They had worked as journalists for an average 18 years, and none had been a journalist for less than three years. They also confirmed the pattern found in other studies of specialist journalists, and of science journalists in particular, that they tend to stay with their specialism: thus, they had, on average, been involved in science reporting for 11 years.

Qualifications and training

Seymour-Ure found in his 1975 study of science journalists that while ‘most science correspondents have “science” somewhere in their background (. . .) their journalistic skills are what really matter’.6 While there has been a tendency in much of the literature on science reporting and journalism to see formal scientific training as not only desirable for science journalists, but also as a requirement for ‘better’ and ‘more accurate’ coverage of science, journalists who cover science have, as Nelkin has pointed out, remained ‘divided as to the importance of formal training in science (. . .). While agreeing that there is a need for greater technical sophistication, some journalists argue that too much science education can handicap the reporter’.7

In terms of formal training these journalists can be categorized into three groups: those with a qualification and primary training in science, ranging from a bachelor’s degree to three journalists with a doctorate in science (12 of the journalists were in this group); those with a university degree in arts/social science (eight journalists) and those trained principally as journalists with no other qualification (ten journalists). One journalist did not disclose his qualifications/training.

Those with a university degree in science were on average both younger (average age 34 years) and—relatedly—had worked as journalists for fewer years (average number of years in journalism: 11) than the journalists with an arts/social science background (average age: 41; average number of years in journalism: 18) or the journalists who were principally trained as journalists (average age: 45; average number of years in journalism: 26). This tentatively indicates a trend in national newspapers toward emphasizing a science background or qualification for specialist reporters assigned to report on science, medicine and related fields, although the majority of journalists in this specialism still come from a journalism/arts/social science background.

Like specialist journalists in other fields (see, for example, Ericson et al.8 and Golding and Middleton9) the journalists in this study emphasized journalistic training and skills as generally more important than a degree or other formal training in their specialism. Those with a science background argued that while this may have some
advantages in terms of a general appreciation of what science does or how science works, it could be a hindrance in terms of reporting on their own area of training. As one science correspondent with a PhD in biology put it:

I find areas that are interesting within biology, which I then have self-doubt about, thinking, well, maybe it’s because my background is in this area, ( . . .) this is, you know, that is only going to interest, really, people in this field ( . . .).

But it’s actually not very helpful if I’m talking to a physicist to say I, you know, I’ve got a PhD in biology, it’s almost useless in terms of being able to grasp more easily what they’re talking about.

(Science correspondent (7), quality daily paper)

Seen in the context of the very broad range of science covered by any one specialist, there is also a recognition that the specific area of expertise of those with a science background would be of little or no use in the large majority of topics/subjects on which they report.10 As one medical correspondent jokingly expressed it: ‘I’m well qualified as medical correspondent with a degree in chemistry, physics and metallurgy!’ (medical correspondent (10), popular daily paper). This sentiment was echoed by others:

The experience, I understand, at newspapers where people have been hired who are massively steeped in science and technology and are highly technically gifted is they cannot see the wood for the trees. They don’t, they can’t spot an interesting story. I mean, in the first place we’re journalists, in the second place we are technology correspondents and science correspondents.

(Technology correspondent (29), quality daily paper)

There is an argument that it’s an advantage to be a non-scientist because you have to force the scientist to put things in very simple terms and just for the reporter to understand them.

(Environment correspondent (2), popular daily paper)

There is thus a clear recognition from both those journalists who have a science background and those who do not, that while some formal training in science can have advantages (e.g. spotting stories that are not immediately ‘signposted’ for media coverage) there are also potential drawbacks, including difficulties of gauging what would be of interest to a broad readership (not being able to see the wood for the trees) and problems of ‘translating’ complex science for a predominantly ‘lay’ readership. Across the board, science background or not, what these specialists regard as crucially important are journalistic training, skills, and crafts.

**News values in science coverage**

Specialist journalists are bombarded daily with a mass of press releases, letters, promotional material, and telephone calls from individuals or institutions anxious to get coverage. How do they decide what to select for coverage?

Journalists look for science which is of ‘relevance to daily life’, ‘with a human angle’ (‘. . .) anything with a human being in it is intrinsically easier [to cover]’, Science correspondent (28), quality Sunday paper or which is ‘weird and wacky’. The most pronounced criterion of newsworthiness is whether science can be made recog-
nizable to the reader in terms of human interest or in terms of something readers can relate to. This, of course, helps explain the significant dominance of medicine and health-related science coverage which has invariably been found in content analyses of media coverage of science.\(^{11}\) Another factor which may help explain the prominence of medicine concerns the publicity practices of sources. The journalists indicated that medical scientists are more likely than other types of scientists to ring up and announce that they have a ‘wonderful story’. The more aggressive publicity approach of medical doctors/scientists was also noted in Seymour-Ure’s study.\(^{12}\)

Related to the criterion of ‘relevance to daily life’ is the question of how complex, esoteric, and inaccessible the journalist feels a piece of potential scientific news to be, although it is not complexity *per se* that is the deciding factor: a piece of science news may be complex, but if it is summarized in an accessible form for the journalist either by the scientist(s) involved or in an appropriate press release, then it may still be reported:

> If it’s too technical I think oh that’s too technical and even our readers won’t be interested. And many of the advances in science are too technical, I mean, why should the man in the street be interested in some, you know, minor development that even people with PhDs in the field probably think is almost splitting hairs (...) the ability of a source to explain and to be quote-worthy is a big help and it is one of the reasons why some science gets covered and some does not.

(Medical correspondent (11), quality daily paper)

The more complex or inaccessible a piece of science news is, the more ‘translatory work’ it will require on the part of the journalist to make it intelligible and interesting to the readers. This in turn brings up questions about the tight time-pressures that journalists work to, as well as questions about the degree to which the item in question is really ‘a significantly new development’ or ‘breakthrough’ ‘(...) unless it’s really flagged up that this is a major breakthrough, I tend to pass on’, Medical correspondent (11), quality daily paper; ‘If the Imperial Cancer Research Fund calls a press conference to say “we have the biggest development in cancer research for 25 years” then you don’t need instincts, you just go, don’t you?’ Science correspondent (22), quality daily paper). Working against the ‘breakthrough’ criterion of newsworthiness in science reporting is the very nature of the scientific process itself: science is, in news terms, a slow process of small incremental developments; and rarely, if ever, does science happen in the form of a continuous series of significant or major developments synchronized to the 24-hour time-cycle of press reporting:

The problem there is that the processes of science tend to be one of gradual unfolding ideas as it were, there is very seldom an occasion in scientific research where you could say there had been a breakthrough—we learned something today that we didn’t know yesterday, as it were—um, which means that, um, it doesn’t actually lend itself very easily to treatment in conventional news story type terms.

