Paragraph Structure

A paragraph is a unit of thought. It discusses and elaborates a particular point. Most paragraphs have around 4 to 7 sentences. Paragraph length will, of course, vary depending on the complexity of the idea in the paragraph.

There are many different paragraph structures, but all paragraphs should have a theme (or topic) sentence. This is the sentence which indicates what the entire paragraph is about. The theme sentence may come anywhere in the paragraph, but it is often found at the beginning, as a way to indicate to the reader what is coming, and so it helps the reader accompany the writer through the argument. A theme sentence is a useful tool in forming outlines of long written pieces. The theme sentence stands for the whole paragraph.

Identify the theme sentences in the following paragraphs:

1. Organised religion has been loosening its hold on the Western imagination for over three centuries. In advanced industrialised countries like Britain and Australia, those who attend any kind of regular Christian devotion are increasingly in the minority. In these kinds of societies, other forms of social control — television, literature, institutions like universities — have taken over more and more of the role once accorded to religion. In the so-called Third World, however, the story couldn’t be more different.

3. There are strange faces everywhere. Lecturers, aloof and distracted, are already demanding written work. School friends are doing different courses, and are nowhere to be found. Meanwhile, down at the Union, a bewildering multitude of clubs and societies compete for attention — and membership fees. The library is a thousand times larger than the one at school, and has intimidating computer screens and catalogues. In every conceivable way, one’s first weeks at university are confusing and emotionally difficult.

Add theme sentences to the following paragraphs:

1. Local governments are responsible for immediate matters, like roads, sewerage, and garbage collection. Education, policing, and some aspects of health care are tasks that fall to State governments. Those things that affect the life of the nation as a whole — defence, foreign relations, immigration and economic management — are the exclusive concern of the federal government in Canberra.

2. Peter Carey worked for a long time in advertising. Kenneth Slessor wrote journalism. David Williamson was an engineer, Jack Hibberd a doctor. The poet Les Murray worked for years as a translator for the public service in Canberra. Needless to say, a large number of Australian writers have been academics.
3. The first is the wear-and-tear hypothesis that suggests the body eventually succumbs to the environmental insults of life. The second is the notion that we have an internal clock which is genetically programmed to run down. Supporters of the wear-and-tear theory maintain that the very practice of breathing causes us to age because inhaled oxygen produces toxic by-products. Advocates of the internal clock theory believe that individual cells are told to stop dividing and thus eventually to die by, for example, hormones produced by the brain or by their own genes.


Now read the paragraphs and see how much easier it is to take in the information. Without a theme sentence the reader has to absorb the information, and then come up with a reason to hold all these pieces of information together. It is too much work to figure out what the writer probably meant to say, so most readers will ignore the content of the paragraph. The writer knew why she wanted to mention this information, but the writer has to tell the reader.

1. **Australia has three tiers of government which have different areas of responsibility.** Local governments are responsible for immediate matters, like roads, sewerage, and garbage collection. Education, policing, and some aspects of health care are tasks that fall to State governments. Those things that affect the life of the nation as a whole — defence, foreign relations, immigration and economic management — are the exclusive concern of the federal government in Canberra.

   (Osland and Boyd, Writing in Australia)

2. **Australian writers have always needed a second source of income.** Peter Carey worked for a long time in advertising. Kenneth Slesser wrote journalism. David Williamson was an engineer, Jack Hibberd a doctor. The poet Les Murray worked for years as a translator for the public service in Canberra. Needless to say, a large number of Australian writers have been academics.

   (Osland and Boyd, Writing in Australia)

3. **There are two broad theories about what triggers a human’s inevitable decline to death.** The first is the wear-and-tear hypothesis that suggests the body eventually succumbs to the environmental insults of life. The second is the notion that we have an internal clock which is genetically programmed to run down. Supporters of the wear-and-tear theory maintain that the very practice of breathing causes us to age because inhaled oxygen produces toxic by-products. Advocates of the internal clock theory believe that individual cells are told to stop dividing and thus eventually to die by, for example, hormones produced by the brain or by their own genes.
Unity and Development
A paragraph is a developed unit of thought. It must not have more than one main idea in it, but that idea must be fully explained. Do not leave the reader with questions.

