HOW TO WRITE A PAPER IN ENGLISH
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1 INTRODUCTION TO THE COURSE
How to keep the referees happy
You want your paper to be published. Obviously the content has to be good and your findings must make a contribution to science. But your paper may be rejected if the referees of the paper have difficulty in understanding (or even finding) your results because of

• bad structure and organization
• long introductions full of in-depth background details
• long complex sentences and paragraphs full of redundancy
• ambiguity

Readability
Your paper must be readable, that is not only easy to understand but also enjoyable to read (or at least only requiring a minimum effort by the reader).

Put yourself in the referee’s shoes (=panni), would you really want to read what you have written? You can improve the readability of your paper by:

• having a clear and logical structure
• putting key information at the beginning of the paper, at the beginning of sections, paragraphs and even sentences
• reducing the amount that you write, and consequently reducing the amount the reader has to read
• only writing what the reader really needs to know (not everything that you know), and limiting the amount of background information
• using short sentences

Using Google to check your English.
1. Use the Advanced Search option
2. In the field "this exact wording or phrase", type in the exact English phrase you want to correct.
3. In the field "Search within a site or domain", type in .ac.uk and .edu
You will then get results that come from British and US academic sites.
Alternatively, do you search with Google Scholar: http://scholar.google.com/


2 ABSTRACTS

How important is the abstract?

An abstract is a mini version of your paper. It is your ‘product’, which you have to ‘sell’ to a referee.

It is generally a very brief summary of each of the main sections, generally in just one paragraph. It is probably the most important part of a paper because it should enable:

- a potential publisher to make a quick decision on whether the paper is relevant to his / her journal (without having to read the whole paper)
- a referee to decide whether to accept a paper for a conference or a journal. Remember that referees have to review a lot of abstracts and papers. So it is important to make your abstract stand out from the others in terms not only of scientific quality but also of how it is organized and what information it does and does not include
- a reader to identify quickly what the paper is about, to judge how relevant it is to their interests, and so to decide whether they should read the whole paper or not.
- you to see whether you have really covered all the main points and whether your conclusions are substantiated and justified.

An abstract will be judged in isolation from the paper, so it is vital for it to create a strong impression. Write a very rough draft before you start writing the paper itself as this may help you to decide what to include in the paper and how to structure it. But experienced writers always write the Abstract (and often the Introduction too) last, ie when they have finished the rest of the paper.

Typical referees’ complaints

The author:

- has written too much
- has not included some important key words (these are vital for searches by other researchers)
- has only described the context but not the results of his/her work and the implications
- has not stated why the scientific community should be interested nor what value is being added to what is already known
- has not made a clear distinction between what he/she did and what has already been achieved in the literature (this is often due to the non-use of ‘we’ or wrong use of ‘we’
EXERCISES

Read this abstract about batteries in cell.

The lifetime of a 4G cellular phone battery may be subject to the number of times the battery is recharged and how long it is charged for. To date, there has not been an adequate analytical model to predict this lifetime. In this work, an analytical model is developed which describes the relationship between the number of times a battery is recharged, the length of time of each individual recharge, and the duration of the battery. This model has been validated by comparison with both experimental measurements and finite element analyses, and shows strong agreement for all three parameters. The results for the proposed model are more accurate than results for previous analytical models reported in the literature for 4G cell phones. The new model can be used to design longer lasting batteries. It can also lead towards further models that can predict battery failure. (145 words)

Now read an analysis of the structure of the abstract (batteries). Match the explanations of what the author is doing (Col 1) with the extracts from the paper (Col 2).

<table>
<thead>
<tr>
<th>GOOD TRADITIONAL STRUCTURE</th>
<th>SENTENCES FROM THE ABSTRACT TO MATCH TO POINTS 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) The problem that this paper is trying to resolve. Why did you carry out your project and why are you writing this paper?</td>
<td>a) In this work, an analytical model is developed which describes the relationship between the number of times a battery is recharged, the length of time of the individual recharges, and the duration of the battery.</td>
</tr>
<tr>
<td>2) New solution given by authors of the paper. What is the innovative contribution of your work? What did you do? What makes it different from previous research?</td>
<td>b) The lifetime of a 4G cellular phone battery may be subject to the number of times the battery is recharged and how long it is charged for. To date, there has not been an adequate analytical model to predict this lifetime</td>
</tr>
<tr>
<td>3) Validity of the model. Does it really do what you say it does?</td>
<td>c) The results for the proposed model are more accurate than results for previous analytical models reported in the literature for 4G cell phones.</td>
</tr>
<tr>
<td>4) Results. What is new compared to previous results?</td>
<td>d) This model has been validated by comparison with both experimental measurements and finite element analyses, and shows strong agreement for all three parameters.</td>
</tr>
<tr>
<td>5) Implications and future work. What does this all mean? What are your conclusions and recommendations? What do you plan to do next?</td>
<td>e) The new model can be used to design longer lasting batteries. It can also lead towards further models that can predict battery failure.</td>
</tr>
</tbody>
</table>
An alternative, less traditional, structure:

1. Introduce the abstract with one or two sentences saying what you did + one key result, i.e. begin with info that the reader does NOT already know.

