6. Waves of abstraction: Organizing exposition

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Abstract
Students are often told to "tell readers what you are going to say; say it; and tell them what you have said." This paper will look at what this advice actually means in linguistic terms, both with respect to organizing information and in terms of the abstract language needed to construct organization of this kind. I will make use of a number of re-worked versions of a student text to illustrate my points, with referenced to Halliday's notions of theme, new and grammatical metaphor.

Once upon a time... when I was still in school in Canada, one of my teachers suggested that in exposition it was important to tell people what you're going to say, say it, and then tell them what you've said. Alongside a little traditional grammar, this was about all that was left of a once rich tradition of teaching in grammar and rhetoric - which the western world inherited from the ancient Greeks. As far as teaching writing is concerned, I doubt that even these impoverished relics of this tradition remain in many Commonwealth schools. But the textual organization they attempted to prescribe is still with us. Here for example is a piece of geography writing from an Australian secondary school (the student is in Year 10, and so about 15 years old).

Why animals are extinct
Man has been making animals rare and even extinct for thousands of years, and one of the main ways man has achieved this is by the destruction of their habitat. The destruction of a habitat means that the vital balance between an animal and its environment is disturbed. In ancient times the destruction of habitat and the extinction of animals was quite small. Since then it has rapidly increased. People began to make more use of machines and industrialisation occurred bringing with it changes which would destroy the face of the earth's environment forever. As the demands grew, wood and later coal supplied the
resources needed, this in turn resulted in the destruction of forests and habitats. At the same time that industrialisation was taking place humans were settling in new parts of the world. Whenever they settled, nests were cut down and farms established. This destroyed the habitat of many animals.

The effects of industrialisation and the need of more land due to the growth of population seriously affected wildlife and still is today already half the world's tropical rainforests have already been destroyed or irreversibly damaged. This reckless ravaging of some of the most amazing habitats on earth means that by the year 2000 the destruction will be complete and the world will be without these areas.

This brief account of ecological disaster is part of a larger text - a geography report on rainforests (including several other texts of a similar size and various images). In broad outline, text 1 follows the rhetorical scaffolding rehearsed above: an account of the destruction is proposed, the account is rendered, and then it is summarized and its significance evaluated.

tell them what you're going to say -
Man has been making animals rare and even extinct for thousands of years, and one of the main ways man has achieved this is by the destruction of their habitat. The destruction of a habitat means that the vital balance between an animal and its environment is disturbed.

say it -
In ancient times the destruction of habitat and the extinction of animals was quite small. Since then it has rapidly increased. People began to make more use of machines and industrialisation occurred bringing with it changes which would destroy the face of the earth's environment forever. As the demands grew wood and later coal, supplied the resources needed, this in turn resulted in the destruction of forests and habitats. At the same time that industrialisation was taking place humans were settling in new parts of the world. Whenever they settled, nests were cut down and farms established. This destroyed the habitat of many animals.
and then tell them what you've said -

The effects of industrialisation and the need of more land due to the growth of population seriously affected wildlife and still is today already half the world's tropical rainforests have already been destroyed or irreversibly damaged. This reckless ravaging of some of the most amazing habitats on earth means that by the year 2000 the destruction will be complete and the world will be without these areas.

So in some respects, the advice I received still looks worthwhile. But advice is often easier to give than to practice. How did the writer of text 1 achieve the organization under focus here?

Analysis

Here we will explore this from the point of view of a contemporary theory of text organization, developed by systemic functional linguistics. Part of this theory is concerned with information flow - the way in which information is packaged into clauses, paragraphs and texts as a whole. Halliday (1985/1994) considers the beginning of the English clause to be especially important in this respect, since it encodes the writer's point of departure for the clause in such a way as to relate it to the rest of the text. Consider the 'say it' section of text 1 (with clause Themes underlined, following the principles proposed in Fries 1981/1983):

In ancient times the destruction of habitat and the extinction of animals was quite small. Since then it has rapidly increased. People began to make more use of machines and industrialisation occurred bringing with it changes which would destroy the face of the earth's environment forever. As the demands grew wood and later coal, supplied the resources needed, this in turn resulted in the destruction of forests and habitats. At the same time that industrialisation was taking place humans were settling in new parts of the world. Whenever they settled, nests were cut down and farms established. This destroyed the habitat of many animals.
As can be seen, the main function of the Themes (6 out of 9) in this 'say it' stage of the text is to scaffold the unfolding narrative of ecological destruction - organizing it with respect to location in time. And this 'method of development' was predicted by the 'tell them what you're going to say' section, which announced the text's historical orientation.²

Man has been making animals rare and even extinct for thousands of years
[predicting]
   In ancient times
   Since then
   As the demands grew
   this in turn
   At the same time that industrialisation was taking place
   Whenever they settled.