THEME SENTENCE: Throughout history there have been efforts to distinguish the guilty from the innocent and to tell the liars from the truthful. SUPPORT 1: For example, a method of lie detection practised in Asia involved giving those suspected of a crime a handful of rice to chew. After chewing for some time, the persons were instructed to spit out the rice. The guilty person was expected to have grains of rice sticking to the roof of the mouth and tongue. This technique relied on the increased sympathetic nervous system activity in the presumably fearful and guilty person. This activity would result in the drying up of saliva that, in turn, would cause grains of rice to stick in the mouth. SUPPORT 2: A similar but more frightening technique involved placing a heated knife blade briefly against the tongue, another method used for criminal detection. An innocent person would not be burned while the guilty party would immediately feel pain, again because of the relative dryness of the mouth. CONCLUDING SENTENCE: Many of these methods relied (unknowingly) on the basic physiological principles that also guided the creation of the polygraph.

Theme sentence: The teeth of carnivorous and herbivorous vertebrates are specialised for different ways of life. Support: Those of carnivores are adapted for capturing and subduing prey and for feeding largely on meat. Dogs and cats, for example, have long, sharp canines used for piercing and molars and premolars equipped for cutting and tearing. Support: By contrast, herbivores such as cows and horses have teeth specialized for feeding on tough plant material and breaking down the indigestible cellulose in plant cell walls. Their molars and premolars have large, ridged surfaces useful for chewing, gnawing and grinding.

An academic paragraph has the following:
- Theme sentence first
- Order of examples follows order established in theme sentence (carnivores first and then herbivores)
- Note links to indicate shift of argument to reader (by contrast)
- Emphasis of key words(carnivore, herbivore, teeth) to help continuity (but do not over use words and bore the reader!)

Old information goes to the front of the sentence- new information further down the sentence. The beginning of a new sentence links back to the ideas at the end of the previous sentence.
Information in paragraphs should move from old to new

Note how the subsequent sentence links back to the information established in the preceding, but then develops that old information to make a new point, which then, in turn, makes a new point. Note also that all sentences still relate to the theme sentence.

Humans experience the world in ways that are immediate, rich detailed and complex. This complexity is partly due to the information received through the different senses. All five senses—sight, hearing, smell, touch and taste work continuously and coherently in any individual's waking life. This personalising of sensory experience is what makes the outside material world distinctively individual to each human.

Paragraph is adapted from the University of Sydney Learning Centre, SOBSTDU

Use links to let reader know what is connected to what

Compare these two paragraphs
Each of the U.S. manned space exploration projects had specific major goals. The Mercury project was designed to test whether or not human beings could survive and function in outer space. The Mercury project tested rockets with the new Mercury space capsule, which could hold one person. The Gemini project was intended to find out whether two people could work in the weightless environment of space. Gemini astronauts took "spacewalks." They floated outside their spacecraft in a spacesuit, connected to it by a tether. Gemini astronauts tried out new flying skills. Some astronauts flew two spacecraft extremely close together; this procedure was called "rendezvous." On some Gemini flights, astronauts physically linked two spacecraft together. Linking, or "space docking," was a major goal of the Gemini program. The Apollo project, with three astronauts, was intended to test spacecraft and skills so that people could actually fly to the Moon and land on it. Performing scientific experiments on the lunar surface and collecting rocks for study on Earth were goals.

http://lrs.ed.uiuc.edu/students/fwalters/cohere.htm

The paragraph above is difficult to read and understand because the reader has to work hard to try and see how all the bits of information are connected. There is nothing wrong grammatically with any of the sentences or with the information, but it has to be grouped so that the reader can see the why the writer has chosen those bits of information. Linking words show the reader what connects to what.