2. Introduce the background by connecting in some way to what you said in your introductory sentence. In the example abstract above the term *urban derelict soils* is then repeated in the first background sentence.

3. Use the background information (which the reader may or not already know) to justify what you did. Ensure that background details are not more than 40% of the abstract.

4. Provide some more information on your results.

5. Tell the reader the implications of your results and what you plan to do next.

The structure you use will depend on the journal. In any case, always think about what the readers want to read and the order they want to read it in.

**Type of information to include in an abstract**

- Give concrete information rather than generic statements that could be applied to any research.

- People love numbers / statistics - the media gives us 2156 examples of them every day through the TV, newspapers, magazines etc. So, put statistics in your abstract. They give the idea of something specific and that you have done your work well. Avoid words like *many / several / few* when you could write something more specific.

- Decide if some details may be more appropriate in the Introduction
  - name of your institute (in any case this is already under the title)
  - place names that readers will not have heard of
  - obvious background info
3 STRUCTURE OF THE PAPER

Most scientific papers generally follow this structure:

1 Title (we will discuss this when talking about being concise)
2 Abstract (see Section 2 Abstracts)
3 Introduction, ending with outline of the structure of the paper
4 Review of the literature (this section may be part of the Introduction)
5 What you did, your findings etc (Materials and Methods, Results and Discussion)
6 Conclusions - including plans for the future
7 Acknowledgements
8 Bibliography

INTRODUCTION

Typical referees’ complaints

• The Introduction occupies too high a proportion of the entire paper - it is too long
• It is a cut and paste from the Abstract (or vice versa)
• The rationale / objectives are not defined - it is not clear what problem the author is addressing or trying to solve
• The reason for choosing a particular approach / methodology is not given or is not clear
• The author has not related the background information to his/her objective in this paper
• There is no mention of what the reader can expect in the rest of the paper (i.e. main results and conclusions) and how this information will be structured (i.e. into the various sections)

A possible structure for your introduction (though not necessarily in this order) is:

• essential background information, where appropriate, so that readers can understand and assess the results of your work without having to refer to the literature. NB this should be no more than 3-5 sentences long, otherwise readers will get frustrated because they want to understand what the contribution of your paper is and what new things they will learn
• definition of the problem: why did you choose it? why is it important? what is the aim of the paper / what is your contribution to the problem? NB make sure you use the key phrase ‘this paper describes’ or ‘the aim of this paper is’ as near as possible to the beginning of the Introduction (i.e. within the first few sentences)
• review the literature (though this may be a separate section if there is a lot of literature that needs to be reviewed)
• method of investigation and why this was chosen
• main results + main conclusions drawn from the results
• structure of the paper
Example of an introduction

The fictitious introduction below is designed to give you an idea of

• what information an introduction should contain
• the order that such information is given
• the proportion of space given to each item of information (particularly with regard to the review of
the literature this will obviously vary from paper to paper, but the example below is fairly typical).

The electrodes in a cellular phone battery are made of a composite of gold and silver, coated with a
layer of platinum. The gold and silver provide structural support, while the platinum provides
resilience. (fundamental background - gives info that the reader should already be familiar with)
The performance of the battery can be strongly affected by the number of times the battery is
recharged and the duration of each individual recharge. The battery is subject to three possible failure
modes. Blah blah blah blah blah blah blah blah blah blah blah blah blah.

(more specific background in the area of the authors' research)

To improve on this situation, a research program has recently been started by the authors in
collaboration with a major battery manufacturer, with the goal of developing new design models.
Analytical techniques are needed that can predict blah blah blah blah blah blah blah blah blah.

(short paragraph about authors' contribution)

Computational techniques have been extensively applied to the study of battery lifetime, in particular
with regard to the number of times a battery is charged. However, little research to date has focused on
the length of each individual recharge. (introduction to the literature, providing a motivation for
authors' particular research)

Related research has occurred in the field of cell phones and but also laptop and iPod batteries. Evans
[15] studied the lifetime in 2G iPod batteries. Smith [16] and Jones [18] found that ...

