GRAMMATICALISING ECOLOGY: THE POLITICS OF BABY SEALS AND KANGAROOS

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1. Linguists and ideology

Depending on where you are coming from, ideology means a number of different things. The point of departure in this paper is linguistics, as it has developed out of the work of Firth, Hjelmslev and Halliday. These linguists in particular have always adopted a rather transcendent view of language and its relation to the living of life. And they have developed contextually oriented models in order to explore the relations between language and use. Here we will be asking how ideology might be fitted into models of this kind, where work on register and genre has already been proceeding for some decades.

2. Assumptions

One of the main problems in dealing with ideology is that one is forced to work at a very high level of abstraction. This means that in a short paper a great deal must be assumed. The arguments in this paper depend on a particular model of language and context which is currently being developed at the University of Sydney. The principal assumptions of this model will be briefly presented before moving on to the proposals in Section 3.

2.1 Language assumptions

Firstly, a very rich, functionally oriented model of language is being assumed. The model is a systemic functional one, deriving from the

work of Firth, Halliday and Hasan. It consists of three strata, sketched out in Fig. 1: phonology, lexicogrammar and discourse. Its two most important features are a. its orientation to meaning; and b. its orientation to text. Somewhat distinctively, it views meanings as created on all three strata as choices are turned into texts. Following Firth (1968:174) it views each level as contributing a layer of meaning to text; it does not see language as a conduit through which thoughts and feelings are poured. With respect to its textual orientation, the model takes texts as the fundamental object of linguistic inquiry, not clauses or phonemes — though of course the latter are involved in the realisation of texts in grammar and phonology. Consequently its third stratum is concerned with discourse patterns, rather than semantics (as noted, meaning is a concern on all levels).

discourse	grammar lexis	phonology
'text'	'clause/word'	'syllable'
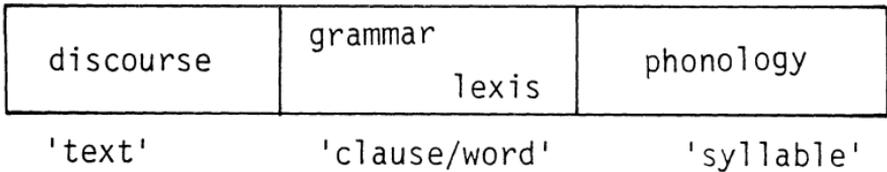
Fig. 1: Tri-stratal meaning making model of language assumed

For work on phonology, see Palmer (1970) and Halliday (1967); for lexicogrammar see Halliday (1961; 1985); for discourse see Halliday and Hasan (1976).

2.2 Context assumptions

Although influenced by Firthian work on register, the model of contextual relations owes most to Hjelmslev. In the *Prolegomena* (1961) Hjelmslev distinguishes between denotative semiotics, which have their own expression form, and connotative semiotics, which do not. Language, like music, dance or art, is a good example of a denotative semiotic. It has a phonology of its own through which to make meaning. Connotative semiotics on the other hand are parasites — they don't have a phonology of their own; instead they take over another semiotic system as their expression form.

The model assumed here treats register and genre, and ideology as well, as connotative semiotics. These semiotics appear to be related to each other as in Fig. 2, with language the phonology of register, language and register the phonology of genre, and language, register and genre the phonology of ideology. Having no expression form of their own, connotative semiotics make meaning by skewing choices in lower

level semiotics to produce patterns in text that could not be predicted in terms of the lower level semiotic alone. It is language for example which allows us to choose between *mate* and *sir*, but it is register which accounts for the patterns of choosing that appear in particular texts.
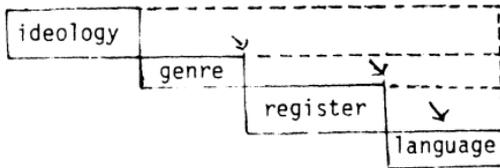

Fig. 2: Language in relation to its connotative semiotics

For work on register see Halliday (1978) and Halliday and Hasan (1985); for genre see Hasan (1978; 1979). The interpretation of register and genre adopted for this paper will be presented when the texts considered are discussed below — see Martin (1984) for a non-technical introduction.

3. Proposals

Instead of taking over existing theories of ideology, this paper will briefly review the most relevant work from a linguistic perspective and go on to make some proposals of its own. The assumption here is that work on ideology which ignores language, register and genre is not going to fit very well onto the model assumed above. This may be too arrogant and certainly needs challenging in the short term.

3.1 Synoptic and dynamic perspectives on ideology

Like all semiosis, ideology can be approached from either a synoptic or a dynamic perspective — as product or process. And *both* perspectives are necessary to give a complete picture of what is going on.

Looked at from the synoptic perspective, ideology can be seen as a kind of *lect* associated with a particular group of users. Whorf for example was interested in the way in which speakers of a given language are pushed towards different world views because of grammatical and lexical conspiracies in the languages they speak. Bernstein adopted a modified version of this hypothesis, arguing that every language has the potential to express a number of different world views through the range of grammatical and lexical options available. In particular he attempted to associate conspiracies of choices with

speakers from different social backgrounds. Here the *fashions of speaking* have not to do with the range of options themselves but with the set of options that is consistently taken up by groups of speakers in specific situation types. Work in East Anglia during the 70's extended this perspective to take into account the way in which age, sex and ethnicity for example, as well as social class, could be seen to affect the kinds of choices made by different groups of speakers depending on the role they were playing in a given context of situation (Fowler et al. 1979; Kress & Hodge 1979).

Looked at from the dynamic perspective, ideology can be interpreted more as a *type* of language dependent on the use to which language is put. Here we are looking at ideology in crisis, undergoing a process of change during which speakers take up options to challenge or defend some world view that has prevailed to that point in time. This is the perspective that will be adopted in this paper, where we are interested in a particular topical issue and the way in which different groups use language to address that issue. When ideology is in crisis, the linguistic choices reflecting one or another stance are foregrounded; given our present lack of understanding of the way in which ideology relates to language, register and genre this foregrounding makes the dynamic perspective a promising place to start. This does not mean that latent ideology, interpreted synoptically, is not equally important in a full account.

3.2 Ideology in crisis: a model

Since in this paper we are approaching ideology from a semiotic point of view, we need to establish some terminology which is apparently not readily available in the literature, using everyday terms technically where possible.

We will begin with *issues*, which refer to that aspect of the ideology which is in crisis; some examples of issues in the current Australian context would be:

Should Australia support New Zealand in banning nuclear ships?

Should the government change Medicare to appease the medical profession?

Should Australia charge foreign students for the full cost of their education?

Should Australia help America test MX missiles near Sydney?

Should workers providing essential services be allowed to strike?

Formulated in this way, issues have *sides*, pro and con. And people are associated with issues in different ways. Some groups are mainly concerned with stirring up issues — creating ideological crises. Other groups are more concerned with resolving issues — formulating

compromises which dissolve the issues, thereby restoring the latent ideology which people take for granted as the status quo. We will refer to the stirrers as *antagonists*, and the resolvers as *protagonists*. Finally we need to take into account the shifts in power which take place as issues arise and are resolved. Antagonists and protagonists that have power to lose will be referred to as the *right*, those that have power to gain as the *left*, taking these terms in their traditional sense. Ideological systems then will be modelled as in Fig. 3.

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                              ┌right antagonist
                   ┌side─→┤
                   │          └right protagonist
                   │
ISSUES    ─────→───┤
                   │          ┌left protagonist
                   └side─→┤
                              └left antagonist
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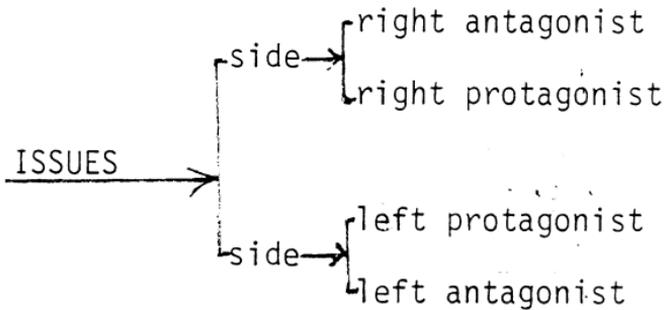
Fig. 3: Issues as ideological systems

By way of illustration, let's consider the issue of whether or not Australia should mine uranium. This has two sides, for and against. The main antagonists in this debate are the mining corporations, led by Hugh Morgan, and Women's Action Against Global Violence, who picket at Pine Gap. The corporations want the issue stirred because they feel too many concessions have been made to bleeding hearts and aboriginal people; WAAGV wants the issues highlighted because too much uranium mining is already going on. In between we have the protagonists: on the right the Australian Labor Party, which in practice supports uranium mining and membership in the western nuclear alliance; on the left, People for Nuclear Disarmament and the Nuclear Disarmament Party who disapprove of uranium mining, but want genuine dialogue on the issue. This particular issue is modelled in Fig. 4.