Subsequently, in the 'tell them what you've said' section, the point of this history of ecological disaster is summarized (industrialisation and the need of more land due to the growth of population...) and evaluated (this reckless ravaging of some of the most amazing habitats on earth...). Clearly, the rhetorical sandwich outlined above is alive and well in the writing of the more successful of Australia's secondary school apprentice geographers.

The following takes a closer look at the way in which this sandwich was constructed, beginning with the 'say it' stage. One important feature to note is that as the history unfolds, Themes pick up the point of preceding clauses. Thus the Theme and industrialisation condenses 'people making more use of machines':

People began to make more use of machines
and industrialisation occurred bringing with it changes which would destroy the face of the earth's environment forever.

The Theme as the demands grew packages the implications of 'changes which would destroy the earth's environment forever':

People began to make more use of machines
and industrialisation occurred bringing with it changes which would
destroy the face of the earth's environment forever.

As the demands grew wood and later coal, supplied the resources needed, this in turn resulted in the destruction of forests and habitats.

And the Theme at the same time that industrialisation was taking place consolidates the point of the three preceding clauses, in order to shift the focus of the text from industrialisation to population growth and the need for more land for settlement:

People began to make more use of machines and industrialisation occurred bringing with it changes which would destroy the face of the earth's environment forever.

As the demands grew wood and later coal, supplied the resources needed, this in turn resulted in the destruction of forests and habitats. At the same time that industrialisation was taking place humans were settling in new parts of the world.

Significantly, setting up Themes which pick up the point of previous clauses as points of departure for succeeding ones depends on a packaging strategy known as nominalization. Grammatically, words like industrialisation and demands are nouns, and thus natural candidates for English Theme; semantically on the other hand, these words are processes - processes dressed up as things, but processes all the same.

In the 'tell them what you've said' section of text 1, the pressure to consolidate is even greater, since the point of several clauses has to be summarized and evaluated. The grammar responds to this pressure by drawing even more heavily on nominalization as a packaging device. Consider the Themes of the first and third clauses of the text's final stage:

The effects of industrialisation and the need of more land due to the growth of population seriously affected wildlife and still is today...

This reckless ravaging of some of the most amazing habitats on earth means that by the year 2000 the destruction will be complete and the world will be without these areas.
In the Theme of the first clause, 4 nominalizations (*effects, industrialization, need,* and *growth*) are strung together in a single nominal group (a super-nominalization). And beyond this, the same nominal group encodes two logical connections as well (the noun *effects,* and the preposition *due to*) - which might have been realized through conjunctions rather than nouns. These alternative connections are outlined below:

**[The effects of industrialization]**
people began to use more machines (i.e. to *industrialize*)
and *so* they cut down trees and dug up coal to run them,
and *thus* destroyed the earth’s environment…

**[and the need of more land due to the growth of population]**
and population *grew*
and *so* people *needed* more land

Just as important as the use of nominalization to thematize a summary of the text’s narrative is its use to thematize and evaluate what went on. The writer of text 1 evaluates the destruction of habitat as ‘reckless ravaging’ - a negative assessment which nevertheless implies that by being more careful, we might have, or might still be able to make amends. Alternatively, the destruction might have been evaluated as arising from bad luck (*tragic*), stupidity (*senseless*), dishonesty (*deceptive*) or greed (*avaricious*) - as outlined below.

**[normality]** This *tragic* ravaging of some of the most amazing habitats on earth

**[capacity]** This *senseless* ravaging of some of the most amazing habitats on earth

**[tenacity]** This *reckless* ravaging of some of the most amazing habitats on earth

**[veracity]** This *deceptive* ravaging of some of the most amazing habitats on earth

**[integrity]** This *avaricious* ravaging of some of the most amazing habitats on earth

Critically, the main resources for evaluations of this kind in English are nominal
ones, and so whatever is being evaluated is best nominalized to be interpreted. Consider, for example, the following ‘de-nominalized’ version of text’s 1’s final section and the problem of succinctly incorporating the ‘reckless ravaging’ evaluation in it:

People began to work in factories and there were more people all the time, and so wild animals suffered and still are suffering today. Already half the world’s tropical rainforests have already been destroyed or irreversibly damaged. If we keep going at this rate by the year 2000 we will have destroyed all our tropical rainforests.