(review of pertinent literature)

To the best of our knowledge there are no results in the literature regarding how the length of each
recharge impacts on the silver and gold in the electrodes. (authors' contribution which differs from
what is already in the literature)

The objective of the present work is to construct a model to perform a comprehensive investigation of
the effect of recharging on the electrodes, and to find a new proportion in the amount of metals used.
The assumptions of Smith [16] and Jones [18] are used as a starting point. blah blah blah blah
blah blah blah blah blah blah blah blah blah blah blah. (aim of the present
work)

The results of the model are encouraging and show that blah blah blah blah blah blah blah blah
blah blah blah blah blah blah blah blah blah blah. (main results of the present
work)

This new model will be able to blah blah blah blah blah blah blah blah blah blah blah blah.
(future implications of the work)
REVIEW OF THE LITERATURE

Typical referees’ complaints
The author:
• has not made it clear why some references are mentioned - references must give support to what you are saying, they should not be there just to make your paper longer and seem more important
• has not done a sufficiently wide literature search
• is not aware of the state of the art
• has too many references from work carried out in his/her own country - the literature review is not international enough and the context is thus too myopic

Making reference to other authors
There are various ways of making reference to other authors. Style 1 is the shortest and easiest to read. The most tedious is Style 4. Check with your journal's "Style Rules" to see which type you should use.

<table>
<thead>
<tr>
<th>STYLE 1</th>
<th>Evans [5] studied the differences between Italian and English.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STYLE 2</td>
<td>In [5] Evans studied the differences between Italian and English.</td>
</tr>
<tr>
<td>STYLE 3</td>
<td>The differences between Italian and English have been studied [Evans, 1998].</td>
</tr>
<tr>
<td>STYLE 4</td>
<td>A study of the differences between Italian and English is presented by Evans [5].</td>
</tr>
</tbody>
</table>

MATERIALS AND METHODS
The title of this section varies from discipline to discipline. But in nearly all papers there is some description of a methodology, procedure or approach. In this section you should:
• Describe the experimental design, include the exact technical specifications and quantities and source or method of preparation.
• Provide enough detail so that the experiment can be repeated.

Typical referees’ complaints
• The description of the methodology is not complete - steps are missing, not all information is provided.
• The terminology is not always correct.
• There is not a sufficient level of detail, or there is too much detail.

Level of detail
A sure sign of an amateur is too much detail to compensate for too little life. Anthony Burgess (author of "A Clockwork Orange")

Ideally there should be no more than a 60:40 ratio between describing what you did (your methodology, approach) and the results + discussion of the significance of what you did. If you have written about the methodology / process / procedure in incredible detail it may be because you don't really have much to say about the implications of what you have done and that you are simply trying to make the paper seem to have substance by making it long.
RESULTS AND DISCUSSION

This is one of the most important sections in the paper but is often neglected by authors.

• Give overall description of the experiments, providing the 'big picture', without repeating the experimental details of the Materials and Methods
• Present the data, but be selective.
• Present the principles, relationships and generalizations shown by the Results.
• Discuss the results, don't repeat them.
• Point out any limitations, exceptions or any lack of correlation and define unsettled points
• Show how your results and interpretations agree or contrast with the literature
• Discuss any theoretical or practical applications
• State your conclusions
• Summarize your evidence for each conclusion

Typical referees’ complaints

• There are no results and / or there is no discussion of the results. The author has you merely presented data without explaining the reasons, the relationships and the overall significance.
• The tests and experiments are not truly representative.
• The problem has not been investigated from all angles.
• The results do not match the objectives given at the beginning of the paper.
• The interpretation of the results is not matched by the data given.

Don't sound too arrogant: Anglo Saxon / US culture

*There is no absolute knowledge. And those who claim it, whether they are scientists or dogmatists, open the door to tragedy. All information is imperfect. We have to treat it with humility.*  J Bronowski

*In England it is bad manners to be clear, to assert something confidently. It may be your personal view that two and two make four, but you must not state it in a self-assured way because this is a democratic country and others may be of a different opinion.* George Mikes

"How to be an Alien" (a satire about life in Britain)

*The highest term of praise that many English people ever use is "Not bad"*. Bertrand Russell

Modern day scientific writing was born in England and many stylistic rules are due to British scientists. One ‘rule’ is that you should never sound arrogant or 100% certain of what you state. This approach also spread to the USA, where it is still true in scientific writing (though much less so in society in general).

