

WORKING PAPER 461

CHILD LEUKAEMIA AROUND SELLAFIELD: LOCAL COMMUNITY  
REACTION TO THE TELEVISION DOCUMENTARY  
"WINDSCALE - THE NUCLEAR LAUNDRY"

F. BERKHOUT AND S.M. MACGILL

School of Geography  
University of Leeds  
Leeds LS2 9JT.

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## Introduction

The television documentary "Windscale: the nuclear laundry" produced by Yorkshire Television and broadcast on November 2nd 1983 was the catalyst for the most significant official inquiry yet into possible public health effects from radioactive discharges from nuclear power facilities in the United Kingdom. The programme disclosed that the spent nuclear fuel reprocessing plant operated by British Nuclear Fuels at Sellafield in Cumbria discharges greater quantities of radioactivity than any other installation in the UK, that land near the plant has up to one hundred times the natural amount of background radiation, that radiation is the only known cause of leukaemia within the limits of present knowledge and that the incidence of leukaemia in children in Seascale, the nearest village to Sellafield, is ten times the national average. Viewers were left to draw their own conclusions about whether or not there is a link between discharges from Sellafield and the (apparent) local excess of leukaemia.

The importance and sensitivity, in the eyes of the Government, of the issues raised in the programme is witnessed by their announcement, within twenty four hours of the screening of the programme, of a high-level inquiry under Sir Douglas Black to inquire into the issues raised in the programme. Mass media highlighted and publicised related issues as matters of considerable public interest and controversy (see Walker and Macgill 1985). The purpose of the present paper is to examine, and interpret reaction to the programme among the communities whose situation it focussed on - people who live and work in the immediate locale of Sellafield. The examinations and interpretations are underpinned by what we portray elsewhere (Macgill and Berkhout 1985) as a new theoretical perspective for the understanding of what are ordinarily referred to as the risk perceptions and attitudes of members of the public. In particular, we argue that the idea of a risk attitude being either a psychologically determined state of mind (e.f. Royal Society 1983) or a culturally determined position (c.f. Thompson 1980, Douglas and Wildavsky 1982) can be tellingly superceded. Specifically, the idea of a 'risk attitude' as being the way an individual chooses to invoke the available material of nuclear discourse should be given primacy. The present paper, then, constitutes empirical illustration of this theoretical perspective.

### Local reactions

A recently undertaken (interview-based) social survey is the empirical basis of the analysis below. The survey was undertaken in December 1984, twelve months after the original television broadcast (and just over four months after the publication of the report of the official high-level inquiry which it instigated; Black 1984). The survey extended over a random sample of 462 people in villages and towns in the six Parish Councils which constituted the spatial domain of interest for the inquiry which followed the television programme (see Figure 1). A sampling ratio of approximately 1 in 40 of the adult population was taken, except for Seascale, where the higher ratio of 1 in 15 was deliberately chosen. Seascale, then, was the focal point of the survey - following its designation as a centre of interest in the television programme.

Over 80% of the people interviewed in the survey had seen the television programme "Windscale: the nuclear laundry" either at the time of its initial broadcast or subsequently on video. This is a very high viewing rate (of the national viewing figure of 3 million people), indicating the significance of the programme to local people; drawing them into controversy and debate. It has been remarked elsewhere that one of the most profound experiences affecting the way ordinary people think about their own lives is to be faced with a reflection of themselves. It is instructive to consider the significance of the television programme to local people in such terms.

The question put to local people was the following:

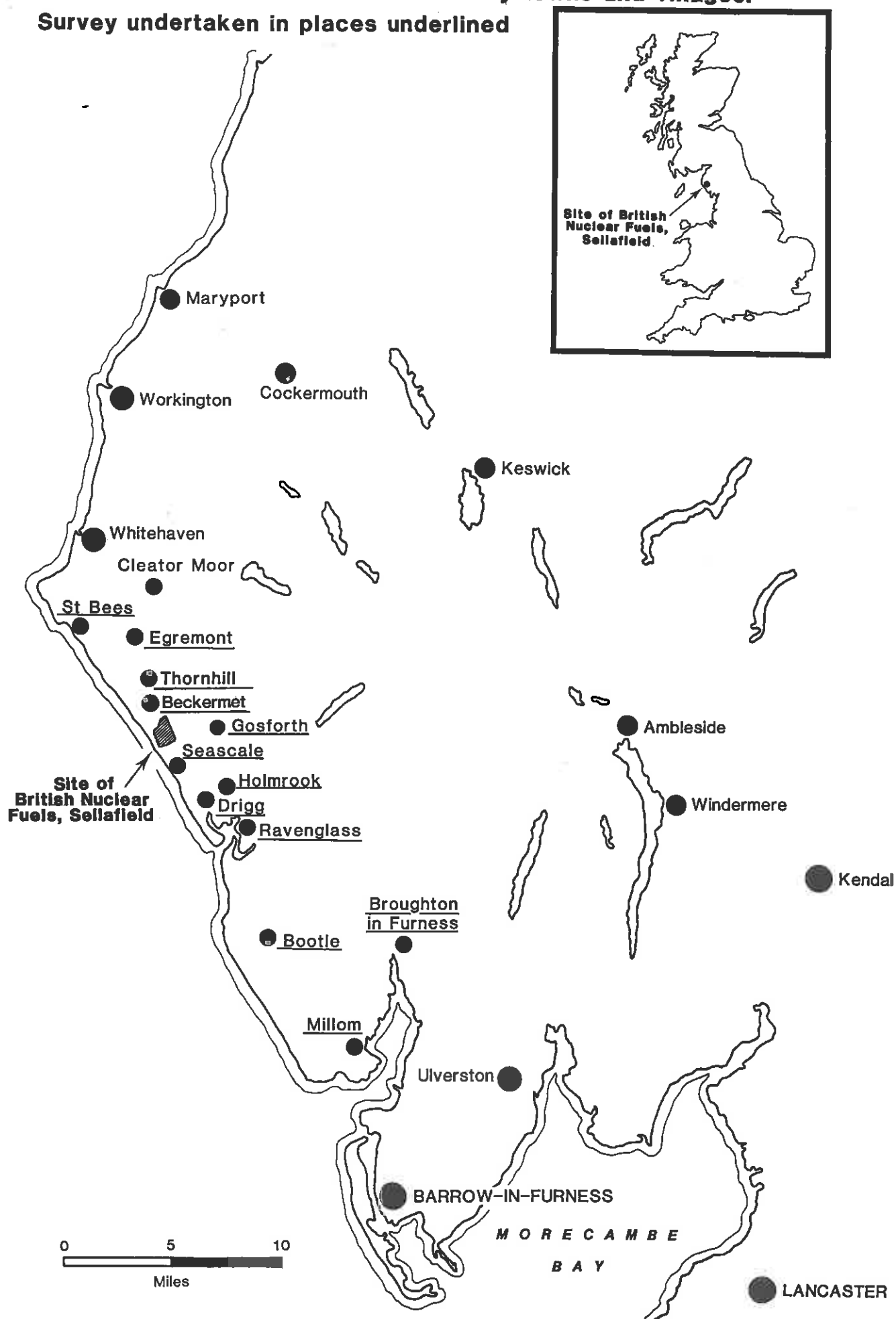
"Did you see the Yorkshire Television programme "Windscale the nuclear laundry", 2/11/83? What did you think of it?"