It perhaps needs to be stressed here that the roles (protagonist or antagonist of the left or right) adopted by a particular group are assigned because of their position on a specific issue; and this position may change. The Australian Labor Party for example, particularly when in opposition, tends to play the role of the left protagonist; but at present, in power, it functions as a right protagonist with respect to this issue (much to the exasperation of its so-called left wing and countless

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                                ┌─mining corporations/Hugh Morgan spokesman (YES
                      ┌─pro─→   │
                      │         └─Australian Labor Party (SOME)
Should Australia   ───┤
  mine uranium?─→     │         ┌─People for Nuclear Disarmament/NDP (NO)
                      └─con─→   │
                                └─Women's Action Against Global Violence (NEVER)
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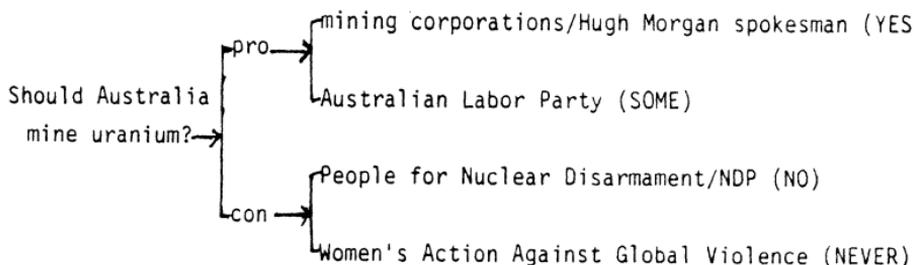
Fig. 4: Ideological profile of uranium mining issue

mislead voters). Similarly radical feminist organisations presently find themselves fighting with the Festival of Light as right protagonists on pornography issues, when for may other issues they function towards the extreme left of the political spectrum.

A word is perhaps also needed as far as my use of the term power is concerned. In western capitalist society power is normally associated with those owning or controlling the means of production or the knowledge needed to effect that control; and it is rewarded materially, through salaries, fringe benefits and the like. This is a workable understanding, although a semiotic interpretation is more appropriate here, formulated in terms of the range of genres a group controls, the fields they have access to, and the general prestige of those genres and fields in our culture.

Of special interest here is the way in which left and right protagonists and antagonists tend to favour different genres (in Kress's 1985 terms they make use of different *discourses* to deal with an issue). Right antagonists tend to work behind the scenes (at least until they feel things have got completely out of hand), making use of chat to lobby their powerful connections. Left protagonists on the other hand have few powerful friends, and depend on attracting the attention of the media with newsworthy protest to attract attention to their cause: demonstrations, hijackings, kidnappings, and so on are favoured by these groups. Protagonists incline towards exposition of various kinds to present their case, in different modes: debates, public speeches, conferences, public meetings, etc. In this paper we will be mainly concerned with two types of exposition used by protagonists in periodicals.

The point of this exercise will be to show that the model of register and genre that is assumed here cannot be used to account for all of the systematic variation we find in the texts such as those considered and that this model needs to be extended to the level of ideology to predict these patterns. The argument then is that linguists interested in

developing a theory of context which explains how language is used will have to take a number of high level political considerations into account which have not been generally addressed in the past.

4. The texts

Two texts will be considered here. One is taken from *habitat: a magazine of conservation and environment* and discusses whether or not Australia should continue to cull/kill kangaroos. The other is from *International Wildlife: dedicated to the wise use of the earth's resources* and discusses whether or not Canada should continue to hunt/slaughter Harp Seal pups/baby seals. Note that one cannot even refer to the issues involved without introducing ideological bias: shall we say that kangaroos are *culled* or *killed*?; shall we say that Harp Seals are *hunted* or *slaughtered*?; shall we refer to the seals as *Harp Seal pups* or as *baby seals*? Nothing we say is neutral: all of our choices code ideology in this and similar ways.

Although two distinct issues are discussed in these texts, the kangaroo and sealing issues are so closely related that we can treat them as one for the purposes of this paper. Indeed the texts considered seem almost to be arguing against each other, in spite of the different animals involved. Ideologically the ecological issue involved is almost the same. Thus Fig. 5 is quite parallel to Fig. 6.
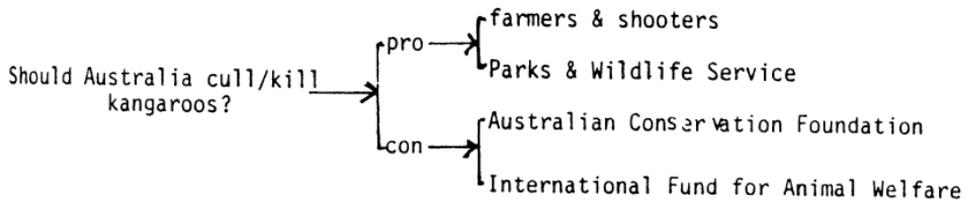
Fig. 5: Opposition profile for kangaroo issue
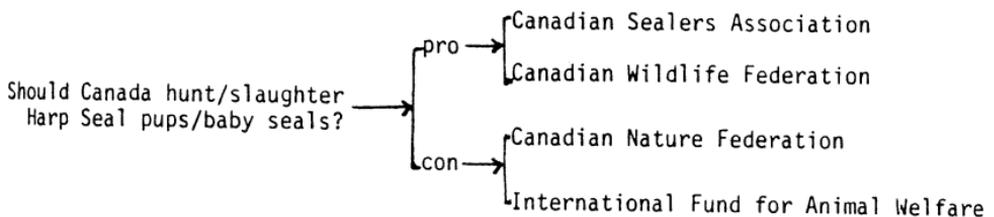
Fig. 6: Opposition profile for sealing issue

We could perhaps generalise the issues as follows. The role of the right antagonist is taken up by those who exploit the species for commercial gain; and the role of the right protagonist by governments and organisations committed to treating kangaroos and seals as a natural resource and using them. The role of the left antagonist is played by the International Fund for Animal Welfare (among other groups such as Greenpeace), who are struggling to preserve the environment; and the left protagonist is played by naturalist organisations interested in the observation and appreciation of nature. Fig. 7 attempts to generalise these divergent ecological perspectives.
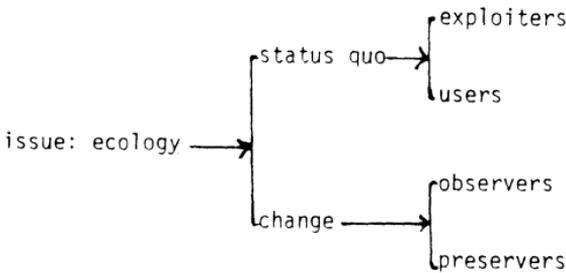

Fig. 7: Generalised opposition profile for ecological debates

Text 1 is in fact an excerpt from a longer text entitled 'Kangaroos - Is our National Conscience Extinct?' and represents the views of the left protagonists in the Australian debate. Text 2 is also taken from a longer text entitled 'The Northwest Atlantic Sealing Controversy' and presents the views of the right protagonists in the Canadian issue (complete texts are present in the Appendix) Text 1 is an example of hortatory exposition—it attempts to persuade readers *to* act to stop the killing of Australia's national symbol. This is a favored genre for left protagonists who are generally seeking change. Text 2 is an example of analytical exposition - it attempts to persuade readers *that* the seal hunt should go on. This is a favored genre of the right protagonists who are generally protecting the status quo. Hortatory expositions are a kind of macro-*proposal*, analytical exposition of a kind of macro-*proposition* (see Halliday 1985 for the proposal/proposition distinction in the grammar of English). For further discussion of types of exposition see Martin 1985 and Martin and Peters 1985.

A number of analyses of grammar and discourse (by no means exhaustive!) will be presented here for the whole of the texts from which 1 and 2 are excerpted. These will be organised around the register and

genre categories which predict the patterns in question (first field, then mode and tenor, and finally genre). Outstanding patterns will then be discussed under the heading of ideology.

ACF Text

habitat: a magazine of conservation and environment
vol. 11 June 1983

Editorial: Kangaroos — Is our National Conscience Extinct?

...

1.15   Let us try to define our conservation goals - but on two levels.

16   First comes the level of species survival on which our rather smug government biologists prefer to operate.

17   We seriously question what is happening under their approving eyes: The massive level of killing, the population distortions related to the favoured killing of bigger, heavier male kangaroos, the pathetic lack of supervisory staff.

18   The programme is unsatisfactory and questionable on a number of counts.
Killing a Kangaroo Every Ten Seconds: Is Our National Conscience Extinct?

19   Secondly, let us turn to a deeper level: that web of life embracing the human species as well as the easy, trusting targets in the night spotlights.

20   We are talking here about 'deep ecology', about the ethics related to all wild creatures.

21   We don't feel the need to apologise for looking beyond the figures on 'harvests', 'quotas' and 'management' to think for a moment about 3 million other living creatures whose lives will be obliterated, often painfully, this year.

22   We are in good company,

23   In November 1785, the great poet with the human touch, Robert Burns, wrote a famous poem 'To a Mouse' .. on turning up her nest with the plough ..

24   *'I'm truly sorry man's dominion*
Has broken Nature's social union,
An' justifies that ill opinion
Which makes thee startle
At me, thy poor, earth-born companion
An' fellow mortal!' Burns wrote

25 *'But Mousie, thou art no thy lane* (alone)
  In proving foresight may be vain;
  The best-laid schemes o' mice an' men
  Gang aft agley (askew)
  An' lae'e us nought but grief an' pain
  For promis'd joy!'
26   What men and women would we be if we did not care for the lives
  and sufferings of our fellow creatures.
27 *'A dog starved at his master's gate*
  Predicts the ruin of the state.' wrote the English 'seer' William
  Blake.
28 *'The wild deer wandering here and there*
  Keep the human soul from care ..'
29   We may not be able to cost out our feeling for our fellow-creatures
  or the value we place on their wildness and freedom in statistics or
  export dollars.
30 But we have it.
31 And it is not a lesser thing than aerial population counts or skin
  prices or that narrower view than measures survival in species and
  ignores the imposed death of millions.
32   *'For the tear is an intellectual thing',* Blake wrote.
33   *'And a sigh is the sword of an Angel King. .'*
34   So it's still relevant to conservation when we consider:
35 What will killing 3 million kangaroos a year do for us as human
  beings?
36 What sort of Australians can shrug off that kind of brutality?
37 And what are the implications for the rest of nature, for the bush,
  for the land, for other animals, for our fellow human beings, when
  our prime wildlife is killed on this scale?
38 In the end we are talking about our own perception of ourselves as
  Australians.
39 Our nationhood, our identity, our national pride and self respect.
40 Our humanity.