Grammatical Metaphor
Halliday (e.g. 1985/1994) offers a general theory of the phenomenon of nominalization, which he refers to as grammatical metaphor. Basically, his idea is that meanings and the ways we word them have unmarked correlations which evolved first in our culture, which we develop first as children, and which tend to unfold first in texts. Some of the most important of these unmarked correlations are as follows:

- nouns encode participants (people, places, things...)
- verbs encode processes (actions, thoughts, feelings...)
- adjectives encode qualities (size, shape, colour...)
- conjunctions encode logical relations (time, cause, contrast...)

But as we have seen in text 1, meanings and their wordings do not always correlate in this way. Here’s a short checklist of some of the ways in which meanings can be moved around:

a. ‘quality’ as noun (instead of adjective)
   ‘unstable’ as instability

b. ‘process’ as noun (instead of verb)
   ‘transform’ to transformation [event]
   ‘will/be going to’ to prospect [tense]
   ‘try to’ to attempt [phase]
   ‘can/could’ to possibility/potential [modality]
c. **'logical relation' as noun** (instead of conjunction)
   - 'so' to cause/proof
   - 'if' to condition

d. **'logical relation' as verb** (instead of conjunction)
   - 'then' to follow
   - 'so' to cause
   - 'and' to complement

e. **'logical relation' as preposition** (instead of conjunction)
   - 'so' to because of/in light of
   - 'if' to in the event of

Halliday interprets these marked codings as metaphors because they have to be read on two levels - literally in terms of the actual grammatical class of the item under question, and figuratively in terms of the 'underlying' meaning that is being encoded. This means that in order to fully understand a nominal group like **the need for more land due to the growth of population**, we have to interpret **need** as a noun linked to the noun **growth** by the preposition **due to**, and in addition interpret **need** as a process which is causally related to the process behind **growth**. So when we unpacked **the need for more land due to the growth of population grew and so people needed more land above**, we were focussing attention on these two levels of interpretation.

Most of us find the de-nominalised version easier to understand. It is simpler in the sense that its meaning and wording match - nouns encode participants, verbs encode processes and conjunctions encode logical relations. This is the way young children talk, especially before puberty, and the way people in general chat with their friends, in casual conversation. But it is not the way educated people write exposition, where information is packaged differently. Powerful written language in our culture usually involves a great deal of grammatical metaphor - and one reason for this is that it makes it easier to construct the rhetorical sandwiches illustrated above and to evaluate the significance of their fillings.4

**Synthesis**
What can we do with this, if we want to teach writing, instead of standing back and hoping grammatical metaphor and the organization and evaluation it facilitates will
just happen? We will pursue this problem with respect to another text, which does not in fact display the features we focussed on in text 1. The text was written in another Year 10 geography class in another secondary school in Sydney. The text is very typical of those composed by students from migrant backgrounds, only a minority of whom will move on from Year 10 to senior secondary school and university. The student in question is writing in response to the question “Are Governments necessary? Give reasons for your answer.”

2. (Original ‘spoken English’ version; ‘writing as you speak’)

I think Governments are necessary because if there wasn’t any there would be no law people would be killing themselves. They help keep our economic system in order for certain things.

If there wasn’t no Federal Government there wouldn’t have been no one to fix up any problems that would have occurred in the community. Same with the State Government if the SG didn’t exist there would have been no one to look after the school, vandalism fighting would have occurred everyday. The local Government would be important to look after the rubbish because everyone would have diseases.

Writing of this kind can be embarrassing for students, and a real worry for their teachers, who may however be hard-pressed to evaluate its shortcomings and show their students how to do better. In Australia, few teachers have been trained to do more than point to errors in what is commonly referred to as ‘grammar, punctuation, and usage.’ The features of the spoken language that can be identified in this way are easy to ‘correct’; this has been carried out for 2' below. Editing of this kind makes the text more presentable; but it does not really improve it as a piece of humanities discourse. It changes the text’s status, but not its functionality.