**Figure 1**

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**Location map : Sellafield and nearby towns and villages.**

**Survey undertaken in places underlined**



There follows a selection of the responses that were given:

The whole thing was a joke. To listen to people you would have thought our lives were at risk.

It shouldn't have been screened, it led to a lot of panic.

Disgusting. Biased. It knocked the hell out of Sellafield and Sellafield wasn't even given the chance to reply properly.

Extremely biased and looking for trouble. Wanted to make a name for themselves and win awards for it, which they did. (This respondent commented on the case of YTV filming children coming out of primary school and saying 'these children are at risk'. One of the children was her own and she found the comment annoying.)

Thought it was extremely biased .....don't like programmes like that because it's very easy to brainwash people.

Thought it was scaremongering. For one thing probably because my husband was watching it at the time and he just sat laughing at it. Though I did find it slightly disturbing since what I see on programme's like that, or television as a whole, I tend to think they're the truth.

Biased and sensationalist presentation with some facts behind. Medical statistics ought to have been brought to the public's attention before.

A load of rubbish. Outside people coming to Seascale. Easy for people away to criticise. If they lived here they'd see a different side. Programme very anti BNFL. Any producer can put over his point of view about smoking, drinking etc - it was not a fair film whatsoever. TV only interviewed well known trouble makers - they claimed that people were under pressure not to speak to them under threat of their jobs. You'll find that everybody wants to speak to you - we were never asked before.

Different feelings after. My first impression: if what they are portraying it is true (red dots into Irish Sea) then BNFL hadn't been conducting their work properly. But when BNF answered the allegations point by point and when other authorities cast doubt on findings I was reassured it was to some extent sensationalism.

Very biased. We could have got over the damage to the village. I know the Merlins and at that time I think I thought they were making mountains out of mole-hills but since the incident it makes you think twice.

Appalling programme, totally irrelevant. They thought it was worthwhile, but they got it completely wrong. 10 deaths over 20 years - analysis wasn't adequate. If they'd taken the previous 20 years they'd have found 10 cases. While I was at Whitehaven Grammar one of the students there died of leukaemia BEFORE BNFL. Got hold of statistics and didn't have a clue how they were using them - giving a lot of concern that wasn't relevant or necessary.

If it hadn't been for that we wouldn't know. Pleased that it brought it out.

When I saw it I felt frightened - but when I thought about it a bit more I wasn't. I hadn't really thought about cancer radiation link - I suppose it was informative. Merlin's over-reacted.

Suppose it was biased towards the anti-nuclear. It was mostly mis-information, I'd have thought - it wasn't relevant to me - you could say the same all over the place.

Have a right to tell people - Nobody thought about it before. How much had BNF been getting away with but again nothing can be proved.

Just tried to frighten people by putting stuff on that the layman didn't understand. Know about leukaemias in the area.

Shocking, mischievous, they had nothing for me before they started. Tackled a subject about which they knew nothing. Little knowledge is a dangerous thing. They don't have enough information - I know more than YTV about it. Should be sued for it.

The above batch of responses begins to reflect the way in which West Cumbrian people reacted to the programme. Anger, scorn, pride, confusion, anxiety. Continuing to reproduce complete responses is not necessarily the most effective way of looking at local commentary (and hence position

in controversy). What will be attempted instead is to distinguish the main arguments in the set of responses as a whole that are being put forward and drawn on.

Noticing that each individual's response is, in effect, typically made up of a number of remarks which, in an important sense, each have a meaning in their own right (they are semantic units), each response, in turn can be divided into a number of constituent statements.

It may not be possible to achieve a completely non-controversial or unique division of responses into 'statements'. All that an analyst can do is to follow his or her own pre-conceptions (partly intuitive, partly informed by our prior knowledge or awareness of 'relevant' issues) of what constitutes sensible discrimination of one type of comment from another.

It is soon clear that the same sort of statements crop up time and again, being repeated by different people (though not necessarily in conjunction with the same other statements all the time). Some 67 types of statements can be discriminated in all, ranging from supportive to hostile. They are given in Table 1.\*\* The schedule of statements in Table 1 has stayed quite close to respondents actual words; it is, however, perhaps too detailed for cogent interpretation, and there seems to be plenty of scope for grouping together of statements which are of a very similar nature. For example, the reduced schedule of topics\* given in table 2 can be suggested. This classification accords with the alphabetical coding of statements indicated at the end of each statement description. It is not the only classification that could have been done; merely one that seems sensible for substantially simplifying the response data while making possible an extension and deepening of the interpretation process. As before the discrimination of topic categories was informed by our pre-conceptions of what were significant characteristics of reaction to the programme in West Cumbria. The range of meanings for each category is not equivalent. Some are more complex and ambiguous than others.

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\*\* The significance of the alphabetical coding will become evident in due course

\* Gr ta topika, the general principles of argument, Chambers Twentieth Century Dictionary.

TABLE 1. Detailed schedule of statements in reaction to the Yorkshire Television documentary.

Topic Code	Statement Number	
A	1	I switched it off
A	2	Things like that shouldn't be allowed on TV
B	3	Unbelievable/Far-fetched/Rubbish/Dishonest/Uninformed allegations/Hysterical programme/They had no proof.
B	4	The whole cancer link is nonsense/Programmes relevations are completely untrue/I doubt the BNF connection/There's nothing wrong at Sellafield
B	5	Didn't think much of the programme/Bad programme/Terrible programme/I objected to programme/Mischievous/Shockingly presented
C	6	Programme was a put up job/They just wanted an adverse report on the nuclear industry/Propaganda/Didn't look genuine/Misinformation
C	7	Programme came out on the side of Greenpeace/Very anti-BNFL programme/Greenpeace are to blame for it
C	8	Programme was made to boost viewing figures/Contraversial subjects keep viewing figures high
D	9	Irresponsible journalism
D	10	Alarmist/Sensationalist/Scare mongering
D	11	Programme gave no thought to people's feelings
D	12	Programme could have been made in a less disturbing way
E	13	Exaggerated/Over dramatic/Got carried away (the media)
E	14	Blown up out of all proportion/Making a mountain out of a mole-hill
E	15	I knew there was a high rate of leukaemia in the village/Didn't tell me anything new
F	16	Over-emotional/Unscientific/Illogical
F	17	Ill-informed/Programme didn't go into enough depth
F	18	Biased/Unfair/Subjective/Unbalanced/One-sided
F	19	Misleading/Inaccurate
F	20	There were errors in the presentation of statistics/I'm not sure about the figures they used/they manipulated the facts
F	21	The methods they used were wrong (Geiger counter on beach)
F	22	The media can't get anything right/Most programmes on TV are biased/I thought "there goes the media again"
F	23	Other areas have higher rates of leukaemia/I still smoke everything has a risk/Comparative risk arguments
G	24	Programme done by people from away who didn't know anything about the place/by outside poking their noses in
G	25	Programme should have included more local views/opinions
G	26	The locals knew it wasn't true/Local people were better informed and not concerned/Local people knew the details



TABLE 1 cont.