  ...

(Note — this passage was selected to exaggerate the differences between
the Australian Conservation Foundation and Canadian Wildlife
Federation texts; except for the final appeal, the rest of the ACF text is
less 'rhetorical'.)

CWF Text

International WILDLIFE: dedicated to the wise use of the earth's resources
March-April 1983

Wildlife Report: The Canadian Scene: a special section on late-breaking conservation news
The Northwest Atlantic Sealing Controversy

...
Summary

2.94   Based on the facts, certain conclusions may be drawn in reference to the seal hunting issue.

96   A.   The management regime established by the Canadian Government is achieving the objectives established for the program; this is to achieve a gradual but certain increase in the Harp Seal population which falls within the jurisdiction of the Government of Canada.

96   B.   The regulations established to control the conduct and level of the seal harvest, respond to the needs of the Harp Seal population and are being effectively applied.

97   C.   The Harp Seal population is not endangered and is in fact expanding faster than originally estimated.

98   D.   The killing methods employed in the hunt are now as humane as they can be and it will be extremely difficult to improve upon the present techniques.

99   E.   The harvest of whitecoats, or young seals, is the most efficient means to secure effective use of the resource without jeopardizing the productivity of the seal herd.

100   F.   The economic contribution to the regional economy of the coastal communities far outweighs its national significance, and there is no available alternative.

101   G.   Apart from the Harp Seal issue, the livelihood of many communities in the Arctic and elsewhere, is heavily dependent on the maintenance of a good market for Canadian sealskin products.

102   In considering the east Coast seal hunt, it is necessary to acknowledge the implications inherent in terminating the hunt, as now proposed.

103   Current projections indicate that, at present quota levels, the Northwest Atlantic Harp Seal populations will exceed 3 million animals by 1991.

104   Termination of the hunt would substantially accelerate this population growth.

105   Can we afford to abandon Canada's seal management program?
106   When the Harp Seal population was at higher levels in the 1950's, scientists observed a high incidence of fighting wounds and poor condition in moulting males.
107   Heavy parasite infestations were also noted, typical of overcrowded populations, which contribute to sub-optimal conditions in seals of all ages.
108   Expanded populations will lead to a recurrence of these conditions and a corresponding increase in natural mortality in juvenile animals.
109   Harp Seals are estimated to consume 1.5 metric tons of food per animal annually.
110   At current population levels, the Harp Seal population now consumes more food annually than the total Canadian fish catch.
111   In fact their consumption roughly equals the catch of all fish species taken by all countries in the Northwest Atlantic.
112   Uncontrolled expansion of the seal population can be expected to seriously curtail the supply of fish available to all countries now fishing the region, and will have serious economic implications for Canada's East Coast fishing industry.
113   Therefore, careful consideration must be given to the long term implications of terminating Canada's East Coast seal hunt.
114   Further and more detailed information about the Northwest Atlantic Harp Seal population, and the socio-economic ramifications of the annual East Coast seal hunt, can be obtained from the Dept. of Fisheries and Oceans, Ottawa, Ont. K1A OE6.

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5. Register

5.1   Field

Field will be interpreted here as a set of activity sequences oriented to some global institutional purpose. Being a linguist for example involves engaging in a number of different activities: teaching, supervising students, various research activities, writing papers, giving talks, going to staff meetings, sitting on various university committees, and so on. These activities are all related to each other because of a general concern with understanding language. In reflective modes field is commonly thought of as topic or subject matter. Since we are concerned with exposition in this paper, this way of thinking about field will suffice here.

Field is mainly reflected at the discourse level by lexical cohesion, which in turn affects experiential choices in the grammar — choices in

transitivity and for particular lexical items. In this section we will look at just three aspects of this: 1. the principal collocations associated with seals and kangaroos in the two texts; 2. the way in which people are realised in the text; and 3. The selection of process type and voice.

5.1.1   Seal and kangaroo collocations

While a full analysis of lexical cohesion is beyond the scope of this study, the major lexical items associated with both seals and kangaroos in the two texts were examined. Of particular interest were the processes associated with seals and kangaroos.

In the ACF text, kangaroos are referred to 41 times. Of these, 24 references occur in the context of death — killing, dying, slaughtering, suffering and the like. In text 1 for example we find:

> the favoured killing of bigger, heavier male kangaroos
> the easy, trusting targets in the night spotlights
> killing 3 million kangaroos a year
> our prime wildlife is killed on this scale

So by far the overwhelming association for kangaroos is with death.

In the CWF text, the major collocations falls into four main sets. Seals are principally associated with harvesting (*harvest, take, hunt, operation*) produce (*markets, resource, sale, storage, disposal, value*), management (*quota, control, regulations, limit, suspend*), and abundance (*increase, expand, not endangered, without reducing*). Examples of each major collocation pattern can be found in text 2:

'harvesting'	The harvest of whitecoats, or young seals,
'produce'	the productivity of the seal herd
'management'	The regulations established to control the conduct and level of the seal harvest
'abundance'	the Northwest Atlantic Harp Seal population will exceed

From this we can see that the major association for seals in the CWF text the *abundance* of a *well managed resource* that is humanely *harvested*.

5.1.2   Human participants

It is also of interest to look at the way in which people are realised in the two texts. First of all, there are a number of nominalisations used referring to people in some professional capacity. This happens only twice in the ACF text: *biologists* and *shooters*. But the CWF text refers

to people 32 times by nominalisations referring to people in their professional capacity, including: *fishermen, sealers, landsmen, scientist, observer, pathologist* and so on. This reflects the CWF article's greater interest in both experts who study the hunt, officials who manage it, and fishermen who participate in it.

This becomes all the more revealing when we note that the ACF text refers to people in general (excluding organisation like the ACF or CWF) almost twice as often as the CWF text. Keeping in mind that the CWF is just over twice as long as the ACF text, the ACF text refers to people 67 times - including 5 individuals (Burns, Blake, Mr Cohen, Mr Hawke, & Mr Walker), and 38 first person plural pronominals (*we & our*). The CWF text refers to people at about half this frequency; its 57 references refer to no individuals; and the first person plural pronoun is used only 3 times.

So overall the ACF text talks about people more often than the CWF text; and it refers to people as individuals or using the first person whereas the CWF text prefers to mention people as professionals.

5.1.3   Process types

The choice of process type was analysed in finite clauses and the results appear in Table 1. Halliday's 1985 classification of process types into material, behavioural, mental, verbal and relational was used.

	ACF (114 clauses)	CWF (254 clauses
action - material	.32	.47
behavioural	.12	.04
projection - mental	.15	.06
- verbal	.09	.03
being - relational	.32	.40

Table 1: Percentage of finite clauses by process type

From this table we can see that the ACF text makes use of 2-3 times as many processes of perceiving, thinking, feeling and saying as the CWF text, which makes more use of verbs doing and being. Within these categories it is of some interest that the ACF mental processes are a mixture of thinking and feeling (eg. *believe* and *hope*) whereas the CWF text relies more on thinking processes (eg. *conclude*). As well, in the ACF text's verbal processes it is people who project (eg. *Blake wrote*); but in the CWF text many Sayers are not in fact people: *the data indicate*. Finally, behavioural processes have been interpreted strictly here to include processes of perceiving, thinking, feeling and saying which

cannot in fact be used to project: *define, question, talking, care for, measure, shrug off,* etc. The ACF text has 3 times as many processes of this kind than the CWF text, which again pushes up the number of 'mental' and 'verbal' actions it encodes.

In short then, the CWF text is mainly about what happens and what is; the ACF text is largely concerned with this as well - after all, both texts are exposition. But the ACF text is also much more concerned with what people perceive, think, feel and say.

5.1.4   Voice

Of the finite clauses analysed, 19% were passive in the ACF text and 35% in the CWF text. This has nothing whatsoever to do with suppressing participants. The CWF has a far higher proportion of agentful passives (23%) than the ACF text (only 9%). This shows dramatically just how naive interpretations of voice which attempt to motivate the selection of passive in terms of deleting the Agent really are. Rather, what seems to be going on here has much more to do with THEME. We have already seen that the ACF text refers more often to people than the CWF one; and we will see below that a much higher percentage of its Themes are human. So one major influence on the choice of passive in the CWF text appears to be that of setting up non-human themes.

Another aspect of this is the fact that 40% of the passives in the CWF text are in relative clauses, as opposed to just 22% in the ACF text. Many of these CWF nominal groups involved nominalisation, with a process realised as a Thing or Classifier˚Thing structure. In *The managment regime established by the Canadian government* for example we find an incongruent realisation of the process of managing, with a passive agentful Qualifier. Again, selection of Theme seems to lie behind the patterns observed. By nominalising a process and making use of a passive qualifier, human agency is removed from thematic position. The result is a text in which people act, but do not receive thematic prominence when they do so. Theme focuses on abstracted processes or things.

5.1.5   Significance of field patterns

On the basis of these findings we can take stock of two major differences between the hortatory and analytical text. First of all, the ACF text has more to say about people and what they see, feel, think and say than the CWF text which has more to do with experts and things, and what happens or what is. As well the ACF text makes use of collocation to portray the kangaroo as a helpless victim while the CWF text treats seals as an exploitable resource.

5.2   Mode

Mode has to do with semiotic distance, between speaker and addressee, and between a text and what it describes. Both the ACF and CWF texts are monologues, with no aural or visual feedback possible. So they are not very different as far as speaker/addressee distance is concerned. But the other mode scale, which involves the degree of abstraction in a text, does distinguish the hortatory from the analytical exposition.

Mode affects all discourse systems, including lexical cohesion, conjunction, reference and conversational structure, and the way in which these interact with grammar, in particular textual meaning. Here we will concentrate on just three aspects of this: 1. the realisation of Theme;   2. the way in which participants are identified; and 3. the degree of nominalisation in the two texts.