(Science editor (9), quality daily paper)

The newsworthiness of science is thus hampered by the fact that the ‘event-frequency’ (see Galtung and Ruge\(^{13}\)) of science does not readily match the news-frequency of the press. This has similarly been noted as a problem in the reporting of environmental issues.\(^{14}\)
As indicated earlier in relation to formal qualifications, one of the keys to understanding the work of these specialist journalists is to understand that they see themselves as 'journalists' first and 'science journalists' second, and their specialist beats as journalism first and specialization second:

Science journalism . . . one is that I don’t believe that it exists, there is journalism which happens to be about science, just as there is journalism which happens to be about football or golf or whatever, I don’t believe that there is a specialist area. This is one of the difficulties I have with, um, COPUS and some of the special pleading for science which tend to say that science is intrinsically an important part of our cultural life. Well in another sense, so is football. ( . . .)

It’s not that easy to say what it is that makes a story a story other than by saying, well, you apply the same sort of criteria that any other journalist, whether he is a crime correspondent or whatever, would apply to any other story; it seems to me that it stands or falls by a general, a generalized judgement of: Is this the sort of story that you can imagine the readers wanting to have at their breakfast table tomorrow morning?

(Science editor (9), quality daily paper)

Well that’s a journalistic technique and that’s got little to do with the environment and much more to do with an inherent sense of what is and what isn’t news, born of being many many years in the business. I mean, the techniques I apply are the same that I would apply to any other role in journalism.

(Environment correspondent (1), popular daily paper)

The use of basic journalistic criteria for determining what to select for coverage also comes through in such criteria of newsworthiness as 'controversy' ('one also looks for disputes, that’s always good, you know, that always makes a good story', Health and social services correspondent (17), quality Sunday paper) and national/geographic 'proximity' ('What’s in it for Britain?'—a science correspondent (28) on a Sunday quality paper saw this as a criterion for science items for the home news page, although less so for the science features page).

The journalists argue that science is seen as a 'worthy' area of coverage, although fundamentally 'news isn’t much interested in science'. Science becomes newsworthy when it becomes part of wider social and political problems, or when it is linked to major accidents and disasters. This has also been borne out by content analyses showing that science is a subsidiary theme, not the main focus, in nearly half of all coverage with some reference to science or scientist. "Science" per se is not seen as hard news, but remains part of what some journalists call the 'soft underbelly' of news coverage, and science stories tend to get squeezed out if set in direct competition with other, more mainstream types of news, particularly political news. With the exception of the 'weird-and-wacky' or the 'implications-for-the-individual' types of science, science predominantly becomes 'news' (i.e. moves from the domain of the specialist science sections within a newspaper to the main news sections) if it is linked to major developments in the political or economic sphere.

Source strategies

While all the journalists acknowledge the practice of scanning printed sources—notably science/environment/medical journals—for topics to be covered, they do so
to different degrees, and with a degree of ambivalence particularly about the pre-publication press releases issued by some of the key journals. This ambivalence, and the varying degrees to which scanning journals is part of their news-gathering routines, is related to aspects of professional ideology. Thus, there is a notion among some journalists that ‘scanning journals’ is not ‘real’ journalistic work, particularly not when, as in the case with several of the main science journals, the journalists are given pre-publication notice of key items, pre-selected by the editors of these journals, complete with addresses and telephone numbers of the scientist authors. This is journalistic work made easy—but while it may make life easier for the journalist, there is also a notion that this practice is a threat to fundamental aspects of what it means to be a journalist, both in terms of the pre-selection which has taken place and in terms of contacts/sources being served on a platter. Tunstall and others have noted that a key dimension of the professional ideology of journalists is to avoid that which is readily available. Reporting the readily available does not require the skills which are seen as central to being a journalist, notably the idea that the ‘best’ journalists are those with the most sources/contacts (see Tuchman). And, perhaps more importantly in relation to specialist reporters, pre-packaged information—although easy to report—undermines the control of the journalist over the material and sources.

Like journalists more generally, the basic journalistic ethos of these specialist journalists is to go to ‘the top guy in the field’, to ‘original sources’, rather than to information officers or press officers. There is a great deal of emphasis on the idea that only the ‘best’, ‘brightest’, ‘most senior’ will do:

It helps if somebody had a title of some status, I mean ‘Professor’ is always far more quote-worthy than ‘Senior House Officer’, that may be right or wrong or just journalistic snobbery, but if a Professor says it, it has some credibility, at least in our eyes.

(Medical correspondent (11), quality daily paper)

I’d invariably try and contact the scientists involved, um, because I mean a press release may give you the flavour of what’s going on but invariably gives you what you want, um, I mean, if it’s a press release from a public relations company they probably have missed a point or probably oversold it; if it’s from a body like say the Royal Society it’s probably been so undersold that you haven’t really got the thing that’s going to make the reader interested.

(Science editor (8), quality daily paper)

The ‘top guy’ authority-orientation of science journalists is not simply a matter of uncritical establishment-reporting. It is essentially a professional practice, part of the professional ideology of journalists, geared to securing and safeguarding the journalist’s credibility in the reporting on complex issues and claims which can rarely be readily validated or assessed by the news medium itself.

Coupled with the notion of ‘original sources’ is the notion of ‘original stories’—the need for the journalist to adopt an outgoing pro-active approach, rather than sitting back in his or her office merely ‘reacting’ to the wealth of material which flows in, in the form of press releases, wire-service reports, letters, etc. The ‘original stories’ criterion runs against the use of those items which have been singled out by the key scientific journals—the science journalist on one newspaper knows that the same pre-publication information will have gone to his opposite numbers in other media. But the journalists recognize a clear dilemma here: on the one hand the notion of good
journalism demands the coverage of stories which are different from those covered by everybody else; on the other hand, there is constant pressure not to overlook major science stories which receive coverage in competitor media. It is important to recognize, however, that these pressures do not work homogeneously across all media, but apply, as far as specific science news coverage is concerned, particularly to the quality press. Such pressures also apply more acutely to the coverage in the news pages than to coverage in science feature sections.