Each of the U.S. manned space exploration projects had specific major goals. For example, the Mercury project was designed to test whether or not human beings could survive and function in outer space. In addition, the Mercury project tested rockets with the new Mercury space capsule, which could hold one person. As another example, the
Gemini project was intended to find out whether two people could work in the weightless environment of space. *One way of doing this* was by having Gemini astronauts take "spacewalks." *That is,* they floated outside their spacecraft in a spacesuit, connected to it by a tether. Gemini astronauts *also* tried out new flying skills. *For instance,* some astronauts flew two spacecraft extremely close together; this procedure was called "rendezvous." On some Gemini flights, astronauts physically linked two spacecraft together. *This linking,* or "space docking," was a major goal of the Gemini program. *Finally,* the Apollo project, with three astronauts, had the goal of testing spacecraft and skills so that people could actually fly to the Moon and land on it. *Other goals included* performing scientific experiments on the lunar surface and collecting rocks for study on Earth.

**Other linking words**

*For adding things on*

again… also… in addition… as well as… moreover… furthermore… still… next… what is more… and

*To give examples*

for example… for instance… one example is… to illustrate… namely… as an illustration… in this case

*To contrast*

however… but… although… despite… nevertheless… on the contrary… yet… even so… even though… on the other hand

*To repeat*

as I have said… as has been said… as has been noted… moreover… furthermore

*To show argument*

therefore… thus… because… evidently… although… meanwhile… in conclusion… however

as a result… moreover… at this point… consequently… since… hence

*To emphasise*

indeed… in fact… certainly… especially… particularly… unquestionably… without any doubt… definitely

*To make a concession*

whilst… although… even though… however

*To put things in sequence*

first… firstly… second… secondly (etc)… then… after that… following… again… and… and so forth… and so on… subsequently… later… finally… thereafter… to conclude… lastly

*To sum up or conclude*

finally… as a conclusion… to conclude… all in all… in other words… in short… in brief… to sum up… as I have said… as has been stated… on the whole… in general

**A Critical Paragraph is like an inverted Syllogism**

Premise 1: Whales are mammals.
Premise 2: All mammals suckle their young.
Conclusion: Therefore, whales suckle their young.

An argument requires premises and a conclusion. The conclusion is only valid if it follows logically from the premises. An argument, or an argued analysis of the literature, must provide the reader with the premises for the conclusion. Don’t hide information from readers – give the reasons why the author concludes what she concludes.

[Forming a Critical Paragraph
See http://www.arts.uottawa.ca/writcent/hypergrammar/pardiv.html
Here there is an example of how to build up a coherent, tightly argued paragraph from a series of disjointed thoughts.]

Overloaded Paragraphs
A paragraph is a developed thought; and should only have one main point. If you wish to develop another point, then you should use another paragraph. Remember, academic writing must support its assertions, and so every idea needs the space of its own paragraph to provide the evidence for the idea in the theme sentence.

Paragraph with too many theme sentences:
Medicine as a profession is a human relationship between the doctor, the patient and those within the community of practice and society as a whole. Hence schools of medicine should not be viewed “merely as teaching sites, but also as cultural sites, that is as social forms that introduce medical students to particular ways of life…about the production of social practices which provide students with a sense of place, worth and value (Golightly, 1999). It would be expected that educational outcomes meet the goals and purposes of the learner within his /her respective community; “lifelong learning “ (Bottle and Nose, 2002). Most times the focus of teaching tends to be on what teachers are doing, “the ends and not enough with relationships” (Fellowes, 2003). The Estonian experience is no different and so this study also hopes to address this issue. Without consideration of community and societal needs, goals and purposes, education as a professional entity has no role to play in society. The role of practicum, therefore, is to prepare medical students to know precisely their roles and responsibilities in a changing society.

The paragraph above does not work. Consider what are the conclusions and what are the premises in the paragraph. Remember that each paragraph has the theme sentence (conclusion) first and then all the following sentences are the evidence/support or premises.
**Editing Paragraphs for Critical Argument**

**Thesis:** Nth Queenslanders descended from Martians and so can better endure the tropical heat.

According to Bloggs (1999), in a recent survey of the literature of adaptability to climate, Nth Queenslanders were the most adapted. Jekyll and Hyde (2002) in their publication about the people and climate, showed that the heat in Townsville was greater than in Sydney, and harder to bear. Following the work of Johnson, Smith, Brown, Taq, Nagasaki, Blumenthal and Roderick, in their survey of the recent Conference of Human Adaptability, held in Tokyo in 2003, Sommersprossen (2004) argued that humans are more productive when they are acclimatised, so it would seem to make sense that those who are most productive in Townsville are the most acclimatised. Brandenburg and Concerto (2005) took samples of blood from the most productive workers in Townsville. According to Brandenburg and Concerto (in press) the results of their study showed a correlation between productive workers, and Marzonite B in the blood.