5.2.1   THEME

The implications of voice selection for choice of theme have already been noted in 5.1.4 above. First of all, of the 67 topical themes in the ACF text, 30% refer to humans: *we, these officials, what sort of Australians*, etc. Of the 113 Themes in the CWF text, only 12% are human; it is important to recall here that the CWF text refers to people only half as often as the ACF text and so is avoiding human Themes even more often than we would otherwise expect.

Next, as far as textual Themes are concerned, there is not much difference between the two texts as far as percentages are concerned - 16% of the topical Themes in the ACF text are accompanied by a textual Theme, versus 19% in the CWF text. What is different is the type of textual Theme. Whereas the ACF text makes use of a high percentage of everyday coordinating conjunctions (*but, so, and*, and *yet*), the CWF text leans more towards internal rhetorical markers: *as a consequence, however, thus, in fact, therefore, A.B.C.D.E.F.* ... This makes the CWF text appear more 'written' than the ACF text.

Finally the lexical density of the Themes is of some interest - 1.6 lexical items per topical theme in the ACF text and 2.8 in the CWF. This has partly to do with the large number of first person pronominal Themes in the ACF text; but as well it reflects the greater degree of nominalisation in the CWF text. Consider for example this series of the Themes from text 2:

A.   The *management regime* established by the Canadian Government

B.   The *regulations* established to control the conduct and the level of the seal harvest

C.   The harp Seal population

D. The *killing methods* employed in the hunt
E. The *harvest* of whitecoats, or young seals,
F. The economic *contribution* to the regional economy of the coastal communities
G. Apart from the Harp Seal issue,

All but two of these themes include nominalised processes as Head: *management*, *regime*, *regulations*, *killing methods*, *harvest*, and *contribution* with the rest of their clause appearing in Epithet, Classifier and Qualifier position. So both nominalisation and favoring non-human Themes lead to the greater lexical density of the themes in the CWF text.

To sum up, the ACF Themes are about people, often the editors or editors and readers combined. The CWF clauses on the other hand take things and abstractions as their point of departure, and often fairly complex ones at that. This gives a kind of weightiness to the CWF text, reflecting its preoccupation with information, and is one factor making the ACF text somewhat easier to read.

5.2.2 REFERENCE

We have already discussed the way in which the ACF text makes use of pronominal reference to humans, while the CWF text remains largely in the third person and refers to things. The only other point of interest is the use of names. The ACF text refers to organisations (*Australian Conservation Foundation, Parks and Wildlife Service*), places (*New South Wales, America*) and individuals (*Burns, Blake*, etc) with proper names; the CWF text refers only to organisations and places, never to individuals.

5.2.3 Experiential metaphor: nominalisation

Halliday 1985 refers to incongruent realisations of meanings in grammar as a kind of metaphor. The most important type of experiential metaphor in English is a nominalisation — the process whereby processes and qualities (and other types of meaning as well) get coded as nouns instead of the verbs or adjectives we might expect from a young child or in casual conversation. The ACF and CWF texts both make use of a great deal of nominalisation of different kinds. This is critical to the degree of abstraction in a text. The more nominalisation, the less iconic the relation between grammatical structures and the events to which they refer. Breaking down this iconic relation maximises the distance between a text and the field to which it refers and is a crucial feature of mode distance.

Nominalisation in the ACF and CWF texts will be considered under

six headings:
- a. nominalised imperfective (-ing) clauses: *the killing of ...*
- b. verbal Classifiers: *sealing operation*
- c. derived verbal nouns: *implication*
- d. underived verbal nouns: *hunt*
- e. nominalised adjectives: *wildness*
- f. 'abstractions': *nationhood*

Of these nominalisations, the nominalised imperfective is the more active, retaining a sense of something going on; and this is the one type of nominalised action that the ACF text makes more use of than the CWF article. The ACF text also has a slight preference for nominalised adjectives, which play an important part in moral appeals as we will see below.

a. The ACT text as a whole makes use of 16 nominalised *-ing* clauses; of these, 11 refer to the killing of kangaroos. The CWF text overall uses just 9 clauses of this kind, only 3 of which refer to the death of seals.

b. The ACF text employed a verbalised Classifier 14 times, compared with 43 in the CWF text. Of these 43, 17 refer to killing: eg. *killing methods*. We can see a kind of trade-off here, with the CWF text preferring less active ways of referring to the death of the species involved.

c. The ACF text makes use of 26 derived verbal nouns: eg. *conservation, survival, inquiry*. The CWF text makes use of 79: *production, misconception, regulation,* etc.

d. With underived verbal nouns, we find 26 in the ACF text and 92 in the CWF text. Of these 92, 41% refer to killing: *hunt, slaughter, harvest* and so on. Once again we see the CWF text preferring static ways of referring to the death of the seals.

e. The ACF text makes use of 7 nominalised adjectives: *weakness, soundness, wildness, freedom, brutishness, humanity* and *brutality*. The CWF text makes use of 5: *maturity, overabundance, safety, productivity* and *mortality*. The attitudinal difference in the qualities nominalised is striking.

f. A similar pattern is found with nominalised abstractions; the ACF text refers twice to *nationhood*, the CWF text 4 times to *livelihood*. Again it is the ACF text which makes use of the attitudinal abstraction.

To sum up then, keeping in mind that the CWF text is a little over twice as long as the ACF text, the CWF article realises actions as nominals about twice as often as the ACF text (b, c and d above). Both verbal Classifiers and underived action as Thing structures are heavily exploited to avoid referring to the killing of the seals as a Process. The

ACF text on the other hand almost always refers to the killing of kangaroos as active — with a Process or the nominalised *-ing* clauses discussed under a. (one wonders if the alliterate effect of *killing kangaroos* has somewhat affected these figures!)

Both texts nominalise qualities as well, but with the ACF text preferring predominantly attitudional nominalisations.

5.2.4 Significance of mode patterns

On the basis of these patterns we can see that the ACF text is one which takes people as the point of departure for its clauses and prefers more congruent realisations of actions. The CWF text on the other hand takes lexically dense abstractions as the point of departure for its messages and prefers incongruent realisations of actions as nouns. This has the effect of making the ACF text more concrete and active as opposed to the CWF text which is abstract and immobile. The CWF text in other words is much more distant from the real world events to which it refers than the ACF text.

As far as the other distance scale is concerned, the distance between writer and reader, we shall see in the next section that the ACF text is more interactive in certain respects. Given the essentially monologic nature of exposition, these differences are better discussed under tenor below. Attitudinal abstractions will also be discussed in 5.2 below.

5.3 Tenor

Tenor has to do with social distance rather than feedback or abstraction. It is realised principally through interpersonal meaning, via three realisation principles: amplification, reciprocity, and elaboration. Amplification has to do with the intensity of a realisation: degree of pitch movement, loudness, extended prosodic realisations of attitude and modality, intensification and superlatives, repetition and so on. It reflects *affect* — the positive or negative attitude of the speaker towards his listener or what he is talking about. Reciprocity has to do with whether or not speaker and listener take up the same kinds of options or not. It reflects *status* — speakers of equal status make the same kinds of choices whereas speakers of unequal status make choices of different kinds (*tu/tu, tu/vous* and so on). Elaboration has to do with the range of choices taken up and reflects *contact* - the degree of involvement of the speakers with each other. The more contact, the wider the range of choices made and the more contracted their realisation; the less contact the narrower the range of choices and the more explicit their realisation. (see Poynton 1985a for discussion; she uses the term *power*

in place of *status* which for purposes of this paper runs the danger of confusing tenor with ideology and is thus avoided.)

Tenor will be discussed under the headings affect (attitude and intensification), status (mood, modulation and personal reference) and contact (topic and technicality).

5.3.1. Affect

Although exposition makes less use of affect than many other genres, both articles do make use of a number of attitudinal items. The ACF text uses its attitudinal lexis to focus on the horror of the kangaroo killing: *massacre, obliterated, brutality, brutishness, assault, wild-death* etc. The CWF text on the other hand focuses its affect on veracity: *misconception, false and misleading, unequivocally.* And the ACF text makes use of more attitudinal lexis than the CWF text overall.

Both texts also realise affect through intensification. The ACF exploits the traditional oral rhetorical device of grammatical parallelism: note 35 through 41 in text 1:

1.35   What will killing 3 million kangaroos a year do for us as human beings?

36   What sort of Australians can shrug off that kind of brutality?

37   And what are the implications for . . .

The CWF text on the other hand uses the written device of bold face type:

Is the clubbing of seals humane:

The answer to that question is unequivocally *YES.*

Again the ACF affect is focussed on the horror of the killing and the CWF affect on truth.

5.3.2 Status

Writing is inherently nonreciprocal — the writer writes and the reader reads. But there are a number of ways in which writers can partially defuse this basically assymetrical status relation.

One way is to make use of suggestions (inclusive imperatives), which the ACF text does on two occasions and the CWF text not at all:

Let us try and define ..

Let us turn to a deeper level ..

Another is to make use of modulated appeals, again inclusively addressed to both writer and reader:

We should take stock of the horrifying level

The ACF text makes use of 4 of these; the CWF text makes use of just 1 modulated appeal, and it is impersonal, not addressed specifically to writer or reader:

> Careful consideration must be given to the long term ...

Another reader including technique is the rhetorical question; the ACF text has 4 of these (see 1.35-36 above), and the CWF article 1.

Alongside these mood and modulation options, the ACF text makes use of 38 first person plural pronouns, which refer variously to the editors, the editors and readers and to all Australians; in many cases it is not clear which reference is intended. The CWF text uses only 3 we's, two referring exclusively to the writers of the article. So in spite of the limitations of the mode and genre, the ACF text involves the reader to a greater extent than the CWF article.