So particularly in the Discussion and in the Conclusions you need to use words and expressions that are not too direct and seem more tentative.
How to state conclusions in a more indirect way

POSSIBLY ARROGANT AND LIKELY TO AGGRAVATE GB REFEREES
This means that $x = y$.

This may mean that $x = y$.
We believe that $x$ probably equals $y$.
Our tests would seem to show that $x = y$.
It seems likely that $x = y$.
This would appear to indicate that $x = y$.

This is a good method for doing $x$.
In our opinion this is a good method for doing $x$.
We believe that this is a good ...
Our results would seem to highlight that this is ..

CONCLUSIONS

Not all types of scientific paper have a Conclusions section. The conclusions may be better located in the Discussion. The Conclusions section is not just a summary. Don't merely repeat what you said in the Introduction. It should not be more than a couple of paragraphs long. A possible structure is:

1. A three-four line summary of what you did. Keep this as short as possible.
2. The importance / significance of what you found and how it might impact on current knowledge of the field, including possible applications. You may also want to include the limitations of your work.
3. Possible areas for future work for you and suggested directions for the community in general.

It differs from the Abstract as it gives more emphasis to points 2 and 3 (significance and future work), and gives no background details.

The Conclusions may be the last thing that the referee reads, so they must be clear and concise thus leaving the referee (and readers) with a good impression.

Typical referees’ complaints
• The Conclusions are just a cut and paste from various other parts of the paper.
• The authors have not concluded anything but just summarized what they have done.

ACKNOWLEDGEMENTS

What to include in the Acknowledgements
• Sources of funds.
• People who gave significant technical help.
• People who gave ideas, suggestions, interpretations etc.

NB Don't acknowledge anyone without letting them see the exact wording of how you want to acknowledge them - they might think it is too effusive (or occasionally, insufficient).
4 HOW TO WRITE A PARAGRAPH

PARAGRAPH STRUCTURE / SENTENCE ORDER
First sentence of paragraph should introduce main topic.
Next sentence should be a logical extension of first sentence.
Vary the length of your sentences, but generally keep them short.
Avoid semi colons. Instead, begin a new sentence.
Provide examples / support for what you say and for your findings.

1 Read this Introduction to a paper. Is it clear, well structured and logical?
For the last few years, since 2004 in fact, a great deal of interest has been shown, in the areas of research connected to the theme of what is known in the literature as readability. In particular, it has been found that, as was probably to be expected, that readers have a preference for phrases that are logical, coherent, short, and thus easy to read; on the other hand, and perhaps ironically, they themselves tend to write in rather illogical, dense and long sentences that often have to be read twice before they can be understood. An example of this is the front page of the Wall Street Journal which is written so that it can be understood by a 15 year old; furthermore, complex subjects such as finance, taxes, and business trends, are written in a way that can be understood by the average 17-year-old. However, according to Mueller, "It's not a question of what people can read; the real question is, what will people read without intense concentration?" A new concept of readability, which also includes what we call the 'enjoyment factor' is presented and analysed.

2 Read the paragraph again and answer the questions.
1. Does the first sentence of the paragraph clearly introduce the main topic?
2. Is the contribution of the paper immediately made clear?
3. Is each sentence a logical extension of the previous sentence?
4. Are link words used effectively to connect sentences together?
5. Do the sentences vary in length, and are they essentially reasonably short?
6. Are semi colons avoided, and commas used to a minimum?
7. Do the words phrase and sentence have a difference in meaning?

3 Read this rewritten version. In what ways is it better?
Most documents are written in a complex way. Ironically, the people who write them, even Harvard professors, actually prefer to read texts that can be understood immediately. Readers prefer sentences that are logical, coherent, short, and thus have a high level of 'readability'. In this paper we extend the concept of readability to enjoyment – for a paper to be readable it must also be enjoyable, in the same way as a 'watchable' movie is fun to watch. This finding is in agreement with research [1, 7] carried out by the Wall Street Journal and Newsweek which proved to these publications that the simpler they write, the more of what they write will be read by their sophisticated, well-educated readers. In fact, complex subjects such as finance, taxes, and business trends, are written in a way that can be understood and enjoyed by the average 17-year-old. Our findings also concur with Mueller [13] whose paper on 'readability' states that "It’s not a question of what people can read; the real question is, what will people read without intense concentration?"
5 HOW TO BE CONCISE AND SIMPLE

The ability to simplify means to eliminate the unnecessary so that the necessary can speak.
Hans Hoffman (abstract painter)

A good scientific theory should be explicit to a barmaid. Ernest Rutherford (physicist)

What referees say:

The paper was extremely long and must be massively reduced in length. ... The paper was packed full of vague statements .... The abstract was far too long. ... The opening sections were superfluous ...