Much emphasis has been put in the research literature on the two different cultures of science and journalism, on the barriers within science to exchange between the two, and on the reluctance of scientists in dealing with the mass media, ranging from the basic unease with the communication criteria of the mass media compared with those of scientific journals to fear of being ostracized by the scientific community for 'inappropriate' means of publication. In spite of the well-documented ambivalence of scientists towards the mass media, there was no sense among the journalists interviewed in this study that scientists were generally evading the role of media sources. On the contrary, these journalists spoke of scientists as 'willing' and 'co-operative' sources. There was, however, no clear sense of whether scientists have become significantly more interested in talking to journalists and the media in the last 10–15 years. A number of the journalists felt that individual scientists, and perhaps more particularly their institutions, have become more sensitive to the importance of wider public communication of science and to the potential advantages of a 'good' publicity profile in terms of competition for scarce funding. But the journalists also pointed to an inhibiting trend of control and news management working in the opposite direction.

And particularly with the government scientists, they are often bound not to say something because it would not be in the interests of the client, i.e. the government, and that's where all the money comes from. ( . . . )

I mean before, if a scientist had done some research then he was perfectly entitled to talk to anyone he liked about it, now he's not. I think he has to be aware of the large knife that's poised directly over his back. I mean, if he says something that he shouldn't say and he's dependent on government research he is very fearful that that money will be taken away. There's no evidence that it would be—I've never known an instance where money has been taken away because of a story. But the fact that people fear it is enough.

(Environment correspondent (20), quality daily paper)

( . . . ) The DoE [Department of the Environment] is the government mouthpiece for me ( . . . ) and they will lay down a line which they expect you to follow and when you don't they say '[name of reporter] you didn't really listen to that briefing we gave you did you?'—it's a sort of gentle smack on the wrist. ( . . . ) But I've never, I've never, I mean they've never sort of operated sanctions against me like not inviting me to anything or refusing to send me anything, I mean they still take the view that even if I might get something that they don't regard as particularly right, you know, I've got to be persevered with.

(Environment correspondent (1), popular daily paper)

Just as scientists are generally seen as willing and co-operative sources, so too, the task of finding appropriate or relevant scientific sources is seen as relatively straightforward. The journalists deploy a number of standard routines to this end. In most cases, they have been in the field long enough (as noted at the beginning, these
journalists had, on average, been involved in science and science-related reporting for 11 years) to have built up a picture or mental map (and an associated card index) of who does what where in science. In addition to this, they use standard journalistic routines, i.e. directories, 'asking colleagues', and using scientists themselves as paths to other scientists. The research councils, professional societies or associations, government departments, and lobby and pressure groups are all seen as useful conduits to experts in particular areas.

Government departments and government research establishments are seen as a major and important news source. There are several significant dimensions to this. At one level, journalists value government departments or research establishments as sources because they see the fact that they are government departments as a credibility safeguard, in much the same way as going only or primarily to 'top/senior' scientists and to 'original sources' is seen as serving this function. At the same level, however, there is a clear recognition that the communication of science for public consumption is inevitably tinted by the context in which science is produced, and whom it is produced for (this recognition does not in the journalists' view necessarily imply anything about the integrity of individual scientists, but points rather to the institutional requirements for the popularization of science—see also the above quote from correspondent no. 20):

I don't think that government scientists necessarily lie on behalf of government policy, or that the Greenpeace scientist is lying on behalf of Greenpeace policy ( . . . ) but I do believe that knowing a bit about where people work helps. ( . . . ) It's something you have to take account of and something you have to tell the reader about ( . . . ) everybody has customers now and it's as well to remember that people are nice to their customers.

(Environment correspondent (21), quality daily paper)

The value placed on government and related sources is tempered by a basic journalistic ethos which demands that, particularly where controversial claims are involved, these be 'bounced off' non-government-related sources, be they University scientists, or, as is often the case with 'environment' stories, established environmental pressure groups.

At another level, the importance ascribed to government and government departments as a key news forum for science coverage is qualified by a view of what is seen as increasingly cynical attempts at news management on the part of government. This news management takes the form of careful timing of the release of sensitive or controversial news in relation to relevant media deadlines, and it takes the form of 'slipping out' sensitive or controversial science news 'under cover' of major political news events which will overshadow the 'softer' (in news terms) science-related news.

My perception is that government departments certainly do manage news much more tightly than they did in the past. It's not as easy to obtain information from the ministries I deal with now as it was 10 years ago and I think this is a centralized news management which comes from fairly high up in government and, uh, I think it's to avoid any kind of embarrassing items—they don't want sort of government to be wrong-footed by anything that comes out from any of the departments and I think there's so much attention paid to that that it tends to slow up the whole dissemination of quite simple things sometimes—quite, really quite simple things.

(Agriculture correspondent (12), quality daily paper)
Very recently, I don't know why, the institutional framework of government has become very much more cynical at managing news.

(Environment correspondent (27), quality Sunday paper)

Contrary to the argument in some of the research literature on science communication, that a problem in covering science is the absence of a ‘set forum whose affairs can be covered on a daily basis’, there is a clear indication from this study that government (in the broadest sense of the word) together with scientific publications and meetings serve very much as a key—and relatively routine—news forum for journalists covering science.

In contrast to their use of research councils and professional associations as conduits to scientists with expertise in particular areas, the journalists were more ambivalent about the use of general directories, including more specifically the Ciba Foundation’s Media Resource Service (MRS). While this service was seen as a valuable and useful resource for general reporters, these specialist journalists indicated that a defining characteristic of being a specialist journalist is precisely that of ‘knowing who is who in science’ and knowing how to track down sources without recourse to general directories like the MRS.