5.3.3 Contact

Under this heading the two interesting points have to do with the quoting of the poetry of Blake and Burns in the ACF text and the at times extremely technical language of the CWF text. Both the poetry and technical language represent elaborations of the range of choices taken up in the articles. The ACF text extends the field by drawing on literary texts; the CWF text extends the terminology employed by making use of a wide range of technical terms.

Both of these extensions make assumptions about the shared experiences of writer and reader. The ACF text seems to be assuming an audience that has been exposed to poetry and is favorably disposed towards it. The CWF text is assuming a scientific readership that has access to technical language such as: *Harp Seal, dam, pup, offspring, whelping, whitecoat, weaned* or series such as *cohort, survival index, catch and effort, tag/recapture analysis.* As always, these assumptions tend to both include and exclude. Readers who have access to the elaborations will feel solidarity with the text; those who are not involved enough with the writers to access the elaborations will feel excluded. By looking at contact and elaboration in this way we can see that the two texts express solidarity with readers of different kinds, at the same time as excluding those to whom the other would appeal.

5.3.4 Significance of tenor patterns

Tenor then shows the ways in which the ACF text is more emotive and more engaging of the reader than the CWF text which seems colder and aloof. And the two texts can be seen to express solidarity with readers of different kinds.

6. Genre

In the contextual model assumed here genre is interpreted as a staged goal-oriented social process. At the extreme language in action end of the action/reflection mode scale there is really no difference between field and genre as far as text structure is concerned. The text is carried along by what is happening as it were. However, once we begin to move down this scale and distance language from the activity sequences to which it refers the structure of the texts does take on a life of its own. Text time becomes distinguished from activity time; it is no longer necessary to talk about things in the order they occurred. It is for this reason that we need to distinguish field and genre in the language oriented contextual model assumed here.

This independent text time is reflected in the distinctive staging structure associated with each genre. The best known of these are associated with the narrative texts, among them Labov and Waletzky's 1967 Abstract Orientation Complication Evaluation Resolution Coda structure for narratives of personal experience. These beginning-middle-end structures will be referred to as *schematic structures* and the semiotic system that underlies them as genre.

Thus conceived genres can be interpreted as systems. The two texts considered in this paper are [factual] genres; more delicately they are [expository] — they have a thesis to propose and defend. As noted earlier, the thesis of the ACF text is a macro-proposal: Australia should stop killing kangaroos. The thesis of the CWF text is a macro-proposition: Harvesting seals is an economically sound use of this renewable resource. So moving one step further in delicacy, the ACF text is [hortatory], persuading readers *to* while the CWF text is [analytical], persuading readers *that*. These choices then govern the schematic structure of the genre.

The discussion of genre will proceed as follows: first the staging structure of the two texts will be reviewed; then consideration will be given to why the combination of field, mode and tenor choices described above was predictable from the point of view of the genre plane; and finally the poetic/rhetorical flavour of the ACF text will be noted in passing.

6.1 Schematic structure

The schematic structure of the ACF text is as follows:
Significance (1-7) — 'Kangaroos are dying'
Position (8-14) — 'Too many kangaroos are dying'
Facts (16-18, 41-59) - 'Some species are threatened'
        'Some politicians are acting'
        'Management is poor'

Feelings (19-40) — 'How can we be so inhumane?'
Appeal (60-67) — 'An inquiry is needed' .

This structure has an experiential bias and it should be noted in passing that there is an interpersonal attitudinal wave passing through the text, crescendoing with the grammatical parallelism of 35-40. This is only partly explained by setting up a special element of schematic structure: Feelings.

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The staging in the CWF text is as follows:
Significance (1-3)  - 'The seal hunt is in doubt'
Position (4-12)     - 'Readers need the facts'
Facts (13-93)       - 'History of the hunt' (13-26)
                      'Endangerment' (27-40)
                      'Harvesting seal pups' (41-56)
                      'Clubbing is humane' (57-71)
                      'Regulations' (72-81)
                      'Economic value' (82-93)
Summary (94-101)    - 'Restatement of facts'
Warning (102-114)   - 'Think about the ramifications'
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Although less strongly marked than in the ACF text, again we can find an affectual climax in 68-71 where the CWF expresses its strong disapproval of the way in which the media has been 'naively manipulated' by the left antagonists.

These staging structures are not predictable from field, mode and tenor as defined above; thus the account given here deriving from this 'deeper' semiotic plane.

6.2 Genre and register

Logically, field, mode and tenor choices as outlined above can combine freely with each other. But every culture makes far more use of some combinations than others (and may even proscribe certain combinations through taboo or ideologically motivated gaps). So another descriptive responsibility of the genre plane is to interpret why field, mode and tenor choices in the ACF and CWF text combine as they do.

These choices are summarised globally below:

	ACF article	CWF article
Field:	people and things individuals and groups feelings, actions and states active, not passive	professions and things organisations actions and states active and passive
Mode:	many human Themes paratactic textual Themes simple Themes endophoric and exophoric reference some nominalisation (including attitude)	few human Themes mobile conjunctive textual Themes lexically denser Themes endophoric reference extensive nominalisation (excluding attitude)
Tenor:	limited MOOD interaction attitudinal expression rhetorical intensification little technicality	little MOOD interaction impersonal expression emphatic intensification exclusive technicality

Table 1: Summary of field, mode and tenor choices in two texts

There is no succinct way to sum up the interactive effect of these choices. But we would not be too far from the drift of the cumulative effect if we were to characterise the ACF text as emotive, alive and oriented to change while the CWF text is dense, ponderous and factual. The ACF choices evoke rebellion, the CWF choices stasis. And this is the kind of effect that one expects from hortatory exposition, which is trying to change the world, and analytical exposition which is trying to explain why the status quo is the way it is. The genre in other words is predictive of the combinations of field, mode and tenor choices we find. And we would expect these patterns to be repeated across a range of hortatory and analytical texts. This also gives us some insight into why right protagonists prefer analytical exposition, and left protagonists hortatory exposition — of which more in 7 below.

6.3 'Poetic' effects

The ACF text makes use of a number of literary devices, which will be noted in passing:

a. Alliteration: *trusting targets, killing kangaroos*
b. Metaphor: *our nationhood may be listed as endangered, grim harvest of wild death*
c. Poetry: quotes from Burns and Blake
d. Parallelism: *Our nationhood, our identity, our national pride and self-respect*
e. Rhetorical flourish: *And it is not a lesser thing ...*

The CWF text does not make use of literary foregrounding in this way. This reveals another way in which hortatory and analytical exposition differ in our culture: in hortatory exposition we can to a limited extent play with language, whereas in analytical exposition we do not. Persuading *to* evokes art, persuading *that* science and logic. This is yet another dimension around which right and left protagonists align.

7. Ideology

To this point we have attempted to account for a number of the systematic patterns of choices in the ACF and CWF by looking at register and genre. Our account is of course incomplete — we have not looked exhaustively at either the lexicogrammatical or discourse options taken up. But more importantly our account is incomplete because the register and genre variables as we have defined them cannot be used to interpret a number of significant patterns. At this point we have two choices; we can redefine our register variables so that we can net these patterns in (Kress 1985 for example makes use of just two contextual variables — genre and discourse to cover the range of patterns considered here); or we can propose a further level of semiosis to take care of left-over patterns.

For a number of reasons the second option will be developed here. These have mainly to do with the fact that we are as far as possible exploiting the metafunctional organisation of grammar (Halliday 1973; 1978) in developing our contextual model. If we want field, mode and tenor to hook up neatly with experiential, textual and interpersonal meaning respectively, then we have to set aside genre. And if we want genre to specify schematic structures, allowing field, mode and tenor values to change from one element to the next and to control the field, mode and tenor choice combinations a culture allows, then there is not really room left on that plane for ideological considerations to be taken into account.

This is not the place to argue in detail for this particular way of approaching context per se. What is more important is to specify the range of patterns that would be assigned to the level of ideology in a model which sets up register and genre in the way described to this point.

So, what then are the outstanding patterns as far as the ACF and CWF texts are concerned?

There are four topics to consider. First, why did the right protagonist choose analytical exposition and the left protagonist hortatory exposition in this debate? Second, why are the typical collocations associated with seals and kangaroos those noted in 5.1.1 — were these really predictable

from the field? Third, why do certain actions have a greater tendency to be nominalised than others — why does the abstraction focus on certain aspects of the field? And finally, fourth, why does each text contain references to the opposing protagonists and things they have said or written in the past? None of these patterns has been explained to this point. What are they doing there?

7.1 Access to genre

One of the things an ideology plane needs to explain is the fact that not everyone in our culture makes use of the same genres. To take one very obvious example, a significant percentage of adults in our culture can't read or write and so can't make use of any written genres. This is a terribly depowering state of affairs; this group of people has far fewer options open in life than those who can read or write. To take this further, even among the literate, the use of genres is not randomly distributed. As noted in 3.2 above antagonists and protagonists of the left and right tend to make use of different genres when stirring up or resolving an issue. The Australian Conservation Foundation didn't just happen to choose hortatory exposition; and the Canadian Wildlife Federation didn't just happen to choose analytical exposition. The hortatory genre is oriented to change, the analytical genre to stasis. Once the ideological stance of the organisations involved is accounted for, the choice of genre is predictable. The opposition profiles presented in 3.2 and the interpretation of the expository genres in 6.2 are a crude attempt to account for relations of this kind.

7.2 Field shift

Another problem that needs to be addressed is the extent to which the grammar and lexis of the ACF and CWF texts can actually be predicted from a theory of field. Certainly if we propose a general field of ecology and the environment for both texts, and the field of kangaroo culling for one and seal hunting for the other, a great deal of the lexical cohesion can be explained. But beyond this we find patterns that are not really predicted from these fields.