Reduce the length by 25%.
I would like to see some concrete examples, rather than the somewhat long-winded technical explanations that were not very clear.

Three ways to reduce the length of your sentences:

1 Have a maximum of two ideas/parts per sentence
2 Put the subject at the beginning of the sentence and key information in the second part
3 Cut the number of times you use which, and and other link words

Three ways to reduce the amount that you write:

1 Remove redundant words For a period of six months = For six months
2 Reduce number of words This gives us the possibility to do do x = This allows us to do x
3 Use verbs instead of nouns We made an analysis of x = We analysed x

1 Reduce the length of the sentences

Each sentence below is too long. In each case, decide where you could make a break (/) in the sentence. Then indicate how you would begin the next phrase after the break.

Example: BEFORE: PhD students are famous for delaying the terrible moment when they actually have to find a real job which means that either they live in poverty or they have to have very rich parents to support them.

AFTER: PhD students are famous for delaying the terrible moment when they actually have to find a real job. // This means that either they live in poverty or ...
1. The aim of this paper is to confirm that how we speak and write generally reflects the way we think and that this is true not only at a personal but also at a national level, and to this end two European languages were analysed, English and Italian, to verify whether the structure of the language is reflected in the lifestyle of the respective nations.

2. English is now the world's international language and is studied by more than a billion people in various parts of the world thus giving rise to an industry of English language textbooks and teachers, which explains why in so many schools and universities in countries where English is not the mother tongue it is taught as the first foreign language in preference to, for example, Spanish or Chinese, which are two languages that have more native speakers than English.

3. As a preliminary study, in an attempt to establish a relationship between document length and level of bureaucracy, we analysed the length of 50 European Union documents, written in seven of the official languages of the EU, to confirm whether documents, such as reports regarding legislative and administrative issues, vary substantially in length from one language to another, and whether this could be related, in some way, to the length of time typically needed to carry out daily administrative tasks in those countries (e.g. withdrawing money from a bank account, setting up bill payments with utility providers, understanding the clauses of an insurance contract). The results showed that ..

2 Delete any unnecessary words or phrases.

Example: The solution **adopted** was to implement ....

1. The result obtained shows that the bugs present in the software have been eliminated.

2. The documents were written in the English language.

3. This was carried out for a period of three months in the first year and for a period of six months in the second year.

4. They have shown we should also consider the possibility of doing the testing in advance.

5. It is important to note that one plus one is equal to two.

6. Our research activity was initially focused on …

7. As we have already mentioned in Section 4.2.1, it has already been noted in the past and also more recently that substantial improvements in performance can be achieved by ...

8. A number of solutions have been proposed during the last few years and their potential has been thoroughly [= in modo esaustivo] analyzed in the literature [3].
3 Replace the phrases in bold with ONE word.

Example: This took a considerable number of years to implement .... many

1. This one was bigger with respect to the other one.
2. This made it possible for us to do X by means of Y.
3. As a consequence of this, we are in a position to do Y.
4. In order to do this, the application searches for solutions in an automatic way.
5. From now on in this document these will be referred to as X and Y.
6. This allows us to reduce the complexity due to the fact that X can now be used.
7. On the basis of the fact that X = Y, we can now do Z.
8. This should be avoided since it is generally the case that there is ambiguity.

4 Find a one-word equivalent for the following.

Example: To perform an analysis = to analyse

to carry out a test to make a comparison to achieve an improvement

to implement a change to effect a reduction to exhibit a performance

to execute a search to give an explanation to show an improvement

5 Replace the noun phrase with a verb.

Example: I don’t know every student here = I don’t know everyone who studies here.

1. What is the pronunciation of this word? How do you ______ this word?
2. I live far away from my birthplace I live far away from where I ______
3. This is linked to my current project This is linked to what I ______ now
4. What type of studies did you do? What did you ______?
5. After the degree I’m going to look for a job. When I ______ I’m going to look for a job.

6 Replace the phrases in bold with a verb and make any other necessary changes.

1. This highlighted a much better performance of England compared to Italy.
2. This section contains an explanation of the various parameters.
3. The user **has the ability to** change the features.
4. These methods will be used **for an investigation of** the properties of …
5. **The installation of the system is done** automatically.