I've used the Media Resource Service a bit, not recently. It is one of the best things to have happened to science journalism in the past five years that such a service should exist. I think it's terribly valuable, particularly, I think, not so much for the specialists like myself and my opposite numbers, but for generalists coming to a story for the first time who don’t have a pre-existing network of contacts and names of people to go to.

(Science editor (9), quality daily paper)

The journalists also emphasize that a distinct advantage of the source services provided by the professional associations, by pressure groups, and, to some extent by the research councils, is that the people servicing the databases/information offices of these often know the scientists to whom they refer the journalists. This was not seen as a feature of the MRS because of its sheer size and multidisciplinary range. The significance of ‘knowing’ the sources should be seen as part of the general register of routines deployed by the journalists as a way of securing the credibility of their reporting (see also the discussion below of ‘trust’ in the relationship between scientists and journalist). While government, government departments, and government scientists are regarded as essential news sources and news forums, and are seen as authoritative and credible sources, the attitude of the journalists to industry and industry scientists is much more cautious.

( . . ) An organization’s credibility is important, um, one feels happier covering something from a university, um, or if it’s come out of government research or something like that, a government research institute, than from a company ( . . ) I mean, if it comes from a company, I mean, you know that they’ve got something to promote. Obviously a scientist at a research institute is also trying to promote himself but, you feel, in a slightly less voracious way.

(Technology correspondent (29), quality daily paper)

You get endless invitations or phone calls, particularly from PR companies, to cover stories promoting products or promoting a piece of research that’s been funded by them which shows that this or that type of product will save you
from heart disease, save you from cancer, whatever, so there's a lot of pressure there which is largely ignored.

(Medical correspondent (5), popular daily paper)

My mail comes in with a huge wad of press releases from industry which I throw away 99% of after an initial glance, because they're just trying to sell a product which I'm not interested in plugging.

(Environment correspondent (2), popular daily paper)

I've had moans from companies, um, you have scientists saying 'the company backed this research, could you please mention them in the piece' and I think that's fair enough. The paper is actually rather anti-product-plug and, um, the attitude is on the paper that if company X has come up with a good—with a product, unless it's the world's first and it's really exceptional they should jolly well advertise it in the paper and not rely on us for editorial coverage, and I've lost a lot of stories, certainly when I started off here, because, you know, they just felt that we were giving a bit of free advertising for the companies.

(Science editor (8), quality daily paper)

Although a few of the journalists could think of cases where they had come under pressure not to report on something, the much more difficult aspects of their job—as reflected in the quotes above—was that of coping with the incessant and often sophisticated and carefully packaged pressure to cover stories and products where 'science' is used merely as a vehicle for commercially or politically motivated publicity.

Scientist–journalist relationships

A central theme in numerous analyses of 'science journalism' is the notion that science coverage occupies a unique place, and differs in many ways from the norms and factors which apply in news production generally. This argument hinges in particular on the notion that science journalists are locked in a relationship of symbiotic dependency with their scientific sources. Because of the complexity of much science, science journalists are seen as being uniquely dependent on the co-operation of their sources.24

It is questionable whether science coverage is in fact unique in this respect. There is considerable evidence from research on the production of news that dependency on sources and the cultivation of symbiotic relationships can be found in similar measure in reporting on crime,25 government and politics.26 This study does, however, point to the importance which science journalists, particularly those in the quality press, attach to maintaining a relationship of mutual trust with their scientific sources. The journalists know that because of the complexity of much scientific knowledge, and, as importantly, because of the tight time constraints to which they work, they are vulnerable to claims that can be difficult to verify. They also appreciate that scientists may be concerned about how their scientific activity or discoveries are reported, and that scientists may feel uneasy about the 'loss of control' which in effect takes place when scientific information passes from the domain of science (with its elaborate rules and conventions governing the presentation of scientific evidence) into the domain of the mass media. The cultivation of a relationship of trust with their scientific sources is thus seen as a central component of successful science journalism.
The game really is in forging the relationship with the people who are both trustworthy and have proved themselves. It's a two-way thing, proved themselves to be trustworthy and who trust you. (. . .)

You have to make such snap judgements in this job, you've got such little time to work on a story. You have to therefore decide who you're gonna trust and who you're not gonna trust, and if people let you down once you tend never to trust them fully again. It's a very cruel snap judgement that one makes, and one has to do it, it's how the trade works, and so you really cannot afford to make, you really cannot afford either to be deceitful or to allow oneself to become the prey of deceit.

(Environment editor (27), quality Sunday paper)

It takes a long time to build up a feeling of trust and that works both ways, they've got to trust you to handle the story properly and not to attribute it if that's the way they want to play it and you've got to trust them not to give you a bum steer.

(Technology correspondent (26), quality daily paper)

They [the medical doctors] want it to come out right, they want it to be accurate, so you get tremendous co-operation, and we're talking here about doctors you don't really ring up out of the blue, you've usually had contact with them, I mean I've been in medical journalism now for about seven years, and so I've talked to most of these people in person or on the phone over those seven years and 'trust' is the name of the game, sincerely and genuinely so. They've talked to you in the past, seen the stories you write, they've come out well, they haven't been made to look idiots, their quotes have been accurate, story's been accurate, they keep on helping you, there's no question about it.

(Medical correspondent (5), popular daily paper)

There is some indication that for the quality paper journalists, the significance of establishing mutual trust with their sources is more than a matter of expediency and 'not getting caught out'. It is also a matter of gaining the respect of sources, as seen in the concern about finding the right balance in writing both for a lay and an expert audience. Journalists are anxious to 'get things right', not least because they appreciate the co-operation that they get from their sources, and without which their task would be considerably more difficult.

The catch is that you have to write something which is interesting to the news editor but which will not at the same time lose you the respect of the guys that you've been talking to.

(Science editor (9), quality daily paper)

It makes you more careful about the thing you're writing about because you actually really want to get it right because you actually appreciate the co-operation you're getting.

(Agriculture correspondent (12), quality daily paper)

The journalists apply a large register of explicit or implicit criteria in the process of determining the credibility of individual scientists, their claims, and their activities. This register ranges from the more obvious and explicit credibility criteria such as rank, qualifications, age, publications record, and institution, to the much more
subjective end of the continuum where journalists talk about a ‘gut feeling’ about the research or the scientist, or ‘what kind of personalities they are’.