In the ACF text for example we find kangaroos associated with something closer to murder than culling:

the easy, trusting targets in the night spotlights
3 million other living creatures whose
  lives will be obliterated, often painfully
the imposed death of millions
when our prime wildlife is killed on this scale
the horrifying level of assault on our wildlife
take the price off the head of our national symbol

In several of these, kangaroos are grouped together with Australians: *other living creatures, our prime wildlife, our wildlife, our national symbol.* The effect is to as far as possible treat the kangaroo as just another Australian citizen, with the obvious implication that we don't go around killing our fellow citizens and shouldn't be killing kangaroos either.

The same technique is used in the CWF text, with the seals treated as a renewable resource:

> another resource, the seals
> the available resources — fish, seals and other species
> pup production
> projected pup production
> a harvest of 239,000 to 285,000 animals
> the East Coast seal hunt is a slaughtering operation
> seals are a national resource
> handling, storage and disposal of seal products
> the sale of skins
> the marketing of sealskins
> a good market for Canadian seal products

Here seals are treated like fish, like domesticated animals and perhaps even like wheat or some other crop given the *harvesting seals* collocation. The implication is of course that we all eat fish and beef and bread, and so needn't worry about another instance of this kind.

What we are really looking at here is a subliminal process of metaphor: *kangaroos are like people* and *seals are like fish/wheat/cows.* Expressed directly in a relational clause with a circumstance of comparison the equation sounds silly. But coded through the rest of the transitivity system and repeated throughout the texts it is quite effective. In effect each text is attempting to shift the field, away from something controversial such as kangaroo culling and seal hunting, and towards something clear cut such as murder and farming. What cannot be plausibly encoded as a clause is spread out and coded indirectly through the text. All exposition employs elaborate field shifting metaphors of this kind in interpreting phenomena in a convincing and persuasive way.

Patterns such as these are not really predictable from field or genre alone. Unless we understand the issue at stake and the roles adopted by different groups the extensive use of patterns of this kind in exposition and other genres will be unaccounted for.

7.3 Genre focus

Further patterning that needs to be acconted for has to do with the way in which the resources of the genre are marshalled to highlight particular aspects of the field. In exposition for example we expect a fairly abstract mode, characterised in part by highly nominalised text. And in hortatory exposition we expect some limited expression of affect. However, nominalisation and attitude are not randomly associated with field realisations in text. Earlier in 5.2.3 we saw the way in which the ACF text avoided static nominalisations when referring to the killing of kangaroos while the CWF text preferred static nominalisations when referring to the seal harvest. And in 5.3.1 we saw that the ACF text focussed its attitudinal realisations on the death of kangaroos, while what affect was realised in the CWF text was reserved for dealing with trustworthy or misleading information.

Again, this kind of interaction between field, mode and tenor choices is not predictable from the register variables themselves, nor from genre. As noted in 6.2 genre can be used to circumscribe the degree of abstraction and level of affect associated with exposition. But it does not specify just how in the text these options will be taken up. A model of ideology on the other hand can be used to predict these interactions.

7.4   Contratextuality

Finally, at a number of points both texts make it clear that they are part of an ecological debate. They do so in three ways: 1. by using scare quotes to mockingly reflect the terminolgy of the opposing protagonist; 2. by quoting lexicalised clauses and phrases associated with the opponent's discourse; and 3. by referring directly, usually employing negative affect, to the opposition.

The ACF text for example uses scare quotes to signal that·it is mocking the following opposition terminology: *'harvesting'*, *'harvests'*, *'quotas'*, *'management'*, and *'impacts'*. The CWF text italicises *baby, massacre, cruel* and *endangerment.*

Similarly, the ACF text lifts phrases from opposing protagonists' texts: *cost out our feelings* and *measures survival in species.* The CWF text does this by using questions raised in opposition texts as headings throughout the article: *Is the Harp Seal an Endangered Species?* or *Is the clubbing of seals humane?*

Finally, the ACF text refers directly in a rather derogatory fashion to the right protagonists in the Australian debate: *our rather smug government biologists* and *authorities with the world 'Wildlife' in their name.* Likewise the CWF text singles out *organisations publicly opposed to the seal hunt* and the media in *how the media can justify ....*

Without some theory of issues and ideological conflict this kind of explicit opposition between texts is not predicted.

7.5 Other factors

This short list of the descriptive responsibilities assigned to a level of ideology in the contextual theory developed here is by no means exhaustive. It simply lists those patterns which were not predictable from register or genre in the text considered here. Certainly there are other factors to take into account.

To take just one example, setting up a distinct level of ideology will help make register categories hook up more neatly with metafunctional clusters of choices in the grammar. Earlier we characterised tenor as influencing mainly interpersonal meaning. However one very common nonreciprocal realisation found in text where speakers of different status are involved has to do with agency. In male oriented heterosexual pornography for example (and in Mills and Boon romances for that matter) males take on a large number of agentive roles while females do not: men in other words act and act on others, while females either act or are acted upon. Put technically males are realised as Agent or Medium women as Medium only.

This is problematic if we want tenor to affect only interpersonal choices — agency is an experiential system. Given a level of ideology however we might argue that it is the realisation of power in sexist discourse that we are observing here, not simply the realisation of the tenor category status. This is of course ad hoc if it is the only reason for setting up ideology on a separate plane. But once motivated for other reasons, it can be used to clarify the register metafunction hookup assumed by the theory.

Work on ideology within the contextual model assumed here is just beginning (see Ponyton 1985a for an account of the latent ideology underlining gender in our culture) and it would not be wise to speculate further at this stage. Because of the 'pruning' approach to motivating an ideological level adopted in this paper (ie. see what language, register and genre can describe and the rest is ideology) we cannot even be sure that we are looking at one unified set of phenomena; but this is always a problem with the deepest level of abstraction in any formal model. Only further work on systematic semantic text variation will help clarify these questions.

8. Conclusions

In this paper it has been suggested that contextual models developing within the framework of Firthian linguistics will prove inadequate if they restrict themselves simply to a characterisation of register and

genre (however these variables are in fact organised; see Halliday and Hasan 1985 for an alternative to the register/genre characterisation assumed here). All texts, though this is easier to see when the ideology of a culture is being challenged, will exhibit patterns of choice which cannot be predicted from genre and register alone. This argument was developed with respect to two texts, written from opposing political positions in ecological debate.

Contextual models which are not based on a metafunctionally organised paradigmatic grammar will naturally look different to that proposed here. However in order to account fully for the social origin of text all models will have to offer some explanation for the patterns predictable from ideology in the model suggested here. So by way of closing it may be useful to formulate these descriptive responsibilities as a series of questions:

1.   Why do different groups and individuals make use of different registers and genres, instead of having access to the full range of meanings constituting the culture as a whole?

2.   How do speakers and writers turn problematic issues into resolvable ones? What is the role of extended textual metaphors such as 'kangaroos are Australians' in this process?

3.   Why do the realisations of certain contextual choices cluster together instead of being distributed randomly across a text? What lies behind interactions such as that between affect and kangaroo killing in the ACF text?

4.   Why do certain texts refer directly to other texts, borrowing terminology and lexicalised phrases and clauses in a way that has little to do with shared understandings as might be predicted by field but has more to do with unshared misunderstandings (ie. conflict).

Only models which address issues such as these will eventually arrive at a comprehensive analysis of the way in which people use language to live. Humans are political animals and fashion their texts accordingly.

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APPENDIX: THE COMPLETE TEXTS

habitat: a magazine of conservation and environment
vol. 11 June 1983

Editorial: Kangaroos — Is our National Conscience Extinct?

1   A fraction over ten seconds, every minute of this year, a kangaroo or wallaby will die, under quotas for the commercial 'harvesting' of kangaroos announced in January by the former Australian Government.

2   The kangaroo and wallaby kill quota for the year amounts to 3,143,000.

3   As this magazine goes to press, Commonwealth and New South Wales wildlife officers have been in America defending the soundness of Australia's kangaroo slaughter.

4   These officials have reportedly persuaded the Americans that the Red Kangaroo (1,379,000 to be killed in this year's quotas) and the Eastern Grey and Western Grey Kangaroos (1,296,000 listed for killing) are safe in terms of their status as species.

5   They are to be deleted from the list of threatened Species under the US Endangered Species Act of 1973.

6   A decision on the permanent lifting of the US import ban is scheduled for May.

7   The ban was lifted in May 1981 for a two-year trial period.

8   Many Australian conservationists are deeply concerned at what is happening to our kangaroos.

9   We agree with them.

10   The Australian Conservation Foundation is opposing the permanent lifting of the US import ban and, instead, is seeking its reinstatement.

11   The Foundation is worried about the commercial killing of the best known symbol of Australian wildlife and the export pressures which have built up to exploit these species during the latest severe drought.

12   It is seriously concerned at weaknesses in Australia's National Kangaroo Management Plan.

13   This magazine believes that killing more than 3 million kangaroos and wallabies a year is harmful - for kangaroo and man.

14   If it is allowed to continue on this scale, it will suggest that our sense of nationhood should be listed as endangered and our national conscience may already be extinct.