Topic Code	Statement Number	
G	27	Local people were unfairly represented/By distorted editing the programme makers made it seem that people were critical of BNFL
G	28	I could hardly believe they were talking about Seascale
G	29	I was disgusted by the way they interviewed relatives of cancer victims
H	30	YTV didn't give BNFL a chance to comment/reply to charges
H	31	The Merlins were over the top/the programme only interviewed known trouble makers
H	32	I can't understand why Dr Walker got so upset/Why doesn't Walker move/Walker had a lot to say
J	33	Programme did a lot of harm to the area/Scared people/Caused a lot of worry
J	34	Programme affected business and tourism/Hurt local business
J	35	Friends are dubious about coming up now
J	36	People outside the area were more concerned (people with no knowledge of the industry)
K	37	Programme aggravated the issue/Stirred things up/Gave it a lot of stick/Raised a lot of questions which need answers
K	38	Programme has raised the level of discussion/Public debate/Was eye opening
K	39	Programme made people (at the plant realise their responsibilities)/Lead to a tightening of safety
L	40	I have mixed feelings about the programme/I found it slightly disturbing
L	41	I didn't believe everything the programme said/It linked cancer deaths to the industry too easily
L	42	They should look for other reasons, not just Sellafield
L	43	When I thought about it later I became less concerned/Some of the facts could be discounted
L	44	Father/Husband/BNF pointed out what was true in the programme/what could and couldn't happen
M	45	I didn't know what to believe/who to believe
M	46	The programme made one wonder whats going on/Left a question mark
M	47	BNF's reply was weak and feeble/BNF came across poorly/BNF approached the programme in an amateurish way
M	48	If there's concern it should be sorted out genuinely between the two groups
N	49	It was hard for the layman to understand what was what/Programme tried to baffle people with figures
N	50	Programme left things hanging/Didn't come to a conclusion
P	51	Useful programme/Good programme/Informative/Truthful

TABLE 1 cont.

Topic Code	Statement Number	
P	52	Fair programme/A lot of thought went into it
P	53	YTV are entitled to their own opinion just like anybody else
P	54	Programme showed extreme views from both sides
Q	55	Interesting programme/Uncovered the facts/Well-intentioned programme
Q	56	Programme gave evidence of a high rate of leukaemia/ Programme pointed out the dangers/Brought the thing to light
Q	57	Programme claimed that BNF was the cause of leukaemia/ Programme drew attention to BNFL
R	58	I agree that there's an anomaly that needs sorting out
R	59	Pleased that the programme led to the Black Report/and further research/it needs going into more
S	60	The statistics should have been brought to the public's attention before/People should know what's going on
S	61	Sellafield should come out into the open/be less secretive
S	62	I don't trust BNF anymore
S	63	People should act as watchdogs/Little man versus big corporation
T	64	Alarming/Shocked by the programme/Frightening/Tempting/ Caused concern/Horrified/Disturbed/Worried/Shocked by housdust evidence threat getting closer
T	65	Programme wasn't strong enough
V	66	Didn't see the programme/No comment/Can't remember
V	67	People have forgotten about it by now

**TABLE 2** **RANKED FREQUENCIES WITH WHICH THE MAIN TOPIC CATEGORIES AROSE IN RESPONSES.**

<u>*Type</u>	<u>Frequency</u>	<u>Rank</u>	<u>Code</u>	
X	259	1	F	Criticism, general and specific, of scientificity, bias of programme.
X	99	2	B	Deep criticism of premises, methods and inferences of the programme.
	92	3	X	Non-coded remarks.
	79	4	V	No comment.
X	72	5	D	Specific, hostile criticism of the character of journalism.
X	70	6	C	Attribution of consciously 'political' motives to programme makers.
✓	57	7	P	Generalised appreciation of the programme.
O	56	8	S	Demand for better information and openness from nuclear industry.
X	55	9	E	More general criticism of 'the media'.
O	43	10	J	Indirect affects of the programme on local feelings, business and image.
✓	43	10	Q	Comment on factuality and interest of programme.
O	38	12	T	Alarm, fright at revelations of programme.
✓	36	13	K	Generalised comment that programme was useful for raising the issue.
O	30	14	M	Confusion at the legitimacy/credibility of information sources.
X	28	15	G	Localism.
O	26	16	L	Expression of some doubt about some of the evidence and the programme's conclusions.
X	23	17	W	Criticism of the interview with B.N.F.L. representatives after the programme.
O	22	18	H	Comment about local personalities.
X	13	19	N	Criticism of the technicality of the programme.
O	10	20	R	The need for further research now that the problem had been highlighted.
X	7	21	A	Active negation of the whole programme.

\* X = Critical      ✓ = Commending      O = Doubts and other effects

The full set of topics is given in Table 2 and their relationship with earlier schedule of statements can be seen from the alphabetical coding. To give an idea of the popularity of these different topics/arguments the frequencies with which each of the categories of topic were uttered are listed in rank order in Table 2. The ranked frequencies that are given should not be taken as absolute measures which correspond to an effective ranking of opinions. We hold that such ranking in terms of the surface semantics of statements and topics is simply not possible: meanings are not always clear and unitary, and besides there are many cross-linkages between categories which could never be satisfied in a singular, unilinear ranking scale. Topics D, E and T, for example, are all closely related and can be distinguished only by employing very subtle readings of them. If they were aggregated together they would amount to fully 33% of all responses. We have maintained a distinction between these topics because they can usefully be analysed separately.

Overall the reception of the programme in West Cumbria was hostile - this is clear from the high frequency of occurrence of many very critical remarks, especially Topic F. Only 11.8% of comments were commendatory (topics P, Q and K). This critical reaction represents a communal response that is technically informed (it can state categorically that the programme was 'unscientific') and which asserts its own competence to make such a response. It is not the response of a lay community, in the typical understanding of the word lay, but of a community with much technical, material and social investment and experience in the nuclear industry and in the issues surrounding "the controversy" over Sellafield. We do not say that 50% of all responses were critical of the programme because the programme was bad and unscientific and therefore deserved to be criticised. That 'truth' would be far more contentious than the interpretation we have given which stresses intersubjectivity and local cultural cohesion and particularity in a way that conforms with the data. What this data and its interpretation in this manner "proves" and explains is the means by which public opinion is socially constructed and that this construction begins in the material experiences of everyday life. We, then, project the responses of people who individually, 'made up their own minds' about the programme in terms of their own material and cultural experiences

How is the very strong conformity of opinion reflected in Table 2 composed? One needs to remember that none of these reactions is fresh or

spontaneous. The programme was widely discussed locally and all reactions have therefore undergone revision and transformation in the 13 months between the broadcast and the survey. One of the major events to impinge on these evaluations was a discharge of untreated effluent from Sellafield, also in November 1983, an incident which led the Department of the Environment to advise people (advice which held until well into the following summer) not to make unnecessary use of a 20 mile stretch of local beach, as a precaution against possible radiation contamination. Although there was a separate question on the survey dealing specifically with this incident (the main responses to which are summarised in Table 3) it seems highly likely that responses to the YTV question were also in some way tempered by this event.