I mean, listen to them all and see what kind of personalities they are, and hearing what they say and working with the issue for a period of time (. . . ) you learn who’s a bad’un and who’s a good’un. It’s a gut feeling I have in the end.

(Agriculture correspondent (12), quality daily paper)

The one type of reporting where journalists dispense with their normal routine and register of assessing credibility and validity is in the reporting on research published in peer-reviewed scientific journals, most notably and prominently Nature, Science, New Scientist, the British Medical Journal, The Lancet and the New England Journal of Medicine. This is one of the key areas in which science journalism is genuinely different from other kinds of journalism. If coverage is based on an article published in peer-reviewed scientific journals, the journalists do not see any need for checking—and often articles would be written without contacting the authors for other than ‘colourful’ or ‘good’ quotes, and certainly without cross-checking with other scientists.

If a guy’s got a paper in Nature that’s been subject to peer review I have absolutely no qualms about quoting everything he says in full and being unquestioning. That sounds awful in a way but we’re a high speed operation, you know.

(Science editor (8), quality daily paper)

Journalist/news-editor relationships: autonomy and control

It was argued in the influential Royal Society Report The Public Understanding of Science that the attitudes of news editors may be one of the major obstacles to science receiving more coverage.27 The specialist journalists interviewed in this study generally disagree with this view. They are acutely aware that in the main news sections (as opposed to the specialist pages or sections) the topics and issues that they choose to cover have to compete with the full range of other important stories occurring on any one day.

The news editor is generally seen as serving an important and useful gate-keeping function—‘useful’ in the sense that the news editor serves as a guarantor of the readability and intelligibility of the coverage produced by the specialist correspondent; that he/she is a good judge of reader interest;28 and that he/she has a wider sense of the importance of particular areas of science relative to other newsworthy events and developments. This is a perspective which, according to the journalists interviewed, the enthusiastic specialist reporter may not always have at the forefront of their mind.

I’m an ex-scientist and I always perhaps pitch a little bit too deep and it’s the various filters en route to the printed page, that is the news editor and the head of the back bench, who will keep me in check and say ‘look [name of journalist] this really is boring, you’ve either got to make it more fun or quietly forget about it’.

(Science editor (8), quality daily paper)

Anything that I write is read by the news editor of the day, and if he or she doesn’t understand it then they make that known to me pretty damned quick,
and similarly, once they’ve read it, it’s gonna go to a sub, and if a sub-editor finds that it’s unintelligible they’re gonna come and ask for clarification on the story as well, so in a sense I actually use them as safety nets to prevent me from getting too arcane and technical.

(Science editor (9), quality daily paper)

I don’t think news editors are particularly stamping down on science as such, I mean it comes down to their judgement of what the reader is going to find interesting, and if—the only real answer is to do market research to find out what people are reading in the newspaper and to see which stories they remember and so forth, and I think news editors get it about right.

(Health and social affairs correspondent (13), quality daily paper)

There is a considerable difference between popular and quality papers in the extent of control exercised by the news editor over the specialist journalist. This difference relates directly to questions about readership, and more particularly to the much more acutely felt need of the popular press to engage the interests of its predominantly non-expert and non-science-oriented mass readership. With its specialist science sections, the quality press can afford for its specialist journalists to pursue science topics, which may not be directly linkable to current social, political, economic or cultural issues. This clearly offers a greater degree of freedom for the individual journalist to pursue what he/she perceives to be interesting and important developments in science.

The popular press journalist is narrowly constricted by the need to get articles/stories accepted by the news editor, and in a wider sense, by the need to engage the interests of a mass readership. The popular press journalist thus is more frequently ‘commissioned’ by the news editor to cover a particular ‘science-related’ aspect of a major news story, or, in the case where the initiative to cover a particular science story comes from the journalist, he/she will liaise from a very early stage with the news editor, in order not to ‘waste’ time developing a story which will not be accepted.

It’s pointless producing a wonderful story (…) if it’s never going to see the light of day, so once you’ve made that judgement you liaise with the newsdesk, you agree on what you’re going to cover on the diary front. (…) I’ll be asked to follow up something by the newsdesk or something that you feel should be followed up from other papers (…) other things may happen outside your field which impinge on your field—Prince Charles breaking his arm is a classic example, impinges on my field, so that intrudes entirely on the day, I get asked to phone up lots of orthopaedic surgeons and talk to them about the implications for Prince Charles.

(Medical correspondent (5), popular daily paper)

By contrast, the specialist journalists on the quality newspapers enjoy a considerable degree of autonomy from the news editor. Rather than being commissioned to do stories, they are more generally left to choose and develop their own stories:

I spent four years working on [name of popular paper] and there was much less freedom to choose then. You were almost told what to do. It was dictated by whatever the Press Association were running that particular day, but here they trust you, they pay you to be a specialist, to know what’s new and what isn’t, and they let you get on with it.

(Medical correspondent (11), quality daily paper)
I’ve got freedom beyond the limits that I would have if I were a general reporter. I’ve got a fair degree of autonomy. I can go to the news editor, who is my immediate boss, and say to him I want to go and do this or I want to be there tomorrow or whatever, and by and large he will agree with me because he’s trusting me, he’s saying ‘This chap usually turns up with the goods, I’ll let him go his own way’ and I think that’s true of most specialists.

(Science correspondent (22), quality daily paper)

I feel that we have complete autonomy, we’re only occasionally asked to do things by the news desk and those invariably are sort of—if a big story breaks ( . . .). So occasionally we’re asked to do things, but in general one just does one’s own thing and so one’s relatively autonomous.

(Technology correspondent (29), quality daily paper)

The sense of autonomy within the individual newspaper is further reinforced by the relationship with science journalists on other newspapers. The specialist journalists reporting on science, medicine, technology and environment on different newspapers often know each other better than they know many colleagues within their own organization (a characteristic that they generally share with specialist reporters in other subject areas—see Fishman). It is in the nature of this kind of specialist reporting that the journalists see each other regularly at the same news conferences and at major diary events such as the annual meetings of the British and American Associations for the Advancement of Science. The group identity is further enhanced by the relatively low turn-over in the field of science journalism—as noted at the beginning, the journalists interviewed in this study had on average been reporting on science for 11 years, although the length of time in their specific current post was at the lower average of 8 years.