15   Let us try to define our conservation goals - but on two levels.

16   First comes the level of species survival on which our rather smug
      government biologists prefer to operate.
17   We seriously question what is happening under their approving
      eyes: The massive level of killing, the population distortions related
      to the favoured killing of bigger, heavier male kangaroos, the
      pathetic lack of supervisory staff.
18   The programme is unsatisfactory and questionable on a number of
      counts.
      Killing a Kangaroo Every Ten Seconds: Is Our National Conscience
      Extinct?
19   Secondly, let us turn to a deeper level: that web of life embracing
      the human species as well as the easy, trusting targets in the night
      spotlights.
20   We are talking here about 'deep ecology', about the ethics related to
      all wild creatures.
21   We don't feel the need to apologise for looking beyond the figures on
      'harvests', 'quotas' and 'management' to think for a moment about
      3 million other living creatures whose lives will be obliterated,
      often painfully, this year.
22   We are in good company,
23   In November 1785, the great poet with the human touch, Robert
      Burns, wrote a famous poem 'To a Mouse' .. on turning up her nest
      with the plough ..
24   *'I'm truly sorry man's dominion*
      Has broken Nature's social union,
      An' justifies that ill opinion
      Which makes thee startle
      At me, thy poor, earth-born companion
      An' fellow mortal!' Burns wrote
25   *'But Mousie, thou art no thy lane* (alone)
      In proving foresight may be vain;
      The best-laid schemes o' mice an' men
      Gang aft agley (askew)
      An' lae'e us nought but grief an' pain
      For promis'd joy!'
26   What men and women would we be if we did not care for the lives
      and sufferings of our fellow creatures.
27   *'A dog starved at his master's gate*
      Predicts the ruin of the state.' wrote the English 'seer' William
      Blake.
28   *'The wild deer wandering here and there*
      Keep the human soul from care ..'
29   We may not be able to cost out our feeling for our fellow-creatures

or the value we place on their wildness and freedom in statistics or export dollars.

30 But we have it.

31 And it is not a lesser thing than aerial population counts or skin prices or that narrower view than measures survival in species and ignores the imposed death of millions.

32   *'For the tear is an intellectual thing',* Blake wrote.

33   *'And a sigh is the sword of an Angel King. . '*

34   So it's still relevant to conservation when we consider:

35 What will killing 3 million kangaroos a year do for us as human beings?

36 What sort of Australians can shrug off that kind of brutality?

37 And what are the implications for the rest of nature, for the bush, for the land, for other animals, for our fellow human beings, when our prime wildlife is killed on this scale?

38 In the end we are talking about our own perception of ourselves as Australians.

39 Our nationhood, our identity, our national pride and self respect.

40 Our humanity.

41   The Victorian Labor government recently set an example to the rest of Australia when the State Minister for Conservation, Mr Walker, announced an end to the commercial killing of kangaroos, effective from the end of 1982.

42 Killing of kangaroos will only be permitted for containing damage to crops.

43   The Australian Conservation Foundation has been heartened by an early indication of support by the new Commonwealth Government Minister, Mr Cohen, for a national inquiry on kangaroos.

44 We hope Mr Hawke's Government will set up such an inquiry with wide terms to include the ethical and social as well as the conservation questions which are involved.

45 But there ought to be a moratorium on the export of kangaroo products and severe limits on killing kangaroos including a removal of commercial incentives, while such an inquiry proceeds.

46   Even on a narrow definition of goals, the National Kangaroo Management Programme (in which the Commonwealth and States, except Victoria, participate) is not going too well.

47 In its submission to the US Government, the Australian National Parks and Wildlife Service reported a 1981 populaton estimate of 1,000,000 Red Kangaroos in Western Australia ... 'the population was at its lowest for some considerable time.'

48 The population has been estimated to reach an upper limit of 3,000,000.

49 Yet 140,000 Red Kangaroos are in the WA quota this year.

50 The Australian Conservation Foundation is critical of the management program on several counts.

51 ACF accepts the killing of kangaroos only in circumstances of proven conflict with agriculture, where no other solution is possible.

52 The Foundation believes that the large export markets, such as that of the US, pose a serious threat to the maintenance of kangaroo populations over their natural range.

53 ACF believes that an established kangaroo export industry would lead to pressure for a high and probably increasing level of killing which could continue even during drought periods when kangaroo populations are decreasing.

54 For any effective wildlife management program, it is essential that there be adequate monitoring of age and sex ratios of populations.

55 Monitoring of population size alone is inadequate if long-term deleterious effects are to be prevented.

56 Yet there is currently no geographically comprehensive program for the monitoring of age and sex ratios of kangaroo populations.

57 It seems reasonable to assume that shooters favouring the larger, male kangaroos, which are also easier targets, may actually be increasing populations in some areas where they have been called in to reduce competition with farming, by leaving a higher proportion of females in the remaining populations.

58 Australians feel concern for the farming community, although it has to be recognised that selfish elements of that community have been responsible for ravaging the land by over-clearing, over-grazing, causing generations of erosion and salting on arid and marginal lands and have been hostile to wildlife whose 'impacts' have often been based on myth.

59 CSIRO studies, for instance, have shown that kangaroos have a largely different diet to sheep and are not major competitors, except in drought.

60 Australians do not want to cultivate the 'Goodbye Joey' image of brutishness abroad.

61 They do not want to threaten the future of their export meat trade for the sake of a marginal trade in kangaroo carcases, killed in patently unhygenic conditions, or risk another meat substitution racket.

62 There is now a strong body of opinion in Australia which opposes kangaroo killing generally on principle and for ethical reasons.

63 Whether or not we accept that point of view, we should take stock of

the horrifying level of assault on our wildlife.

64 It is estimated that perhaps one more kangaroo is being killed every ten seconds illegally, as well as the one legally killed.

65   Authorities with the world 'Wildlife' in their name are presiding over a grim harvest of wild-death.

66 It will be an index of our civilisation when we stop the killing on such a scale, take a price off the head of our national symbol and fund thorough programmes to conserve our wildlife.

67 An inquiry would be a start.

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Wildlife Report: The Canadian Scene: a special section on late-breaking conservation news

The Northwest Atlantic Sealing Controversy

1   In recent months the controversy over the East Coast seal hunt has progressed to the point where several European countries have instituted a virtual ban on Canadian Seal products.

2 As this report is being prepared, we are uncertain whether the 1983 spring hunt will go forward or not.

3 The Canadian Government has stated that it will, and efforts are now being made to find alternative markets for sealskins.

4   The Canadian Wildlife Federation is quite aware that most of the opposition to the seal hunt is based on emotions, rather than on scientific facts.

5 Information circulated by organisatons, publicly opposed to the seal hunt, tends to be phrased in a manner designed to secure an emotional response.

6 Use of the terms *baby* seal, *massacre, cruel,* and statements alluding to *endangerment* are examples of this approach, usually accompanied by a request for money.

7   There is probably no single issue which has generated more mail, over a long period of time, than the seal hunt, with the possible exception of acid rain.

8 As a consequence, CWF has monitored the Northwest Atlantic seal issue closely, and has provided information to members in response to their requests.

9 However, we have now concluded it is appropriate to provide that information to all members via Wildlife Report.

10 Based on the information which CWF has obtained, members will be in a position to determine what the *facts* are and how they personally wish to respond.

11   To address the issue, it is useful to take each contention in turn, examine the facts, and let each individual judge the merits of the controversy.

12 It is also appropriate the examine the background of both the *hunt* and the *people* involved.

Why is there a Seal Hunt?

13   Sealing is a traditional, seasonal occupation, engaged in by the residents of small communities scattered around the rugged coastline of Newfoundland, Labrador and the Quebec North Shore.

14 Its origin goes back to the 16th century, when European settlers established their homes where safe anchorage provided ready access to marine resources.

15 Various resources are available on a seasonal basis, lobster in spring, salmon in summer, cod and groundfish in late summer and fall.

15   Vast ice floes made it impossible to fish with nets in the winter and early spring, but these conditions brought another resource, *the seals* within the reach of these northern communities.

17 Thus sealing became an integral part of the traditional, seasonal harvest of marine resources, a vital element in the economic and cultural life of the coastal communities.

18 The income derived from harvesting each of the available resources —fish, seals and other species — remains crucial to the livelihood of Canada's East Coast fishermen and the continued survival of their communities.

19   In a given year, close to 9,000 fishermen may be licensed to harvest seals.

20 They are the residents of small communities scattered over thousands of kilometers of indented coastline along the shore of Newfoundland, Labrador, the Magdalen Islands, the Quebec north shore and occasionally other areas of the Gulf of St. Lawrence.

21 However, not all of these fishermen will actually engage in the seal hunt, because the seal herds may not come close to shore in some areas.

22   The major harvest of seals comes from the *Front* herds on ice floes northeast of Newfoundland, and the *Gulf* herds near the Magdalen Islands, and are taken by large vessels.

23 Nine large Canadian vessels participated in the hunt in 1981, and accommodated 211 sealers selected from many times that number of applicants.

24   There were 759 sealers on smaller vessels and approximately 4,300 landsmen who operate from small boats or on foot.

25   The majority of Canadian sealers are between 25 and 44 years of age, have lived an average of 34 years in the same community, 74% are married and support 2.9 dependents.

26   The seal hunt is a vital part of their livelihood.

Is the Harp Seal an Endangered Species?

27   The answer is *definitely no;* it is the world's third most abundant seal species numbering more than three and one quarter million animals.

28   The largest population of this species occurs in the Northwest Atlantic and appears off Canada's East Coast each winter.

29   The other two populations of Harp Seals occur in the White Sea and to the north and west of Norway.

30   The Northwest Atlantic population continues to increase under a management regime established by Canada and is currently estimated to exceed two million animals aged one year and over.

31   Harvest quotas, and management regulations, are designed to secure a gradual increase in this population.

32   Extensive biological sampling of the Northwest Atlantic Harp Seal population provides detailed information on animal growth, birth of young and natural mortality.

33   Records of animal harvests and hunting effort are maintained.

34   Incorporating this information, scientists have used various methods, such as cohort, survival index, catch and effort, tag/-recapture analysis, and complex mathematical modelling, to assess the size of the population.

35   Aerial ultra-violet photographic techniques produced an estimate of pups born in the front area within three per cent of the catch and effort analysis.

36   The Northwest Atlantic Fisheries Organization (NAFO) provides the forum for international scientific review of data on seal populations.