2'. (‘Written English’ version; revising ‘grammar, punctuation & usage’)

I think Governments are necessary because if there weren’t any there wouldn’t be any law: people would be killing themselves. They help keep our economic system in order for certain things.
If there wasn’t any Federal Government there wouldn’t be anyone to fix up any problems that occur in the community. It’s the same with the State Government - if the State Government didn’t exist there wouldn’t be anyone to look after the schools; vandalism and fighting would occur everyday. The local Government is important to look after rubbish, because otherwise everyone would have diseases.

The reason that editing of this kind falls short of the mark is that it does not affect the text’s organization. Effective writing is not just a question of good manners - etiquette is not enough. Consider the clause Themes in 2:

a. 2'. ('Written English' version; with Theme analysis)

I think Governments are necessary
because if there weren’t any there wouldn’t be any law; people would be killing themselves.
They help keep our economic system in order for certain things.

If there wasn’t any Federal Government there wouldn’t be anyone to fix up any problems that occur in the community.
It’s the same with the State Government -
if the State Government didn’t exist there wouldn’t be anyone to look after the schools; vandalism and fighting would occur everyday.
The local Government is important to look after rubbish,
because otherwise everyone would have diseases.

The pattern of Themes displayed here is more like that of spoken than written language - there are 3 pronominal Themes (I, it, they), and 3 dependent clauses (if there weren’t any, if there wasn’t any Federal Government, if the State Government didn’t exist). Out of the 8 Themes, 5 refer to government. There is no nominalization. 5

I
because if there weren’t any (Governments)
They (Governments)

If there wasn’t any Federal Government
This kind of thematic development might have been more appropriate if the teacher had asked for a description of Government, rather than an argument about why governments are necessary. The argument really hinges on the 3 dependent clause Themes, all negative existential conditional clauses which set up a 'no government' scenario with dire consequences. In 2', this rhetorical manoeuvre is not predicted (as it might have been had the student begun Imagine what would happen if we had no government!)

One way of working towards a more ‘written’ version of text 2 is to revise its choices for Theme, making use of different levels of government to organize the argument. Note that this kind of change can be made without affecting the text’s content:

b. 2". (Re-organized version; highlighting Theme)

Governments are necessary at different levels for a number of reasons.
They make laws, without which people would be killing themselves, and help keep our economic system in order.

The Federal Government fixes up problems that occur in the community.

The State Government looks after schools, preventing vandalism and fighting.

The Local Government is important to look after rubbish: otherwise everyone would have diseases.

Governments at several administrative levels are necessary.

Alongside a change of this kind, it is important to scaffold the logic of the argument.
To achieve this in 2", we have made use of some grammatical metaphor to predict and sum up \textit{(a number of reasons, as a result of these factors)}.

2" \textit{(Re-organized version; highlighting conjunction)}

Governments are necessary at different levels for a \textbf{number of reasons}.
They make laws, without which people would be killing themselves, and help keep our economic system in order.

\textbf{To begin}, the Federal Government fixes up problems that occur in the community.

\textbf{Similarly}, the State Government looks after schools, preventing vandalism and fighting.

\textbf{Finally} the Local Government is important to look after rubbish: otherwise everyone would have diseases.

\textbf{As a result of these factors}, Governments at several administrative levels are necessary.

As a next step we might consider expanding the first and last sections of the argument so that they predict and sum up more effectively. This involves predicting the organization of the arguments according to levels of government in the 'tell them what you're going to say' section, and summing up the responsibilities of the different levels of government in the 'tell them what you've said' section - as in 2" below. The nominalizations enabling the prediction and summary are in bold face.

\textit{c. 2"}. \textit{(tell them what you're going to say, say it, tell them what you've said)}

I think Governments are \textbf{necessary} for a number of \textbf{reasons}. These have to do with the special \textbf{responsibilities} of Governments at different \textbf{administrative} levels - Federal, State and Local.
To begin the Federal Government fixes up problems that occur in the community...

Similarly the State Government looks after schools; this prevents vandalism and fighting...

Finally the Local Government is important to look after rubbish: otherwise everyone would have diseases...

As a result of their concern with general difficulties, schooling and waste disposal, Governments at several levels of administrative organization are necessary.