My closest contacts with other journalists are those who work for the other qualities, and we tend to have—although we don’t come to any arrangement at all—we tend to have instinctively the same attitude towards what is and what isn’t a story for us.

(Science correspondent (22), quality daily paper)

I have been known to ring up [name of science editor] on the [name of other quality paper], and say ‘God, [name of science editor], I have lost all the stuff off my desk, where should we be next week?’ and [name of science editor] would tell me what he’s doing next week and I would say ‘yes, well I don’t think I’ll go to that one but I will see you at the so-and-so occasion’. I think any organization does that, certainly is happens on the crime round ( . . .), it’s all swap information on a quid pro quo basis. It’s actually a way of securing yourself against utter disaster, and it’s in your interest to secure the other chap against total calamity too, especially if you get on quite well with him. You’ve actually got to go on working together, but it doesn’t mean that we actually give each other scoops. Real scoops are rather hard to come by. When you get them you guard them jealously.

(Science correspondent (30), quality daily paper)

There are thus clear advantages for the journalists in maintaining a collegial relationship with their fellow specialist journalists on competitor newspapers, not least as one among several ways of dealing with the complexity and often impenetrable nature of
science, and as a way of safeguarding themselves against hoaxes or far-fetched claims in science. This 'competitor-colleague' relationship has been noted as a distinguishing feature of science journalists in previous studies (e.g. Dunwoody), but it is important to emphasize that while it may be a prominent characteristic of science journalists, it is not unique to this group: it has been found to apply also in other groups of specialist reporters.

'Relative autonomy' does not, however, imply the absence of the normal pressure which applies in all journalism not to miss major stories or issues which are covered by other quality newspapers:

There are certain things that we know our rivals will do, which are fairly important, which are likely to produce decent news copy which [names of the other quality papers] will run, and indeed we should too (. . .) if it's that sort of story it's going to be on the radio, it's going to be on television, and it's nice if they read it in their own newspaper and indeed it would be nicer if they read it first in their own newspaper.

(Medical correspondent (24), quality daily paper)

The professionally dictated requirement to cover, generally speaking, the same news stories (as distinct from the more flexible coverage in feature sections) as those of competitor newspapers helps explain, and is in turn facilitated by, the collegial relationship with fellow specialist journalists.

Images of the audience for press coverage of science

Newspapers are commercial products which depend for their existence on attracting readers. It is therefore not surprising that perceptions of the readership should be a central anchorage point for journalists' definitions of their aims and practices. Yet, as several studies both of journalism in general and of science journalists more specifically have shown, the images which journalists have of their readers are rarely based on readership surveys or other systematic research. Dennis and McCartney note that while science journalists aim for 'reasonably intelligent laymen with at least a high school education', their image of the reader remains 'rather hazy'. Likewise, Seymour-Ure found in his study in the 1970s that 'British Science Correspondents certainly know very little about their readers (. . .). The correspondents' awareness of, let alone familiarity with, even JICNARS (Joint Industry Committee for National Readership Surveys) data seem sketchy or non-existent. (. . .) they rely on their own journalistic instincts and those of their editors'.

In fact, a few of the journalists interviewed in the present study did refer to readership survey data, but only to dismiss it as generally too crude to be of much use in terms of deciding how to pitch the coverage of science:

The feedback mechanisms are crude, and imperfect, and, um, you . . . and are completely uncoordinated and unsystematic (. . .) so much of it is flying by the seat of your pants (. . .) The [name of newspaper] has done lots of readership surveys (. . .) to find out what it is readers wanted and the, you know, it wasn't really possible to do much more than get a sense of 90% of the readers read 50% of what's on the front page but only 20% of what's on page five or things like that. You couldn't disaggregate it into crime and versus science or
medicine and so on and so on, so that is an admitted difficulty, and ultimately I suppose one comes back to saying well if I get it wrong and if my colleagues get it wrong then we go out of business.

(Science editor (9), quality daily paper)

In general, the journalists do not refer to or rely on readership surveys or research for their images of whom they write for. A common substitute for any systematic evidence on readers is for the journalist to consider his/her own interests as a good indicator of what the readers might be interested in, or to define his/her writing in relation to colleagues and peers:

Most journalists write for themselves or for other journalists is the cynical view, but I suppose the real view . . . the hope is that the people who read the paper will find it interesting, amongst everything else going on that day.

(Medical correspondent (11), quality daily paper)

They are my interests and I instinctively feel that they are the interests of [name of paper] readers.

(Consumer affairs correspondent (16), quality daily paper)

At the end of the day it's 'do I find this interesting?' and I just hope to God that other people do too actually.

(Medical correspondent (14), quality daily paper)

. . . maybe they are partly personal interests, but they are ( . . . ) sort of standing in place of the reader and saying 'I think this [is] what the readers will be interested in'. ( . . . ) you are in some ways making a judgement on the part of the reader and saying 'I think this is important'.

(Environment correspondent (18), quality daily paper)

Who do I have in mind when I write an article? Well, funnily enough I think both my parents are [name of paper] readers, so I think—and my mother is, you know, a woman of average intelligence and education, but she certainly ain't a scientist and I think she would be a very good person to sort of bear in mind really.

(Health and social affairs correspondent (19), quality daily paper)

Fundamental to both popular and quality press journalists is a clear notion that the primary task of newspaper science coverage is neither to educate the public nor to make the public scientifically literate, but a rather more modest goal of supplying interesting, informative, and entertaining coverage.

The newspapers are still very much commercial products, if you like, and they're in the business of selling their product, and if they've got wits then they do that by matching it to the readership level, and if your readership level is changing, as it is with, you know, longer periods of education and higher qualifications and all that, then I think that that's the motive as to why newspapers are giving wider coverage to science and medicine rather than the feeling that it is right that people ought to have it, you know, that almost religious approach, you know 'we're here to educate the masses'—I don't think that's newspapers' business.