37   The Scientific Council of NAFO, after a review of evidence and data, concluded that the pup production in 1978, 1979 and 1980 had been higher than previous estimates indicated.

38   Projected pup production in 1981 was close to 500,000.

39   These data indicated that a harvest of 239,000 to 285,000 animals could be taken in 1982 without reducing the seal population aged one year or more.

40   However, the 1982 quota was held to 186,000 animals in keeping with the objective of a planned gradual increase in the population.

Why are only seal pups taken?

41   This seems to be a popular misconception.

42   In fact, animals of all ages are taken, however, most of the seals taken are young animals.

43   Large vessels, operating off the Front and Gulf, take primarily whitecoats, since these are concentrated, hence more easily harvested in a humane and closely regulated manner, and have a high value for their pelts, fat and meat.

44   One of the common misconceptions, associated with the killing of seal pups, is the claim that Harp Seal dams bereave the loss of their offspring, as do dogs or domestic cattle.

45   In fact most of the females have already weaned their pups by the commencement date of the hunt and, with few exceptions, those that have not done so leave upon the approach of the sealers, and do not return to the whelping site.

46   Veterinary and scientific observers have concluded that dam-pup relationships are predominantly hormonal in nature and cease rapidly with either the weaning or loss of pup.

47   In all cases, the females abandon their pups on the ice floes, during or shortly after the hunting period, regardless of whether they are disturbed by sealers during the hunt.

48   The productivity of any population of wild animals is influenced more by adults of breeding age than by the young or sub-adults, which sustain a high rate of natural mortality.

49   As a conservation measure, it is preferable to concentrate hunting on the younger segment of the population, rather than on the breeding stock.

50 This constitutes a salvage measure, since most of the animals taken would be destined to perish in any event before they reached maturity.

51   Canada's Seal Protection Regulations prohibit the killing of adult females in the whelping season.

52   The Harp Seal hunt is one of the few instances where it is possible to utilize the overabundance of offspring typical of most marine species.

53   Although regulations stipulate that not more than six per cent of the seals taken by large vessels can be animals aged one year and older, small vessels and the landsmen's take include a higher percentage of older animals.

54   In addition, about 11,000 older animals are taken in the Arctic and Northern Labrador by native people.

55   Norway was allotted a quota of 24,000 Harp Seals from the Front, which was included in the total allowable catch of 186,000, plus a quota of 6,000 Hooded Seals in 1982.

56   The balance of the harvest was taken by Canadian sealers.

Is the clubbing of seals humane?

57   The answer to that question is unequivocally **Yes.**

58   Observers from humane organisations and veterinary pathologists visit the Canadian sealing operation each year, to observe killing techniques and perform autopsies on seals.

59   Their reports are available to the public and indicate that the whitecoat harvest, which has attracted so much publicity, is conducted in a humane manner.

60   There is no aesthetically pleasant way to kill an animal, and it may be particularly unpleasant for those who have never seen the slaughter of animals.

61   However, it is necessary to recognise that the East Coast seal hunt is a slaughtering operation, and there is no way that it can be made a pretty sight.

62   It is however, neither cruel nor a massacre.

63   Statements to that effect are false and misleading, designed to generate an emotional response to an otherwise normal operation.

64   Killing methods, employed by Canadian sealers, are designed to cause an almost instantaneous death, and have been approved by the Canadian Federation of Humane Societies and the Canadian Council on Animal Care.

65   The definition of a humane death is one **where the animal is instantly and irreversibly rendered unconscious resulting in a rapid death, with an absolute minimum of pain or psychological stress.**

66   Methods employed in the seal hunt meet this criteria, and are used by Canada, the U.S.A., the U.S.S.R. and other countries.

67   The method is considered to be as good as, or superior to, those employed in the slaughter of domestic animals in North America and Europe.

68   There is little doubt that television coverage of a domestic slaughtering operation, conducted in a government approved abattoir, which involved the slaughter of lambs, calves and swine, would generate a great deal of public revulsion and protest.

69   Yet the television media have persisted in presenting the seal slaughtering operation as a sensational news item, without considering the usual moral constraints that would apply to the coverage of such an event.

70   It is necessary to question how the media can justify the application of this double standard.

71   Is this because seals are a national resource, or has the media been naively manipulated by opponents of the seal hunt?

How is the seal hunt regulated?

72   The Harp and Hooded seal harvest in Canadian waters is controlled by comprehensive Seal Protection regulations made under the fisheries Act of Canada.

73   These regulations cover quotas, killing methods, issuance of licenses, observer permits, hunting seasons and reserved areas.

74   Each large vessel carries at least one fishery officer on board, and other fishery officers maintain close surveillance on coastal sealing operations to ensure that quotas are observed and that regulations are enforced.

75   All sealers must obtain a license which, starting in 1982, are issued only to those who held valid sealing licenses in two of the preceeding five years.

76   This is intended to limit the seal hunt to experienced, responsible sealers.

77   Regulations governing the ratio and conduct of novice sealers are expected to be in place for the 1983 hunt.

78   Fishery officers have the authority to suspend the license of any sealer, and remove him from the ice, if he has reason to believe that any regulation has been violated.

79   The Government of Canada has become increasingly involved in training and instructing sealers, and others involved in sealing, to ensure that a high standard of conduct is maintained.

80   Topics include, safety on the ice, proper equipment and its care, interpretations of regulations, humane sealing procedures, techniques for production of high quality products, and proper handling, storage and disposal of seal products.

81   This program is designed to ensure that sealing regulations are properly understood and observed, to provide and upgrade the sealer's knowledge and skills, to ensure humane treatment of animals, and to produce products of the highest quality and value.

What is the economic value of the seal hunt?

82   Estimates for the 1981 season established the value added to the Atlantic economy at 12.8 million; of which 7.0 million went to the primary or harvesting sector and 5.8 million to the secondary or processing sector.

83   While this is a relatively small part of the total income of the participating provinces, it is inordinately important to the communities and individuals engaged in the seal hunt.

84   For example, the fishing industry in Atlantic Canada comprises only 0.66 percent of the gross national product (GNP), yet it generates employment and income for over 65,000 fishermen and processing plant workers.

85   Sealing, as a component of that industry, provides seasonal employment for about 6,000 of these fishermen.

86   In 1982, 211 crew-men from the nine large Canadian sealing vessels earned over 4,000 each in less than four weeks.

87   For many it represents about one third of their annual income.

88   759 crew-men on small boats, and 4,300 landsmen earned incomes of 2,763 and 711 respectively.

89   In addition to seals taken on the Atlantic coast, an additional 45,000 to 60,000 Ring and Bearded Seals are taken by Inuit hunters in the Arctic, and by Indians of Hudsons and James Bay and the North Shore of the St. Lawrence.

90   The seal harvest taken by native people represents an important part of their livelihood; from the income generated by the sale of the skins and the irreplaceable contribution that seal meat, fat and skins makes to their diet and lifestyle.

91   The value of the sealskins to native people varies from year to year, but represents over half a million dollars in such incomes.

92   Although the sealskins taken by them are not directly related to the Harp Seal controversy, any attempt to interfere in the marketing of sealskins has a direct impact on the prices that Arctic sealskins fetch on the open market.

93   Thus the economic implications, arising from opposition to the Northwest Atlantic seal hunt, extend far beyond the immediate issues.
     Summary:

94   Based on the facts, certain conclusions may be drawn in reference to the seal hunting issue.

96   A.   The management regime established by the Canadian Government is achieving the objectives established for the program; this is to achieve a gradual but certain increase in the Harp Seal population which falls within the jurisdiction of the Government of Canada.

96   B.   The regulations established to control the conduct and level of the seal harvest, respond to the needs of the Harp Seal population and are being effectively applied.

97   C.   The Harp Seal population is not endangered and is in fact expanding faster than originally estimated.

98   D.   The killing methods employed in the hunt are now as humane as they can be and it will be extremely difficult to improve upon the present techniques.

99   E.   The harvest of whitecoats, or young seals, is the most efficient means to secure effective use of the resource without jeopardizing the productivity of the seal herd.

100 F.   The economic contribution to the regional economy of the coastal communities for outweights its national significance, and there is no available alternative.

101 G.   Apart from the Harp Seal issue, the livelihood of many communities in the Arctic and elsewhere, is heavily dependent on the maintenance of a good market for Canadian sealskin products.

102   In considering the east Coast seal hunt, it is necessary to acknowledge the implications inherent in terminating the hunt, as now proposed.

103 Current projections indicate that, at present quota levels, the Northwest Atlantic Harp Seal populations will exceed 3 million animals by 1991.

104 Termination of the hunt would substantially accelerate this population growth.

105 Can we afford to abandon Canada's seal management program?

106   When the Harp Seal population was at higher levels in the 1950's, scientists observed a high incidence of fighting wounds and poor condition in moulting males.

107 Heavy parasite infestations were also noted, typical of overcrowded populations, which contribute to sub-optimal conditions in seals of all ages.

108 Expanded populations will lead to a recurrence of these conditions and a corresponding increase in natural mortality in juvenile animals.

109   Harp Seals are estimated to consume 1.5 metric tons of food per animal annually.

110 At current population levels, the Harp Seal population now consumes more food annually than the total Canadian fish catch.

111 In fact their consumption roughly equals the catch of all fish species taken by all countries in the Northwest Atlantic.

112 Uncontrolled expansion of the seal population can be expected to seriously curtail the supply of fish available to all countries now fishing the region, and will have serious economic implications for Canada's East Coast fishing industry.

113 Therefore, careful consideration must be given to the long term implications of terminating Canada's East Coast seal hunt.

114   Further and more detailed information about the Northwest Atlantic Harp Seal population, and the socio-economic ramifications of the annual East Coast seal hunt, can be obtained from the Dept. of Fisheries and Oceans, Ottawa, Ont. K1A OE6.