In the context of the ambivalence which the survey discovered on other subjects related to the whole controversy (Macgill and Berkhout, 1985a) the aggregate conformity of these responses is an outstanding feature. We can extend the scope of interpretation possible via an analysis of discourse by reconstructing the meanings understood to be contained within each of the 21 (19 excluding non-coded statements (X) and 'no comment' (V)) topic categories. This entails the analyst making inferences about what has not been (but might have been) said on the basis of what has been said, again guided by pre-conceptions of the debate, local conditions and the sentiments being expressed at the time of the survey.

Rank	Overall frequency	1st	Frequency as a 2nd 3rd 4th remark	5th	Code	Description		
1	114	81	33	--	H	Comments,generalised or specific, that "it shouldn't have happened".		
2	108	61	29	9	E	The discharge was one of those minor, careless, human errors.		
3	100	62	29	9	P	Displeasure, anger, concern at incident.		
4	94	17	39	24	6	D	Generalised charge of bias, exaggeration and sensationalism by media and Greenpeace over incident.	
5	71	35	25	11	--	Q	A serious error; incompetence and bad management.	
6	69	20	25	11	9	4	M	Discharge may not have been a mistake; Greenpeace highlighted what may have been routine.
7	65	22	21	16	6	--	A	Denying risks and claiming unconcern; firmly unperturbed bythe controversy.
8	43	--	19	11	10	3	G	Ambiguous and confusing information about the incident and its effects given out by B.N.F.L.
9	42	11	15	20	7	--	J	Generalised comment about safety standards in the nuclear industry.
10	41	41	--	--	--	--	S	Extreme concern and anxiety expressed in general terms.
11	37	11	16	10	--	--	R	Delay in B.N.F.L.'s announcement of the incident "We should know what's going on".
12	27	--	10	9	8	--	V	Greenpeace actions alienate the local general public.
13	24	24	--	--	--	--	Y	Don't know/No comment.

TABLE 3 Main types of remark made in response to the question "What are your feelings about the pipeline incident in November 1983 and the associated beach contamination?"

In the next section we offer (in most cases fuller) interpretations of each of the main categories of topic summarised in Table 2.

Interpretations of topic categories

- topic A     Active negation of the whole programme/protest at its broadcast.
- topic B     Deeply critical of the premises, methods and inferences of the programme in a generalized way. Objecting to it because of what it said and the way it was said, with a hint of a conspiracy on the part of the producers with environmentalist interests. Rejecting out of hand the Sellafield-leukaemia link.
- topic C     Wider motives attributed to the programme's production, it wasn't simply about uncovering new information. Rather, it was intended as a component of the sharpening debate over the safety of nuclear energy production. It was also a component in the television company's strategy for attracting advertizing revenue by increasing viewing figures. The nuclear controversy always makes good television.
- The programme was the callous use, by greater powers based in London, of a site popularly conceived of as controversial for purposes removed from Sellafield/Seascale/West Cumbria itself.
- topic D     Specific criticism of the character of 'Nuclear laundry' journalism. The programme was not made in the idiom of objective, responsible technicism, rather it adopted the emotive, dramatizing, visceral idiom usually associated with oppositional publicity over environmental issues. Sensationalism is a device in signification by which an event is linked to one of a number of mostly repressed and thereby unspecified, mysterious and infinite pleasures or dreads; heterosexual sex, cancer, state secrecy, spying, the cold war and so on. Reportage is alarmist or sensational when it opens up these playful or painful spaces/voids in a discourse, by which a series of insoluble problems or mysteries are posed in it. These problems are in essence metaphysical and can be invoked quite arbitrarily. Journalists reporting such issues as radiation-induced cancer should, it is suggested in this topic, be responsible for limiting the extent of these ungrounded significations in their reportage, because they cause unnecessary anxiety in their audience.
- topic E     Closely connected with D but more specific to the programme. A recognition and criticism of the spectacle of the media. Most commonly "Blown out of all

proportion", - codes of televisual signification (camera angles, frame subject, uses of sound, use of visual images, editing techniques, uses of interviewed subjects and so on) all tend, in this type of documentary, to objectify and amplify intended meanings. What is shown in the programme are the producers values and not the 'truth' - complementing this is a judgement on the part of the viewer that the real content of the problem, or what Wynne calls the 'common context' should be differently expressed. If you were talking about radiation and child leukaemia the force of meaning would be different, it wouldn't be so grandiose and rhetorical but concerned and sober.

- topic F Similar to E but specifically dealing with the programme: its assertions, implications and method of argument. The topic can be divided into three interconnected elements which were often uttered together. Each is a criticism of the programme and together they form the most common response to it. (1) A charge of unscientificity, (2) A charge of bias, (3) A specific allegation against the programme of misuse of monitoring hardware and the manipulation of statistics.
- (1) We will discuss the response of unscientificity as being similar to the kind of refutations which Kuhn describes as arising out of challenges within science to an established framework of reasoning known as a paradigm. The paradigm in question here is what we will call "the paradigm of containment". We will use this form of analysis for two reasons.
- (a) The controversy about the YTV programme was basically a scientific dispute; about the 'reality' of the leukaemia cluster, about dose response rates, about the adequacy and sensitivity of radiobiological models, and so on.
- (b) It was a scientific dispute which was initiated in public; experts were seen arguing on television. One of the unique features about public opinion in West Cumbria is that many members of it were technically competent to follow the arguments because they were engineers and research scientists. Indeed this group was often deferred to on a personal level for an evaluation and interpretation of the programme.\* The dominant local reaction is therefore, unsurprisingly, quite similar to the reaction of most of the scientific community in the area.

The paradigm of containment may be described as the reasoning which has persisted since the beginning of all nuclear programmes and which was fully articulated by Government in Britain in the late 1950's and subsequently; it is that regardless of cost the public should be fully protected from man-made ionizing radiation. The way in which this was to be achieved was through the setting of limits or levels for

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\* comment 44



the exposure of individuals and populations to this radiation. These levels were set using particular data, models and assumptions. That nuclear power plant operation conformed to these conditions and directives could only be verified first by assessing and modelling the movement of radioactive isotopes through the biosphere and second by monitoring that environment to ensure that any hazardous concentrations of radioactive material that did arise would be located and safely dealt with. All this constitutes a special logic. It is science bound up with a social goal of protection of the general public, it therefore has a deep political interest in proving that it is correct. Its starting point is the quantity and quality of isotopes discharged into the environment. The paradigm of containment predicts that through the rigour of its scientific modelling and the surveillance of its environmental monitoring, the industry can be sure that the exposure limits set for it by national and international bodies are being strictly adhered to. It is simply not possible within this science for child leukaemia to have been caused by actinides discharged by Sellafield. In common language this is transformed into the simple idea that chemical processes and products are sealed inside the plant at Sellafield and that environmental effects, such as they are, are minute. There are some exceptions to the paradigm such as workers being contaminated at work. Even then they are kept inside the plant for treatment and observation or if they are allowed home they are checked regularly (inside the plant). It is clear that the programme was a fundamental attack on this whole framework of reasoning. Not only did it invert the method by which environmental risk was evaluated, but it brought to light new facts which should have been available to (but were not) the local medical and health physics community. In doing so it created a threat to the security of containment. Perhaps after all there were serious problems with the paradigm and perhaps also children had been put unnecessarily at risk. The death of a child would surely be the most emphatic proof of the paradigm's failure if YTV's allegations were proved correct.