*Note that the underlined parts are the only words in the paragraph which actually contain information for the thesis. Note how far into the sentence the reader must read, before she finds any information.*

According to Bloggs (1999), in a recent survey of the literature of adaptability to climate, Nth Queenslanders were the most adapted. Jekyll and Hyde (2002) in their publication about the people and climate, showed that the heat in Townsville was greater than in Sydney, and harder to bear. Following the work of Johnson, Smith, Brown, Taq, Nagasaki, Blumenthal and Roderick, in their survey of the recent Conference of Human Adaptability, held in Tokyo in 2003, Sommersprossen (2004) argued that humans are more productive when they are acclimatised, so it would seem to make sense that those who are most productive in Townsville are the most acclimatised. Brandenburg and Concerto (2005) took samples of blood from the most productive workers in Townsville. According to Brandenburg and Concerto (in press) the results of their study showed a correlation between productive workers, and Marzonite B in the blood.

**Rewritten:**

Acclimatisation is essential for people to be productive and efficient at work (Sommersprossen, 2004). The heat and humidity of far north Queensland makes it harder for most people to function well (Jekyll and Hyde, 2002). Yet there are productive workers here. In Townsville, these productive workers were identified and their blood was examined (Brandenburg and Concerto, 2005). What distinguished these super workers from others was the presence of Marzonite B, a well-known marker of Martian identity (Fidgett, 1995). Martians have had 3 millenia to acclimatise to searing conditions on Mars; thus it is possible that martian inheritance, identified by Marzonite B, is significant in the ability to remain productive despite the humidity.
To re-edit paragraphs for logic and flow:

- Read the paragraph
- Ask: What is the point of this paragraph?
- If there are more than one point, put these other points into their own paragraph
- Ensure that the main point is indicated in the theme sentence
- Ensure every sentence refers to the point in the theme sentence and illustrates and develops that point
- Ensure that **key words** are up the front of the sentence (not authors or names)

**Literature Reviews**

A literature review is the review of the literature around your particular thesis or hypothesis. It is not a review of the entire field, but of fields related to your study, your case studies/experiments. The literature is designed around your thesis and so will have to be revised before the final draft as only at that stage will you know what your entire thesis is about. It is shaped to reflect the story you will tell in your thesis.

You must decide first, what the project is, what methodology you will employ, and then look at all the areas which pertain to that project and methodology.

Your review will show what work underlines your own, but will also look for **gaps** in the literature, and you should indicate in the review where your studies will fill these **gaps** and contribute to the discipline.

That is, you are not reviewing all the literature in the field, but you are justifying your project by placing your project against the wider field. You describe literature which supports your choice of topic/methodology etc and also the literature which does not deal with the areas you deal with – so that you can show how your project will fill the gaps in the literature.

**At the end of your literature review, your reader should be able to know**

1. What specifically your project will look at
2. Why your project will investigate that particular problem
3. Why your methods/approaches/frameworks are the best ones to deal with your particular project.

So a literature review reveals the gaps in the literature which your project will fill; and your literature review will organise the literature into groups.

All problem solving involves regrouping data. You need to think about getting your information into groups: gather information into the main component groups which underlie your project.

**Think of a working title** which summarises the whole project (Obviously this title may change, but it will give you a place to start).
Think what the **component parts** of your project are: looking at producing ways to develop programs to improve memory loss in aging brains.

**So a title becomes: A new program to counter memory loss in aging brains.**

Then it is clear to see how to organise the lit review. The most fundamental aspect comes first, and then the next most important to the project etc.