(Health and social services correspondent (13), quality daily paper)
It's not a question of 'here is science which has to be brought to the public'. It is 'here is the public, what is my judgement of what they want to read about'?—OK, then you go to science and see what there is on the menu as it were. So this again comes back to my difficulties with the scientific community. They seem to think that there's always lovely stuff there that ought to be force-fed to the great unwashed, and I don't believe that that is a function of newspapers. I believe that the function of newspapers is actually to act as the readers' representative as it were, and to say 'here's an interesting bit of science, here's another interesting bit of science'—not to say to the reader 'this is good for you to read'. That way lies disaster.

(Science editor (9), quality daily paper)

While both popular and quality press journalists are concerned that their coverage of science should be of interest to a wide audience, there are some clear differences. The popular press journalists are acutely aware of their papers' dependence on mass audience appeal, and thus see their task almost exclusively as one of engaging the interests of a large audience with little or no assumed interest in science as such. In contrast, the quality press journalists aim to satisfy both their general non-expert readers and their expert readers, including the sources on whom they draw and to whom they need to be able to go back for more coverage. The need to satisfy both audiences is seen as a central dilemma.

One of the problems is the jargon. If you use the jargon, then the average reader is not going to read it anyway. If you don't use the jargon, this upsets people who know what they are talking about.

(Computer editor (15), quality daily paper)

It's quite difficult in a newspaper like this when you know ( . . . ) that a proportion, though it is a small proportion of your readers are actually professionals in the field, and indeed know infinitely more about it than you do ( . . . ) it's very difficult to find the line which is neither patronizing to people who are well informed themselves nor assumes that they understand a technical term or, I mean every time you write 'monoclonal antibody' do you ( . . . ) say what it is, I mean I still haven't personally resolved that one, I mean we don't explain aeroplane, do we, or, I mean I don't now explain antibody although if I was working for [name of a popular paper] I would.

(Medical correspondent (24), quality daily paper)

I write for two groups of people. I write for the general reader who doesn't have any medical or scientific connections first of all—that's my primary aim because that represents the majority of readers of the paper ( . . . ). The second group is the professionals, who are scientists and doctors in the field, and what to do to them is to keep them informed of what's going on in their own patch and to do it in a way that doesn't insult their intelligence or their own professional knowledge ( . . . ). What I try to do is to strike a balance between these two groups. I don't want to baffle the general reader with jargon and I don't want to be too simplistic to the professional reader who thinks that I haven't grasped it or I'm being too simplistic about it.

(Science correspondent (22), quality daily paper)

For the popular press journalists the main consideration in the process of selecting material for coverage—and once selected, in building a story around such material—
is the need to engage the interest of a mass audience, seen to be non-expert, non-science-oriented, and potentially positively resisting anything that specifically ‘looks’ like science coverage.

I tend to eschew the stuff which is terribly technical because I’m writing for a lay readership that probably (a) wouldn’t understand it and probably (b) would be bored by it. (. . .)

A lot of the emphasis depends very much on the paper and what kind of readership it’s got, I mean whereas people like [names of journalists on two quality papers] will be able to go into the politics of the Nature Conservancy Council and its break-up, I think our readers probably wouldn’t be desperately interested in that (. . .) I have to remember what kind of readership I’ve got. They’re very interested in species. They’re also interested in things like pollution, they’re very—I mean at the start of the summer we did this huge round-up of the beach situation in this country, ready for the start of the summer holidays which got an enormous amount of reader reaction, tremendous. They’re interested in air pollution (. . .). Of course things that intrude upon their lives are the things that they [are interested in].

(=Environment correspondent (1), popular daily paper=)

Some things are so sort of esoteric that they’re not going to be of interest to the general lay person, unless that person already has an interest in science, what I’ve got to assume is that my readers don’t know anything about anything at all and I’ve got to capture their, you know, their readership from square one every time.

(Medical correspondent (6), popular daily paper)

The central assumption for the popular press journalists is that unless the science which they cover can be seen to be relevant to the reader’s daily life and concerns, it is not suitable for coverage. This mental guideline is not exclusive to the popular press journalists—the quality press journalists also talk about the need to ‘drag stories into the living rooms of readers’—but it is much more pronounced. This criterion, of course, privileges anything medical or health-related. Taken together with the point that the popular papers tend to have a specialist medical beat, but not a science beat, it also helps explain why ‘medicine/health’ coverage is relatively more prominent in the popular press.

For the popular press journalists, the central objective in relation to their readers goes further than simply capturing the interests of a non-science-oriented audience. It also encompasses casting the newspaper itself in the role of ‘adviser to the readers’ and ‘campaigner’, campaigning on behalf of the interests and safety of readers and eliciting reader-response in the form of readers’ donations to ‘worthy’ causes. This style of reporting goes hand in hand with the emphatic need to report on science of direct relevance to readers and their concerns.

To the public, research is just a sort of never ending, you know, scientists who do things (. . .). Boffins in laboratories. And it’s only when you can actually humanize research, I mean, I’ll talk from example, and we’ve actually raised a lot of money to pay for various cot death research projects, because we could run it humanly and say ‘These doctors are researching, and their scientific discoveries might help save the lives of this baby and that baby’ and then the public will contribute, you know. If you can do a story and say, you know,
'Little Jenny is suffering from cancer and this scientific research is on the brink of discovering how to cure her' people will all send in money and it will be a good story. But (...) if you just did a story saying 'Scientists are working on so and so' you’d get no response at all.

(Medical correspondent (4), popular daily paper)

We run virtually an advice service up there on some occasions because you can’t let people who are anxious and who also are readers just waste away with anxiety, so we photocopied the New England Journal of Medicine article, sent it off to them, advised them to talk to their GP or specialist about it and said ‘come back to us if there’s any developments’.

(Medical correspondent (5), popular daily paper)

Conclusion

The specialist journalists involved in the coverage of science in the British press see themselves as ‘journalists’ first and as ‘science journalists’ or ‘specialists’ second. This is reflected in their formal training as well as in their attitude to the qualifications of science journalists; fewer than half of those interviewed had had any formal training in science, and of those who had, this was generally seen as being of secondary importance to the skills of journalism. It is not surprising then to find that the routine practices deployed by science journalists share many of the characteristics of journalistic work generally: their strategies for dealing with the mass of potential science news which flows into the newsroom every day are governed by the same concepts of news-worthiness (controversy, breakthrough, proximity, etc.) as apply in other areas of news reporting. Like other types of specialist journalists, they devalue that which is readily available while at the same time taking care not to miss key news stories which are being or will be covered by competitor newspapers. A news-value criterion which is particularly stressed by these journalists is the ‘human angle/relevance to daily life’ criterion, which, more than any other news value, helps to explain the overwhelming dominance of medical and health-related science coverage in the press.