The history of science is littered with instances where a new theory is vilified and declared tendentious, illogical or evil by the practitioners of an established paradigm. Often this resistance is justified because the proposed theory has a larger number of unresolved questions than the current one. The charge of unscientificity presumes to nullify the whole basis of an alternative theory by a refusal to engage with its reasoning at the most basic level. The new theory does not 'fit the facts' as they have been known, it is simply beyond the pale.

Wynne (1983) adds that this type of reaction is also symptomatic of a need within the nuclear industry for image-building by a process of what he terms 'symbolic action'

"Organizational morale becomes of crucial importance to concentration and coherence, and much management effort goes into symbolic action, in image-building and projection, to sustain the faith (in the success and worth of the technology) ..... Objections and criticisms tend to be treated as illegitimate and irrational rather than as legitimate equals in debate .... Some critics see these as instances of malevolent manipulation, in my interpretation the nuclear elite is inextricably bound up in its own need for symbolic reassurance just like everybody else."

- (2) A charge of bias on the part of the programme makers seems to be a slightly less strong condemnation. To establish what form it took it is necessary to know what the programme was biased away from and what it was biased towards. There is also the additional point that this may simply be a non-technical way of saying "unscientific". In our understanding, the programme was biased away from the normal procedures of what constitutes legitimate evidence and reasoning, even though it gave the impression of having derived out of scientific method. The Black Report indicated this position by employing the 'normal' method of reasoning for risk analysis based on records of emissions, modelled pathways, radiobiological models. The method employed by 'Nuclear Laundry' was to document an increased rate of leukaemia and then construct a set of notional suggestions or hypotheses for how this excess may have been caused, and thereby implicating Sellafield. It was therefore biased away from the know-how which built and controls Sellafield and towards a view that this know-how is somehow incomplete. The charge of bias therefore also hints at a paradigmatic problem but in a less dismissive way than the response 'unscientific'.
- (3) The charge of manipulation or misrepresentation of statistics is first a direct challenge to the programme makers honesty, but also an indirect criticism of the method of reasoning used by the programme. The figures themselves are not disputed (four or five or six cases of leukaemia between 1955 and 1983), what is being criticised is the liberties taken with the interpretation of these figures. They were used to substantiate a highly problematic theory. We are back to the point about the threat to the paradigm of containment being responded to by balancing uncertainties. The more direct point about the misuse of monitoring hardware relates to a frame in 'Nuclear laundry' in which a geiger counter is

capable of detecting alpha radiation was presented as showing concentrations of plutonium. We cannot confirm the validity of this criticism of the monitor but if correct it shows either negligence or incompetence on the part of the programme makers.

topic  
G

The programme did not reflect local views. Local (West Cumbrian) people have a special knowledge and experience of the plant and their environment, through working and living there. Either they were not consulted for their views by the programme-makers or their views were distorted and misrepresented by them. The problem for this topic is to delineate what exactly this special knowledge might be and why it was regarded as salient to a criticism of the YTV programme. We will split this up under two headings:

- (1) Knowledge in relation to safety procedures in the plant.
- (2) The taken-for-granted presence of a 'radiation environment' and the means by which that environment is demonstrated and rationalized.

(1) Clearly one of the main sources of local knowledge and experience of radioactive products is the work experience of the men who work at Sellafield. It should be understood that the reprocessing plant is regarded by people who work there as merely a chemical factory operated by workers with similar skills as workers in other heavy industry. Working there is as ordinary and routine as working in any large industrial plant. It is necessary to stress this for a non-local audience because what is special about local knowledge is that it does not include the connotations of insidious and malign effects of the type presented by the YTV programme.

Instead, work experience and discourse revolves around a set of taken for granted which encompass the mundanity of much of the work at Sellafield, power relationships within the plant, personal relationships with other workers and managers the frustrations of safety procedures and so on. We contend that these frustrating, time-consuming safety precautions serve in local discourse as the objective proof that radiological protection of the workforce and public is strictly enforced. What otherwise would they be for, and why should they be adhered to? These procedures turn into the acting out of what we have termed in topic F, the paradigm of containment. That is why there is often emphasis layed on "following the rules" set down. The responsibility of following the rules is the responsibility of keeping the workforce and by extension the local public protected. It is a deeply ethical position which proves to the worker or manager that radiological protection is working.

- (2) We may say then that this local knowledge derives in part from the practice of safety procedures by workers themselves. It is therefore necessary to investigate more closely these procedures.

One of the principal instruments by which these procedures are validated within the plant is the QFD badge which has to be worn by every body within active areas.\* At the end of the shift the badge is analysed, giving a value to the dose of radiation received by the wearer. The role of the badge is to retrospectively make visible the invisible and odourless, it is the "bringing into reality" (what Heidegger terms the 'presencing') of the radiation environment which the wearer has now left. Since this environment is essentially described in terms of the dose limits (because the badge colour only has meaning in terms of these limits - 0.05 millirems/day ), this measurement is also the bringing into reality of those limits and thereby a rationalization of all the safety procedures inside the plant. It is the colour of the badge which proves that safety procedures are adequate and which indicates the effort expended in sticking to them. Once one has 'seen' on a coloured strip the radiation environment then that environment becomes ordinary and everyday and the effectiveness of safety procedures is demonstrated.

The true significance of this line of reasoning which seems to be implicit in the claim to a special knowledge is that it is basically generalizable to the whole area monitored by the health physics department at Sellafield and by MAFF. This includes most of the 6 parishes which this survey covered. We can characterize the radiation environment as a natural space outside sensory perception but measurable by scientific instrumentation. It can therefore be actualized only by the presence of a member of the health physics department or of MAFF, and vice versa, the very presence of this environmental personnel constitutes a new layer of environmental cognition, consciously or unconsciously. The specialness about this environment is that it exists in this form in few other places.

Cognition of it also works in a special way. The environment is monitored by BNFL and MAFF, using instruments developed by the nuclear industry itself, assessing levels which have been set by nuclear institutions, and producing results which are not easily accessible to the lay people which it surrounds. In other words it is a deferred cognition, dependent on a complex structure of trust and deference on the part of the local population towards the local nuclear industry and its environmental monitoring.