- The aging brain – what it is, why it declines etc
- The memory process
- Loss of memory
- Loss of memory in aging brains (specifically)
- Ways/programs to improve memory loss
- Methodological problems in developing these sort of programs
- Existing programs to improve memory loss
- Advantages of existing programs (Blogg’s methods)
- Problems with existing programs (gaps) (Blogg’s method doesn’t work with females)

Here then are the major sections; each section could be developed to have sub sections and sub-sub sections, depending on the complexity of the subject matter.

With this form of outline it is then relatively easy to draft a more detailed outline of each section and then sketch out the paragraphs to be included (with the references) and so then to draft the first few pages (see the outlining information).

At the conclusion of the literature review, then the reader is ready for a final paragraph which says something about: This study will then examine ways to develop a new program which will exploit Blogg’s method of transference, but will extend his work to female population) …….

**Read Quickly for First Impressions** (this paragraph summarised from David Blair)

When first exploring a field of research new to you, it is useful to skim the literature in an intelligent way. At this stage, read only the abstract, introduction and discussion from each paper (don’t worry yet about the “how” of the work). This allows you to identify the **ideas, theories, questions** and **controversies** that underlie each piece of work. Design keywords or phrases that identify each question, and enter these in your bibliographic database for each paper. This will allow you later to retrieve all papers that tackle a particular question. Details of exactly **how** the various questions were tackled, as outlined in methods and results sections, can wait for a later reading of the paper.
• Compile all the information into groups
• Outline the whole review into headings and subheadings
• In the subheadings, indicate by keywords what article(s) you will use.
• Read the outline to see if it has a flow and a logic (work from general to specific; definitions and key areas first)
• Show outline to supervisor for comment
• Draft the whole.

Summary of a good literature review:

Decide what is the main aspect/approach of your thesis/essay/report,
Then provide a background of the literature which affects, or is concerned with, your area of study
Highlight the major fields of difference or similarity.
Show where your own work falls between these fields.
Discuss other authors in the light of your theory.
Make explicit how the implications of others’ works may affect your results.

Some Questions a Literature Review should Answer

• What is already known about the area of study?
• What are the characteristics of the key concepts or the main factors or variables?
• What are the relationships between these key concepts factors or variables?
• What are the existing theories?
• What are the inconsistencies or other shortcomings in our knowledge and understanding?
• What views need to be (further) tested?
• What evidence is lacking, inconclusive contradictory or too limited?
• Why study (further) the research problem?
• What contribution ca your study be expected to make?
• What research designs or methods seem unsatisfactory?

Poorly written lit rev.

Until recently many researchers have shown interest in the field of coastal erosion and the resulting beach profiles. They have carried out numerous laboratory experiments and field observations to illuminate the darkness of this field. Their findings and suggestions are reviewed here.
JACHOWSKI (1964) developed a model investigation conducted on the interlocking precast concrete block seawall. After a result of a survey of damages caused by the severe storm at the coast of USA, a new and especially shaped concrete block was developed for use in shore protection. This block was designed to be used in a revetment type seawall that would be both durable and economical as well as reduce wave run-up and overtopping, and scour at its base or toe. It was proved that effective shore protection could be designed utilizing these units.

HOM-MA and HORIKAWA (1964) studied waves forces acting on the seawall which was located inside the surf zone. On the basis of the experimental results conducted to measure waves forces against a vertical wall, the authors proposed an empirical formula of wave pressure distribution on a seawall. The computed results obtained by using the above formula were compared well with the field data of wave pressure on a vertical wall.

SELEZOV and ZHELEZNYAK (1965) conducted experiments on scour of sea bottom in front of harbor seawalls, basing on the theoretical investigation of solitary wave interaction with a vertical wall using Boussinesque type equation. It showed that the numerical results were in reasonable agreement with laboratory experimental data.

In literature reviews, don’t write a list, write a synthesis and a critique.

Compare:

1. Smith (1970) reported that bilbies come out at night and eat chocolates. Jones (1972) described the variety of beetles eaten by bilbies on their daytime trips. Wheeler (1974) reported that bilbies eat only apples.

What is the conclusion about bilbies that can be drawn from these facts?
What is the common denominator?

To rewrite, find the important point in the information, and place it in a **theme sentence** in the beginning of the paragraph.