Science reporters are resigned to seeing science coverage as ‘soft news’ which tends to get squeezed out when set in direct competition with political or crime news; but they also emphasize that science becomes newsworthy when linked to developments in such routine news forums as politics, crime/the courts, or the economy. The journalists see their job as one of providing interesting, informative, and entertaining coverage of science, not as one of educating the public or proselytizing on behalf of science.

The operation of news values is circumscribed by the organizational arrangements for science reporting in individual newspapers. Thus, while traditional news values are very much in operation in the popular papers and in the news sections of the quality papers, there is considerably more flexibility in what gets reported in the specialist sections (science, medicine, health, computing, technology, environment). While specialist correspondents in the popular press are frequently told by the news editor what to cover, and in ‘self-initiated’ coverage liaise closely with the news editor from the outset, the specialist correspondents on the quality newspapers enjoy a high degree of autonomy. They are as a rule not told what to cover by the news editor, but are expected to generate their own stories. The relationship between specialist correspon-
dent and news editor is regarded by the specialists as functional in the sense that the news editor is seen as a useful controller of the readability, newsworthiness, and reader appeal of their output.

Some of the relative similarity of science reporting across different newspapers can be explained by the point that the specialists regard themselves first and foremost as journalists, and consequently employ the same criteria of newsworthiness, the same selection practices, and the same source strategies. This is further reinforced by the collegial, but competitive, relationship which these journalists have developed by virtue of being comparatively few in number, of meeting each other regularly at the same news conferences and events, and, perhaps most significantly, by virtue of having been and remaining in their specialist field of reporting for a significant (by journalism standards) length of time.

The journalists define their task in large part in relation to ‘the readers’, although by the journalists’ own account their image of the readers owes more to journalistic intuition and casual feedback than to systematic readership research. The quality paper journalists define their writing in relation to (a) their scientific sources, (b) their peers, and (c) a general, and generally intelligent albeit not specifically scientifically literate, ‘lay’ audience. For the popular press journalists the overriding consideration—reflected in the style of writing and mode of address—is one of engaging the interest of a distinctly non-scientifically-literate mass readership, and one which might even positively resist anything that ‘looks’ remotely like science.

While these specialist journalists have considerable experience of reporting on their fields, they are acutely aware of the essential difficulty of judging the validity, significance, and general implications of much of the science on which they report. But like journalists in general, and like other types of specialist journalists more specifically, they command an elaborate set of journalistic routines geared towards securing the credibility of their reporting. These include judging the credibility of their sources on the basis of such standard clues as qualification, age, seniority, and institutional affiliation; using principally senior or top-ranking sources; using ‘known’ sources (that is, ‘known’ to the journalist, or to the research council, professional association or other ‘source-conduit’ that the journalist might use for tracking down relevant sources); they actively seek to cultivate a relationship of mutual trust with their sources, and in particular with a core of regular sources, to whom they turn—time permitting—and use as ‘sounding boards’ when dealing with new or ‘unknown’ sources; the collegial relationship with fellow science journalists serves as a further safety net for guarding against coverage of ill-founded claims or dubious science. The one type of reporting where normal validity-checking routines are watered down or dispensed with altogether is reporting on science published in the major peer-reviewed journals.

As part of their journalistic professionalism they are acutely aware of the constant attempts at manipulation and news management by sources, including by valued source forums such as government and government departments, and more generally by industry and business. The need to cope with the daily pressure to cover, rather than source pressure to prevent coverage, in itself helps explain the emphasis which these journalists put on their journalistic professionalism rather than on their science qualifications or other formal training in science.

While the production of science news in the British national newspapers cannot be understood solely by examining the organizational constraints and professional practices and characteristics of journalists, these dimensions nevertheless offer con-
siderable insight into the factors which govern and structure when and how science is covered. This study shows that fundamental to understanding the nature of science journalism is to understand that although the specialist reporters who report on science and related subjects do differ from other types of specialist reporters in some respects, it is their overriding and fundamental commitment to the practices and values of journalism which stand out.

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References

5 At the actual time of interviewing two of these had moved to the now defunct Sunday Correspondent, although at the time of selecting the journalists to be interviewed they were at The Times.
10 This point has similarly been made by Gans, who, in his now classic study of news production, argues that ‘Substantive beat reporters are the only true specialists, but even they must range over wide territories. A science reporter who is a specialist in the natural sciences becomes a generalist when assigned to the social sciences’. Gans, H. J., 1979, Deciding What’s News (New York: Vintage), p. 132.
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20 Nelkin, in her study of American science journalism, offers examples of restrictive news-management: ‘(...) in April 1986, the US Department of Energy and the Nuclear Regulatory Commission responded to the Chernobyl accident in the Soviet Union by placing gag orders on their own employees and contractors, including scientists in national laboratories’. Nelkin, D., 1987, Selling Science: how the Press Covers Science and Technology (New York: W. H. Freeman), p.164. Examples of increased governmental news management are not, however, confined to the field of science journalism; perhaps the most radical example of change in governmental news management is that of government control over the reporting of war and military action in the post-Vietnam era, with the Falklands War, Grenada and Panama, and the Gulf War as prime examples of extraordinary and restrictive news management.
21 This recognition resonates well with what Stephen Hilgartner has described as the political uses of science popularization in his insightful analysis of ‘the dominant view of popularization: conceptual problems, political uses’ (Social Studies of Science, 20, 519–539): ‘(...) it would be naive to assume that their [scientists’, experts’] simplified representations are politically neutral (...) experts often simplify science with an eye toward persuading their audience to support their goals: whether they seek to motivate people to follow public health recommendations, build support for research programmes, convince investors that a finding shows commercial promise, or advocate positions in science-intensive policy controversies’ (p.531).
30 Fishman, M., 1980, Manufacturing the News (Austin, TX; London: University of Texas Press).


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