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\* other detection devices are used to scan workers for alpha-emitters after each work shift.

It appears that up until recently this process of cognition functioned very well. There was little local interest in the environmental monitoring programme and it was routinely conducted in the hours of darkness, thereby making the activity of cognition practically invisible to local people. Moreover, health physics work is generally regarded as very boring, requiring low levels of expertise, and, because of the inclement conditions in which it is often carried out, as leading to low motivation among workers. Environmental monitoring is not only ignored (and deliberately concealed) but the work and its workers are actually disdained.

We can now redefine this deferred cognition (pre-November 1983) as a recognisably illusory cognition in that it was invisibly performed by workers of low status who have little commitment to high regulatory standards. The low importance attached to monitoring we contend is an important side to local views and characterizes the morphology of the confidence vested in the operation of the plant through personal experience and the ideological effect and functioning of safety procedures there.

One of the major changes made in monitoring post-November 1983 was to bring it back into the daylight (corroborated by response patterns to Qu 5b in the questionnaire). The problem with this strategy has been that instead of signifying security and vigilance it now serves as a reminder of the leukaemia controversy. Everytime monitors are seen they demonstrate the continuing possibility that Sellafield is the cause of the cancers, and the institutional origin of its verification. They are evidence of the timeless uncertainty which surrounds the plant and the dependency of local people on its scientists for safety. All that is perfectly ordinary in local culture, this topic examines the special way in which that ordinariness is constituted and stresses that its perception is a firmly local phenomenon.

topic The major local players in the YTV programme; Dr Barry Walker, a local  
H G.P. with a West Cumbrian upbringing, and the Merlin's, a family who  
ran the Post Office in Ravenglass.

The Merlin's formed the emotional centre of the programme and Dr. Walker was shown agreeing with its assertions and general drift.

In general these personalities were mentioned by survey respondents as exceptions to local opinion who totally misrepresented that opinion to a wider audience. The Merlin's were subsequently ridiculed and ostracized locally but the reaction to Dr. Walker, although hostile in some quarters, was far more ambivalent. He was most usually portrayed either of having been disloyal to the area and its scientific community ["Walker had a lot to say"] or of hypocrisy in having stayed in the area. ["If he's so worried about child leukaemia why doesn't he move out of the area, he's got two young kids"]. Through this argument he was sometimes also seen as an independent risk assessor ["If Dr. Walker leaves the area I think a lot of people will think about leaving with him"].

- topic J Indirect effects of the programme on local anxiety, business, tourism, and the image of the area with friends and relatives who live away from West Cumbria. These are the sorts of point which question 3 (e) in the questionnaire also covered.
- topic K The programme as an acceptable, necessary and valuable addition to the continuing debate about nuclear power and risk. By raising questions and tightening regulations at the plant it was an advance in the evolution of knowledge in an uncertain field.
- topic L Unrhetorical doubt about the programme ["I didn't believe everything it said"]. It is a comment which remains outside the more usual cycle of condemnation and rejection.
- topic M Confusion over the legitimacy/credibility of information sources/commentaries ["I don't know who to believe"/"The programme left a question mark"]. But this emptiness of doubt is not simple, and neither is it necessarily easy to state this doubt. As was commented under topic F. Local scientists and engineers were often deferred to for an interpretation of the programme. This deference as we see in this topic is not unproblematic, it is a negotiation in the

Habermasian sense so that there may still be room for doubt, and more commonly confusion; an inability through a lack of technical competence fully to comprehend the positions taken by scientists, while basically understanding the range of interests at stake in the controversy (child leukaemia, the image of the area and perhaps even their very livelihoods should the plant close down). The disruption caused by the YTV programme was therefore very wide-ranging. It caused broad divisions between people because of the views they took publically (Barry Walker and the Merlins being the best examples) but it also caused more minute, micropolitical ruptures between individuals. That is why doubt is such a serious thing - because it means a lack of trust in the knowledge and responsibility of people (men) who were known, loved, respected and depended upon. Everyday, taken-for-granted trust (that which goes without saying, that acceptable ignorance) had been strained between friends and within families. Fathers and uncles were no longer unquestioningly believed on the question of 'containment'. To say that you did believe them was also to understand the social or domestic consequences of not believing them.

- topic N The technicality and inconclusiveness of the programme criticized, much as the Black Report was criticized. This relates to topics (V) and (K) in the 'Black Report' question. Also this topic contains the allegation that the figures were deliberately made difficult to understand in order to baffle and alarm lay people, 'to blind them with science'.
- topic P Generalized positive response to programme ["Useful", "Fair" etc]
- topic Q Comment on the factuality and interest of the programme.
- topic R Comment on the need for further research now that the problem has been high-lighted c.f. topics (F) and (T) in 'Black Report' question.
- topic S A demand for better information from the nuclear industry, health authority etc. local people should know what is going on V. diff to topic (G) which claims a special knowledge for locals.
- topic T Alarm or fright at implication of the programme.
- topic V No comment
- topic W Criticism of the interview held after the programme. BNFL were not given a chance to fully answer the arguments and allegations of the programme.

In an appendix to this paper are tables and notes on the patterning of the topics according to respondents' biographical characteristics.

### Evaluation

Our interest in examining local community reaction to the television documentary 'Windscale: the nuclear laundry' does not stem from an interest in local peoples judgement and appraisal of that programme per se, but rather because the programme was a catalytic event in re-kindling and generating discussion, discourse and self reflection within the local community about health risks from Sellafield.

One of the most striking features to emerge from the above data and interpretations, and what must be stressed to a non-local audience, is the depth and complexity of what we can call 'risk discourse' in West Cumbria. Two particularly suggestive frames of reference to emerge, each of which was challenged by the Television programme are; first, what we have referred to above as the paradigm of containment, and second, what we here call localism.

There is a strong sense of community identity in West Cumbria; a localism that was very readily apparent during the course of our research. For Seascale, and other villages nearby, Sellafield is the focus of this localism - a unifying force of local self confidence, independence and cohesion. Almost every family in the area has at least one Sellafield worker, and the factory has become identified with local prosperity relative to the rest of Cumbria. Local people's attitudes towards Sellafield's disputed health risks, as highlighted on television, cannot be adequately understood if taken as being somehow apart from their everyday knowledge and experience of the running of the factory - through their own jobs and those of their husbands, friends, relatives and acquaintances. Within Sellafield's large and very complex industrial structure, within which there are in turn very strict divisions in work practices, there is a blend of pride and satisfaction, criticism, frustration and dissatisfaction, or just disinterest and boredom.

The television programme was almost universally identified as having originated outside the local area, and as a challenge to local paradigms.



To some it was a shock - damaging the conceived independence and confidence of local people through its attack on their 'ways of life' and 'ways of seeing'. Others responded by actively rejecting any claim to legitimacy that the programme makers may have had.