What thoughts / new research/ speculations do the data suggest?
To rewrite, think of the implications of the literature and develop these ideas at the end of the paragraph.
2. The elusive bilby has provoked considerable disagreement over such essential facts as whether it is diurnal or nocturnal, and what constitutes its staple diet. Smith (1970) considered them to be nocturnal whereas Jones (1972) reported that they are daytime foragers. Although the bilby’s fondness for chocolate was noted by Smith (1970), findings were rejected by both Jones (1972) and Wheeler (1974). Jones believed bilbies eat beetles, and Wheeler thought that apples were the staple food. However, neither chocolate nor apples are indigenous to the bilby habitat, and it seem improbable that they are the main foodstuffs for bilbies.

Eucalyptus leaves, on the other hand, are widely available in the bilby region……

Insufficient information for reader to follow the writer’s argument:
Differences in beliefs, values and cultural customs between exporters and the local indigenous markets can cause a loss of market share (Smith and Jones. 2003). Inefficiencies in transport can also frustrate the exporters (Brown, 2006). A further problem is the exchange rate (Manning, 2003). So, exporters face difficulties in beliefs, customs, inefficiencies in transport and in the exchange rate (Wilkins, 1998).

[The final sentence is only a summary of conclusions, but the paragraph gives no reasons why the reader should accept these conclusions. Note that really every sentence here could be a theme sentence, and that every sentence needs support]

Differences in beliefs, values and cultural customs between exporters and the local indigenous markets can cause a loss of market share (Smith and Jones. 2003). For instance, MacDonald’s opened up a branch in New Delhi but their insistence on selling beef burgers in a city where cows are considered sacred resulted in such a loss of profit that the store closed in six months (Fred and Wilma, 2001). Exporters of American bathroom ceramics to France have to be aware of the French customs of the bidet, and so design new bathroom fittings which are sold only to the French market (Bloggs, 2003) It is not just the United States exporters who need to be culturally sensitive. To counter declining sales in the USA, the Swedish children’s firm, Leggo, has had to develop action man and military figures because the US market considered their existing figures too “girly” (The Economist, Aug, 28, 2007).

(Check the paragraph for re-editing:
What is the point of all the sentences? Is this point in the theme sentence?
Yes it is so the information can stand. )

Let the reader know why you assert something, and be precise in information:

1. A detailed study on the mating habits and sexual reproduction of martian marsupials has been done by Loopey et al (1856). Ambrose (1997) outlined the broad evolution and taxonomy of these marsupials living in caves in north Queensland. Confuzed (2004) also did a detailed study on the food habits of martian marsupials in captivity. Hopeless et al (2005) did a study, however, on Australian marsupials and found many differences.

Begin with key word, give the results of the studies, and order the information so that the reader knows what you know about the subject. Use links.

Rewritten: Martian marsupials differ from Australian marsupials in three areas: evolution, reproduction and eating habits. Martian marsupials have evolved from 6 cylinder creatures (Ambrose 1997), whereas Australians evolved from vegemite. The martian marsupials lack pouches of Australian animals, and so reproduce in the 4 cylinders they have inherited from their forbears (Silversmith, 2009). While Australian marsupials munch on meat pies and vegemite sandwiches (Hopeless et al, 2005), martian marsupials, or at least those in captivity, prefer peanut butter sandwiches (Confuzed, 2004).

Summary of a good literature review:

- Decide what is the main aspect/approach of your thesis/essay/report
- Then provide a background of the literature which affects, or is concerned with, your area of study
- Highlight the major fields of difference or similarity.
- Look for gaps.
- Show where your own work falls between these fields.
- Discuss other authors in the light of your theory.
- Make explicit how the implications of others’ works may affect your results.

Organising Information in Literature Reviews: University of Ottawa SASS
(http://www.sass.uottawa.ca/writing/kit/grad-info-management.php)
From the very beginning of your research you should keep track of your sources by starting a master bibliographic list.