Next, we might want to develop the arguments for the Federal, State and Local Governments. This would involve setting up a concern with general difficulties (Federal), schooling (State) and waste disposal (Local) as predictive of the elaborations which might follow. We will elaborate just the first argument in detail here, adding content to the text for the first time in this re-texturing exercise. Note that 2" now has two levels of 'tell them what you’re going to say' - one for the text as a whole and one for each of the three main arguments. We have not taken the step of summing up the first argument, though had it been further elaborated, its complexity might have warranted a further layer of 'tell them what you’ve said.'

d. 2"'. (adding layers of prediction)

I think Governments are necessary for a number of reasons. These have to do with the special responsibilities of Governments at different administrative levels - Federal, State and Local.

To begin, the Federal Government is concerned with general difficulties faced by the community. It organises armed forces to defend the country in case it is attacked and to help keep things peaceful in various parts of the world. It tries to improve the economy, helping businesses run more effectively and provide more jobs for people. And it collects taxes which it spends on Medicare, universities and airports.
Similarly the State Government is responsible for schooling... this prevents vandalism and fighting... [elaborated]

Finally the Local Government has to look after waste disposal... otherwise everyone would have diseases... [elaborated]

As a result of their concern with general difficulties, schooling and waste disposal, Governments at several levels of administrative organisation are necessary.

Because nominalizations facilitate prediction and summation, the ‘tell them what you’re going to say’ and tell them what you’ve said’ sections of a written expository text are usually more nominalized than are the parts of the text being predicted or summed up. Rhetorically, this has the effect of making a text more credible - since the less nominalized parts of the text sound like real evidence (the cold hard facts) backing up more abstract generalisations. To see how this works in a mature piece of history writing, consider text 3 (Buggy, 1988:224-225), from a senior secondary school history textbook which is especially concerned with teaching students how to deal with primary sources.

3. The Breakout: 16 October to 25 November

This most successful phase of the Long March owes a great deal to the diplomatic skills of Zhou Enlai and to the bravery of the rearguard. Knowing that the south-west sector of the encircling army was manned by troops from Guangdong province, Zhou began negotiations with the Guangdong warlord, Chen Jitang. Chen was concerned that a Guomindang victory over the Communists would enable Chiang Kai-shek to threaten his own independence. Chen agreed to help the Communists with communications equipment and medical supplies and to allow the Red Army to pass through his lines.

Between 21 October and 13 November the Long Marchers slipped quietly through the first, second and third lines of the encircling enemy. Meanwhile the effective resistance of the tiny rearguard lulled the Guomindang army into thinking that they had trapped the entire
Communist army. By the time the Guomindang leaders realised what was happening, the Red Army had three weeks' start on them. The marching columns, which often stretched over 80 kilometres, were made up of young peasant boys from south-eastern China. Fifty-four per cent were under the age of 24. Zhu De had left a vivid description of these young soldiers:

They were lean and hungry men, many of them in their middle and late teens...most were illiterate. Each man wore a long sausage like a pouch... filled with enough rice to last two or three days. (A. Smedley, *The Great Road*, Calder, New York, 1958, pp. 311-12)

By mid-November life became more difficult for the Long Marchers. One veteran recalls:

When hard pressed by enemy forces we marched in the daytime and at such times the bombers pounded us. We would scatter and lie down; get up and march then scatter and lie down again, hour after hour. Our dead and wounded were many and our medical workers had a very hard time. The peasants always helped us and offered to take our sick, our wounded and exhausted. Each man left behind was given some money, ammunition and his rifle and told to organise and lead the peasants in partisan warfare when he recovered. (Han Suyin, *The Crippled Tree*, Jonathon Cape, London, 1970, pp. 311-312)

When entering new areas, the Red Army established a pattern which was sustained throughout the Long March:

We always confiscated the property of the landlords and militarist officials, kept enough food for ourselves and distributed the rest to poor peasants and urban poor... We also held great mass meetings. Our dramatic corps played and sang for the people and our political workers wrote slogans and distributed copies of the Soviet Constitution... If we stayed in a place for even one night we taught the peasants to write six characters: 'Destroy the Tuhao' (landlord) and 'Divide the Land'. (A. Smedley, *The Great Road*, Calder, New York, 1958, pp. 311-12)

Text 3 begins with a very abstract 'tell them what you're going to say' section, which announces that the diplomatic skills of Zhou Enlai and the bravery of the
rearguard were in large part responsible for the success of the ‘breakout’ phase of
the Long March. This announcement is built up around a number of grammatical
metaphors - essentially involving three nominalizations (this most successful phase
of the Long March, the diplomatic skills of Zhou Enlai and the bravery of the
rearguard) connected by the metaphorical realization of cause owes a great deal
to. Compare a spoken translation such as, Zhou Enlai was able to negotiate skilfully
with Chen Jitang and the soldiers who were left to guard the rear were very brave,
so the Red Army successfully escaped.

level of abstraction 1:
This most successful phase of the Long March owes a great deal to the diplomatic
skills of Zhou Enlai and to the bravery of the rearguard.