There are, then, a variety of frames of reference around which local peoples' 'ways of seeing' 'risks' from Sellafield are structured. Our identification of these frames of reference has emerged from painstaking scrutiny, engagement and analysis of peoples actual utterances in this case in response to a question about a television programme about their situation. It is largely a rejection of previously popular ideas that risk 'attitudes' can be legitimately measured according to strictly pre-formulated questions - categories of 'attitude' that have already been designated. Empirical backing to our argument that an additional depth and weight, through an appreciation of the power of language as the data for analysis, can and should be sought in the understanding of what are ordinarily called 'risk attitudes'. We deem this to be of particular importance in the context of understanding 'risk attitudes' in a locale such as West Cumbria, where there is a very readily apparent depth, complexity and specificity of risk discourse. To have remained bound by existing perspectives would have been both to forsake a valuable opportunity for the development of new theoretical perspectives, and possibly to have been unfaithful and inadequate in relation to West Cumbria positions in giving rather partial, insubstantial and possibly even false portrayals of them.

Appendix      Topic response distribution with biographical characteristics

This appendix presents and comments on a series of tables which show the relation of biographical features of the respondents to the type of comment that occurred in their responses. These biographical characteristics are merely a set of indices of communicative networks which operate in the local community. Our approach to scanning these tables is quite crude, merely highlighting only those entries with a deviation of over some notional amount (8 - 10%) from the 'expected' frequency (the 'expected' figure being that which would arise if all possible combinations of topics and biographical features were equally likely). In other words, where particular types of comment are under or over represented in terms of a particular biographical characteristic of the respondents, this is indicated, and interpretations are offered. We would not insist on or privilege these interpretations; merely offer them as plausible. There are also many gaps in the interpretation - these occur when anomalies have not immediately been explainable as a systematic distortion.

TABLE A1

CODE	TYPE	COMMENT
A	X	Active negation of the whole programme
B	X	Deep criticism of premises, methods and inferences of the programme.
C	X	Attribution of consciously 'political' motives to programme makers.
D	X	Specific, hostile criticism of the character of journalism.
E	X	More general criticism of 'the media'.
F	X	Criticism, general and specific, of scientificity, bias of programme.
G	X	Localism.
H	O	Comment about local personalities.
J	O	Indirect affects of the programme on local feelings, business and image.
K	✓	Generalised comment that programme was useful for raising the issue.
L	O	Expression of some doubt about some of the evidence and the programme's conclusions.
M	O	Confusion at the legitimacy/credibility of information sources.
N	X	Criticism of the technicality of the programme.
P	✓	Generalised appreciation of the programme.
Q	✓	Comment on factuality and interest of programme.
R	O	The need for further research now that the problem had been highlighted.
S	O	Demand for better information and openness from nuclear industry.
T	O	Alarm, fright at revelations of programme.
V		No comment
W	X	Criticism of the interview with B.N.F.L. representatives after the programme.
X		Non-coded remarks.

X = Critical    ✓ = Commending    O = Doubts and other effects

Key to biographical characteristics (Tables A2 - A5)

Age	1	16-25 years	place of work	1	Sellafield
	2	26-35 "		9	Public administration
	3	36-45 "		10	Home
	4	46-55 "		11	Retired
	5	56-65 "	other number		All other places of work

Gender	1	Male	Social Class	1	Professional
	2	Female		2	Intermediate
				3	Skilled (non-manual)
				4	Skilled (Manual)
				5	Partly skilled
				6-8	Other
				9	No data

Place of Residence	1	St Bees	10	Ravenglass/Eskmeals
	2	Thornhill	11-14	Other
	3	Gosforth		
	4	Seascale		
	5	Bootle		
	6	Millom/Haverigg		
	7	Figremont		
	8	Beckermest		
	9	Holmrook/Drigg		

TABLE A 2

## AGE OF RESPONDENT BY TOPICS FOR YTV QUESTION

AGE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	W	X	row frequency	row %
1	0	10	10	4	11	34	3	5	5	5	6	5	3	7	7	0	6	4	12	3	8	148	12.8%
2	0	16	17	22	15	62	5	3	6	7	8	10	1	15	13	6	21	12	24	5	25	293	25.4%
3	2	22	12	22	7	59	12	6	11	11	6	4	3	14	9	2	9	8	18	6	24	267	23.2%
4	1	22	16	11	8	52	4	3	7	6	3	4	3	7	4	0	9	8	7	1	11	187	16.2%
5	1	14	9	6	5	29	3	2	9	3	2	2	0	7	6	2	8	1	9	4	17	139	12.1%
6	3	15	6	7	9	18	1	3	4	4	1	5	3	7	4	0	3	5	9	4	8	119	10.3%
TOTALS	7	99	70	72	35	254	28	22	42	36	26	30	13	57	43	10	56	38	79	23	93	1153	

## Notes on Table A2

topic	under- over-represented	age group	comment
D	UNDER	1 (16-25 yrs)	(?) Sensationalism is the basis of British youth culture
E	UNDER	3 (36-45 yrs)	?
G	OVER	3 (36-45 yrs)	(?) Local knowledge/identity derives from worker experience
H	UNDER	2 (26-35 yrs)	?
J	OVER	5 (55-65 yrs)	Local identity/stability more important to this age group
L	OVER	1 (16-25 yrs)	Hedged, reserved response easier to give for youth
S	OVER	2 (26-35 yrs)	Mainly young mothers who want harder information

Also worth noting is the distribution of topic P which mirrors almost exactly the mean distributions. Appreciation of the programme, what little of it there was, had no relation with age.

TABLE A3

## GENDER OF RESPONDENT

GENDER	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	W	X	row frequency	row %
1	3	46	31	43	20	130	13	8	19	17	8	9	8	24	16	2	27	8	29	12	41	514	44
2	4	53	39	29	35	124	15	14	23	19	18	21	5	33	27	8	29	30	50	11	52	639	55
TOTALS	7	99	70	72	55	254	28	22	42	36	26	30	13	57	43	10	56	38	79	23	93	1153	

## Notes on Table A3

topic	under overrepresented	group	comment
D	OVER	MEN	? topic specifies <u>confrontation</u> between journalists and Sellafield workers
E	OVER	WOMEN	?
L	OVER	WOMEN	disinterested, less clear-cut criticism, ? opposite to (D)
M	OVER	WOMEN	women as the last link in the chain of deference and trust, complaining
N	OVER	MEN	topic very similar to (D), the charge of unnecessary confusion caused by programme
T	OVER	WOMEN	women's language. Male response "I'd leave if I thought there was a danger
V	OVER	WOMEN	?

TABLE A4

PLACE OF RESIDENCE BY TOPICS FOR YTV QU.