You should also keep track of ideas as you read. One highly effective way is a reading journal or index cards. For each work that you read, create a card or journal entry that contains the following elements:

- source information (author, year, page numbers, etc.)
- main idea(s) of the work
- significance of the work relative to your research
- any ideas or questions that you had while reading
- key words

As you gather information, you can begin to classify it based on key words or ideas that are relevant to your research question.

- Before you begin reading, try to foresee categories, themes, or key words by which you can classify the literature.
- As you read, take note of categories or themes that emerge as you read.
- If you see that several sources comment on the same idea, make note of this. The idea may not seem important at the time, but it often becomes important later as your understanding of the topic increases.

You will need to analyze your information in different ways during your research. The following example grids present different ways of organizing information for the same research project.

### Table 1: Classification of literature by categories

<table>
<thead>
<tr>
<th></th>
<th>5 Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Research question</td>
</tr>
<tr>
<td>Source 1</td>
<td></td>
</tr>
<tr>
<td>Source 2</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
</tr>
</tbody>
</table>

A grid with several different categories can be used to get a sense of how other authors perceived the topic by identifying key elements of each work. **Table 2: Classification of literature by theme**
A grid concentrating on one theme or main idea can be useful to record the many comments and ideas made on a particular theme or subject in the literature. Notice that the source information for an idea is always written down as well!

If you identify a theme early on, you can add other authors and their ideas as you continue your research. Also, as you gain more knowledge about a topic, you may find that a theme can be broken down into smaller key ideas.

**Evaluating information**

Evaluation means that you will critique the literature for its effectiveness or quality. The ways in which you do this will depend on what you are looking to do with the literature. Here are two examples: If you are looking to answer a specific question, a **question-driven list** can be useful.

**Question:** What kinds of communities have been studied? [Southern US English accent]

<table>
<thead>
<tr>
<th>Work</th>
<th>Answer</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walker</td>
<td>Eastern Texas, 40 speakers, 20 from rural, 20 from small city.</td>
<td>balance rural/city, male/female (+)</td>
</tr>
<tr>
<td>1975</td>
<td>speakers all 50+ (p. 144)</td>
<td>only older speakers, none born before 1950 (-)</td>
</tr>
<tr>
<td>Saltman</td>
<td>SW Alabama. 2 small rural towns. ages 18-70+. all speakers born and</td>
<td>doesn’t mention education, race, or gender (-)</td>
</tr>
<tr>
<td>1987</td>
<td>raised in the town.</td>
<td>all speakers lived in area all life (++)</td>
</tr>
<tr>
<td>…</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If your goal is to provide an overview of a field of research, you might organize and evaluate your sources by theme. For this approach, a **source-driven list** may be helpful.

**Source:** Studies mentioning a relationship between hummingbirds and *Vanda coerulea*
<table>
<thead>
<tr>
<th>Work</th>
<th>Type of work</th>
<th>Themes/Ideas</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith et al. 2002</td>
<td>biological study done in Amazon</td>
<td>mutually beneficial relationship between orchids and birds</td>
<td>scientific study (+) focused more on other varieties of orchids(-)</td>
</tr>
<tr>
<td>Hampstead, 1995</td>
<td>research compilation on hummingbirds</td>
<td>symbiotic relationships, color of flower</td>
<td>mentions role of flower color (+) in attraction, has section on <em>Vanda</em> (+)</td>
</tr>
</tbody>
</table>

It is often necessary to create **hierarchies**: Which sources are mentioned repeatedly by several authors? Are these the leading sources in the field? Are they the most recent sources? What source answers your question most effectively? Least effectively? Which sources answer the question most fully? Least fully? Which sources discuss the topic in specific? In general?

These grids show an example evaluation of **sources**. You can also evaluate **information** as well by adding to the grids you used during collecting information and synthesis.

*The Effect of Enhanced Electronic Access to Information on Academics’ Patterns of Scholarly Communication at the Australian National University*
by Patricia A. Milne

**2 Literature Review**

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## Communication

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### 2.3.1 Peer review

Peer review is a system by which the 'intellectual excellence and/or practical importance of a piece of work is judged by researchers working in, or close to, the field in question' (Boden, 1991 p. 16). Boden added that this type of appraisal has the overwhelming support of the academic community, who may complain about its shortcomings, but who see no alternative to it. Academic advancement is contingent upon scholarly output (Cummings et al, 1992) and it takes account of both the quality and quantity of a person's work. Boden (1991 p. 16) also noted that occasionally a superlative reputation could be built on verbal interchange or privately distributed material, but most often a good research standing required a significant number of publications.