The next part of the text documents Zhou Enlai’s diplomacy and, subsequently, the
bravery of the rearguard. This passage contains a number of nominalizations
(underlined below), but is not as grammatically metaphorical as the introduction.
The text uses this middling level of abstraction to spell out the events which form
the basis for the historian’s evaluation of the reasons for the success of this phase
of the Long March.

level of abstraction 2:
Knowing that the south-west sector of the encircling army was manned by troops
from Guangdong province, Zhou began negotiations with the Guangdong warlord,
Chen Jitang. Chen was concerned that a Guomindang victory over the Communists
would enable Chiang Kaishek to threaten his own independence. Chen agreed to help
the Communists with communications equipment and medical supplies and to allow
the Red Army to pass through his lines.

Between 21 October and 13 November the Long Marchers slipped quietly
through the first, second and third lines of the encircling enemy. Meanwhile the
effective resistance of the tiny rearguard lulled the Guomindang army into thinking
that they had trapped the entire Communist army. By the time the Guomindang
leaders realised what was happening, the Red Army had three weeks’ start on them.
The marching columns, which often stretched over 80 kilometres, were made up of
young peasant boys from south-eastern China. Fifty-four per cent were under the age
of 24. Zhu De had left a vivid description of these young soldiers:

Finally the text moves to primary source material by way of providing evidence for
the preceding interpretation, drawing on diary records of those actually involved
in the fighting:

**level of abstraction 3 (exemplified):**

When hard pressed by enemy forces we marched in the daytime and at such times the bombers pounded us. We would scatter and lie down; get up and march then scatter and lie down again, hour after hour. Our dead and wounded were many and our medical workers had a very hard time. The peasants always helped us and offered to take our sick, our wounded and exhausted. Each man left behind was given some money, ammunition and his rifle and told to organise and lead the peasants in partisan warfare when he recovered.

This material contains very little in the way of grammatical metaphor, and so had the rhetorical effect of sounding quite convincing. By and large, participants are realized as nouns, processes as verbs and logical relations as conjunctions.

**participants**

**nouns:** enemy forces, we, bombers, us, we, medical workers, peasants, us, man, money, rifle, peasants, he

**processes**

**verbs:** pressed, marched, pounded, scatter, lie, get up, march, scatter, lie, helped, offered, take, left, given, told, organize, lead, recovered

**logical relation**

**conjunctions:** when, and, and, and, then, and, and, and, and, when

Of course, the primary source material may bear no more direct a relation to what actually went on than the historian’s interpretation. But in terms of abstraction, it sounds as if it bears a more direct relation - and so grounds the argument as an effective piece of historical interpretation.

**Theory out of practice**

At present, we are only just beginning to appreciate the significance of grammatical metaphor for organizing writing and constructing the uncommon-sense knowledge of the institutions in which this writing plays a pivotal role. In the future, I would expect that research in this area will be inspired by the needs of practicing teachers, working in contexts where abstract language has to be taught if students are to progress with their learning. These contexts may be in secondary institutions when
students are introduced to specific disciplinary discourse, in tertiary institutions where they have to master English for academic purposes, in various sectors of public administration where they have to take control of English for the purpose of regulating populations, or in other workplace sites as part of their training and retraining. In the meantime, I look forward in particular to learning about teachers’ experiences introducing students to grammatical metaphor and the range of function it has evolved to serve - and the development of the new grammar and rhetoric which will frame these ideas for future generations.

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Notes:
1. The conjunctive adjunct in turn has been included here as textual Theme, even though it follows the topical Theme this - since it clearly reinforces the text’s method of development.
2. For more discussion of Theme and text organisation see Fries, 1994; Ghadessy, in press; Martin 1992a, b.
4. For further reading on nominalization and grammatical metaphor in general see Halliday and Martin 1993; Martin 1988, 1990.
5. Government is the name of an institution here, not a metaphorical encoding of a process.
6. For an overview of abstraction in science and technology and in humanities and bureaucracy, see Martin, 1993b.