PLACE OF RESIDENCE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	W	X	row frequency	row %
1	0	4	4	2	4	14	2	0	2	5	5	5	1	2	2	0	2	5	14	2	11	86	7.4%
2	1	10	7	12	2	21	3	1	4	0	2	3	3	6	3	0	5	6	8	1	5	103	8.9%
3	0	9	4	5	3	28	3	0	3	1	4	2	0	7	4	0	7	2	4	2	8	98	8.5%
4	1	35	35	32	13	104	12	9	16	14	9	6	4	12	10	4	19	10	17	8	38	408	35.3%
5	0	13	6	6	7	27	2	4	7	5	3	3	0	8	6	1	5	1	6	3	7	120	10.0%
6	1	3	4	3	6	4	0	0	1	4	0	4	3	8	10	2	5	6	10	1	5	80	6.9%
7	2	5	0	2	6	11	0	3	5	3	0	2	0	4	1	0	4	2	9	2	8	69	6.5%
8	1	9	2	6	4	23	4	0	1	1	2	0	2	3	4	1	6	4	1	2	4	80	6.9%
9	0	3	0	0	2	2	0	1	1	0	0	1	0	2	2	0	0	0	0	0	0	14	1.2%
10	0	5	8	3	3	11	0	3	1	3	0	2	0	2	1	2	0	2	0	0	3	48	4.2%
11	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	4	3.5%
12	0	2	0	1	3	6	0	0	0	0	0	1	0	1	0	0	1	0	5	0	3	22	2.0%
13	0	1	0	0	1	1	1	0	0	0	0	1	0	1	0	0	1	0	4	0	0	11	
14	1	0	0	0	1	2	1	1	1	0	1	0	0	0	0	0	0	0	0	2	0	10	
TOTALS	7	99	70	72	55	254	28	22	42	36	26	30	13	57	43	10	56	38	79	23	93	1153	

# Notes on Table A4

Since there are 14 place categories the matrix is far less dense and small 'random' variations (random due to sampling method) are significant in a large proportion of the cells. Therefore it is more difficult to analyse the geographical configuration of risk discourse.

topic	under-over-represented	place	comment
D	UNDER	SEASCALE	Increase in Beckernet, ? is it more management confrontation with journalism
F	UNDER	MILLOM	millom outside the domain of competence to comment (F)
M	UNDER	SEASCALE	The lines of trust in information networks were stronger and less disrupted in Seascale
Q	OVER	MILLOM	Millom lies outside social/economic influences which make response elsewhere so interesting
V	OVER	MILLOM, ST BEES	Interest in programme less intense further away from plant



TABLE A5

PLACE OF WORK BY TOPICS FOR YTV QUESTION.

PLACE OF WORK	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	W	X	row frequency	row %
1	1	27	23	31	9	86	9	4	10	7	4	2	7	15	5	2	16	3	10	4	23	298	26.0%
2	0	2	1	0	0	0	0	0	0	1	0	1	0	1	1	0	0	0	0	0	0	7	-
3	0	0	1	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	5	-
4	0	1	0	0	0	4	0	0	1	1	0	0	0	3	1	0	3	0	4	2	1	21	1.8%
5	1	1	2	1	1	1	1	1	1	1	0	2	0	2	1	0	2	0	1	0	1	20	1.7%
6	0	3	3	0	4	6	1	1	3	2	0	1	0	2	2	0	3	0	5	0	1	37	3.2%
7	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	-
8	0	1	3	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	8	0.7%
9	0	9	10	12	7	47	5	4	4	8	3	8	1	10	13	3	10	18	12	3	20	207	18.0%
10	0	24	17	13	17	55	8	5	14	10	13	10	2	12	11	4	14	12	25	7	30	303	26.4%
11	4	25	5	12	12	31	2	4	8	4	2	5	3	8	4	0	4	4	11	5	13	166	14.5%
12	0	2	4	1	2	15	0	1	1	1	2	0	0	3	4	1	2	0	2	1	2	44	3.8%
13	1	4	1	2	2	5	2	2	0	1	0	0	0	0	0	0	1	1	7	1	0	30	2.6%
TOTAL	6	99	70	72	54	254	28	22	42	36	26	30	13	56	42	10	55	38	78	23	93	1148	

Notes on Table A5

topic	under- over-represented	POW/s	comment
A	OVER	RETIRED	Emotionalism of programme contrasted with the ordinariness of work experience - paradigm of containment etc
C	UNDER	RETIRED	
D	OVER	SELLAFIELD	
J	UNDER	PUBLIC	
			Local stability and security (of identity) seems not as directly relevant to this mainly middle class group. Also, there appears to be a relationship between topic J and topic D which includes the phrase "The programme gave no thought to people's <u>feelings</u> ", in this topic their <u>livelihoods</u> quality of life (with relatives and friends no longer visiting) were also directly affected. As a response to Qn. 3b it suggests that the programme was a physical assault on the area. What right has the misguided sensationalism of London journalists to affect every facet of local life; material, emotional?
L	OVER	HOME	Similar to (D) but less emphatic and assured technically
M	UNDER	SELLAFIELD	Legitimation not an issue for S/f workers - their's is the legitimate science
N	OVER	SELLAFIELD	Clearly this argument was used dominantly to prove part of the anxiety and confusion among lay people was their misunderstanding of the programme's statistics. It was not stated as a complaint from a confused viewer, it was an argument deployed by the technically competent.
Q	UNDER	SELLAFIELD	Facts/science and discussion on topic (F)
T	UNDER	RETIRED	)Alarm/fright possible only if you are disposed to it, if you believe )in that portrayal of the issue
T	UNDER	SELLAFIELD	
V	UNDER	SELLAFIELD	

TABLE A6

## SOCIO-ECONOMIC CLASS BY TOPICS FOR YTV QU.

SOCIAL CLASS	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	W	X	frequency	row %
1	0	23	18	15	2	70	7	4	13	8	3	2	1	9	8	2	12	6	4	4	13	224	19.4%
2	2	20	12	32	13	74	6	5	6	8	6	5	4	19	13	3	14	11	17	5	38	313	27.3%
3	1	16	12	3	14	27	6	6	6	1	4	2	2	4	4	1	6	2	7	3	8	135	11.7%
4	1	15	11	9	7	25	3	2	3	4	1	2	4	6	2	1	6	1	11	4	12	130	11.3%
5	0	3	10	4	1	17	2	2	6	7	2	8	0	7	7	2	6	3	9	2	5	103	9.0%
6	0	1	2	0	1	1	0	0	1	1	0	1	0	0	0	0	0	4	3	0	2	17	1.5%
8	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	-
9	3	21	5	9	17	38	4	3	7	7	10	10	2	12	9	1	12	11	28	5	15	229	19.8%
TOTAL	7	99	70	72	54	254	28	12	42	36	26	30	13	57	43	10	56	38	79	23	99	1153	34

## Notes on Table A6

topic	under- over-represented	class	comment
D	OVER	2	?
E	UNDER	1	Professionals don't say "It got blown up ..." more specific comments.
E	OVER	3	Working class response ? why
H	OVER	3	The behaviour and comments of local individuals (doctor and Merlin family) are more important to this audience and are more significant in discourse through gossip and rumour about their strange behaviour.
J	OVER	1	Managers concerned with morale and competent to comment on economy - through local Roundtable etc.
J	UNDER	2	?
K	UNDER	3	This group was most critical of programme. Its substantive issues were often not commented on at all.
T	UNDER	3	The programmes most common reception was as scaremongering - something by which we should not be scared by.

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