The importance of peer review in the professional life of an academic cannot be overestimated, nor its effects on other components of the process of scholarly communication, especially research libraries (Handlin, 1987). Handlin demonstrated the growth in output of scholarly publishing and concluded that the cause is 'the knowledge game'. Handlin continued that all academics bow to the same imperative – they must publish something or perish; and the peer review process on which they all rely, as do university deans and presidents and foundation executives, inexorably increases the output. Not all this activity actually adds to the fund of knowledge.

The place that the electronic journal would find in this process was of concern to many scholars particularly in the early period of the move towards electronic publishing and it was felt that its status would be decided by the level of acceptance it was accorded within the peer review process. An early study (Seiler and Rabin, 1981 p. 81) sought the attitudes of US academics towards electronic journals as a basis for promotion and found that 52 per cent of the respondents considered electronic publications equivalent to print publications. However, 37 per cent considered them inferior and there was virtually no support for the idea that electronic publication was superior. The same study also showed that there was a higher acceptance of the electronic journal in schools oriented towards teaching rather than those oriented towards research. In 1991, a study showed that editors of successful, peer reviewed electronic journals were still having difficulty obtaining contributions from junior faculty because tenure committees failed to recognise the legitimacy of electronic publications (Amiran et al, 1991 p. 38).
In a more recent article (Leslie, 1994 p. 71) it was stated that most members of university tenure committees belong to the last generation of scholars not steeped in computer culture and have so far declined to acknowledge publication in electronic journals as a credential for promotion. While no supporting evidence was provided with this statement it did raise the issue of how the academic reward system was adjusting to changes in scholarly publication. By 1995, Cronin and Overfelt (p. 700) noted that recent estimates showed that there were more than 400 electronic journals of which 70 were peer reviewed, yet they stated that there was still widespread feeling that the academic establishment was reluctant to value electronic contributions to scholarship and because of this, scholars were still not inclined to submit their best work to electronic publications.

A report from ARL’s Office of Scholarly Communication indicated an increase of over 600 per cent in the number of peer reviewed scholarly electronic journals.

**Literature Review to Edit**

**Traditional Medicine: Introduction**

The use of plant and other organisms as sources of medicinal agents has occurred throughout most of the human species history (Latz, 1995; Moran 2002). Traditional health care practices have universally recognised that the mind and body are intrinsically linked by the core belief that to prevent ill health there is a need to maintain a balance with Nature’s life force. The use of plants to maintain this balance is well documented. For example, the first known use of plants as medicinal agents dates back to Neanderthal times (Akerle, 1993; Plotkin, 1992). The remains of eight different species of plant were found in close proximity to the grave of a 50,000 year old Neanderthal male in north eastern Iraq. Seven of these species are still in use for medicinal purposes.

The first systematic register of medicines, however, dates back to ancient Greek and Egyptian times. In such societies it is apparent that the individuals that made and
distributed the agents possessed power and influence over their civilizations (Plotkin, 1992). The most extensive of the early records is thought to be the Code of Hammurabi by the king of Babylon of 1728-1686 BC. Hammurabi had many of his records carved into stone, parts of which can now be found in the Louvre in France (Plotkin, 1992). This code features not only the laws pertaining to medical practice, but numerous references to curative plants such as henbane, liquorice and mint. These still feature prominently in modern pharmacopoeias (Plotkin, 1992).

In Ancient Greece, in contrast, medicine was practiced in large temples built in the honour of Asclepias, the God of healing. This was usually by physicians known as the sons of Asclepias. Such treatments were religious events often involving incantations, fasting and bathing (Low et al., 1994). This type of medicine continued until Hippocrates, considered by most to be the father of modern medicine, came into prominence and shifted Greek medicine from being based on mystery and religion to one based on science (Plotkin, 1992). Hippocrates believed that the four elements fire water,