**7 Rewrite three or four of these titles**

1. The Specification and the Evaluation of Educational Software
2. A Language for Idea Communication
3. Methods for the Analysis of Italian and British Governmental Systems
4. Educational Software Specification Definitions Trends
5. Cultural Heritage Audiovisual Material Multilingual Search Gathering Requirements
6. New archaeology research and teaching technologies
7. Examining Narrative Cinema Fiction and Fact Boundaries

**6 WORD ORDER**

To write logically and in accordance with English word order

- Put your most important points at the beginning of the paragraph and at the beginning of a sentence
- Always follow this order: subject – verb – object
- Put the verb as near as possible to the beginning of the sentence
- Put the subject as near as possible to the verb
- Put the direct object before the indirect object
- Put negative ideas as near as possible to the beginning of the sentence
- Avoid ambiguity

1. **Rewrite these sentences so that they follow subject verb object order.**

1. They are three years that we have been doing this research.

2. It is very interesting this document but I don’t understand what does mean ‘verbosity’?

3. Among the factors that influence good writing are short sentences and a clear layout.

4. Important parameters are conciseness and non-ambiguity.
2 Rewrite so that the verb in bold is nearer the beginning or is made redundant.

1. In this project a systematic investigation of certain languages, and of how they compare under various scenarios, is proposed.

2. An increase in the speed that the reader can read the paper and an improvement in their understanding are generally recorded.

3. Ten datasets with the same grammar points but from several world languages, and several datasets just from European languages, were generated.

4. In Tab. 2 the languages, all the differences in tense usage, and numbers of words, are listed.

5. We show that doing blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah blah is difficult.

6. This study shows that a positive correlation between verbosity and disorganization in life in general, particularly bureaucratic life in some Mediterranean countries exists.

3 Put direct object before indirect object. Make any other changes necessary.

1. We can associate with each language the list of points in Table 1.

2. We sent to the organizers our paper, along with our biographies and a pdf of the presentation.

3. We associated with the verbosity index a chaos index based on the organizational strengths of several countries both within and outside the EU.

4 Where appropriate, rearrange so that the subject is next to the verb.

1. The result, after the calculation has been made, can be used to determine Y.
2. These steps, owing to the difficulties in measuring the weight, require some simplifications.

3. This solution, although interesting, is very expensive.

4. This methodology, which has taken many years to develop and is still only in its initial phase, has some very interesting features.

5 Rewrite so that the subject (X) is shifted to the beginning.

Example: It is unnecessary to do X. = \textit{X does not need to be done}.

1. It is possible that \textit{X was modeled on Y}.

2. It is advisable to use \textit{X}.

3. It is necessary to do \textit{X first}.

4. It is mandatory to use \textit{X}.

5. It is unlikely that \textit{X will be repeated}.

6. It is probable that \textit{X will be needed}.

6 Put the negative concept nearer the beginning of the sentence

1. The cases where this is true are very few.

2. For these reasons we found this particular type of service not interesting.

3. It is many years since we encountered a problem like this.

4. Again, even taking this fact into account, a clear correlation does not emerge.

5. Surprisingly documentation on this aspect is completely lacking \textit{[= manca]}. 
7 TENSES USED IN A PAPER

SUMMARY

In a scientific paper you basically only need three tenses:

• present simple: we study, we find
• past simple: we studied, we found
• present perfect: we have studied, we have found.

The main things you do in a paper are:

1. outline the aims of the study and background - PRESENT SIMPLE AND PAST SIMPLE, AND PRESENT PERFECT
2. give the structure of the paper - PRESENT SIMPLE
3. explain background and review the literature - PRESENT PERFECT AND SIMPLE PAST
4. describing your methodology, equipment and what you did in the lab - SIMPLE PAST
5. report other people's findings - PRESENT SIMPLE (AND PAST SIMPLE)
6. describe what you did in your experiments and to report your results - PAST SIMPLE
7. discuss your findings / results - PRESENT SIMPLE AND PAST SIMPLE
8. draw conclusions - MANY TENSES
9. acknowledge funding and help - MANY TENSES

The most critical mistakes are made in points 5 and 6. If you use the wrong tense it may not be clear whether you are talking about your own results (simple past) or other authors (simple present). You MUST use the correct tense in these two cases.
1 AIMS OF THE STUDY AND BACKGROUND: PRESENT SIMPLE VS PAST SIMPLE VS PRESENT PERFECT

Use the PRESENT SIMPLE to outline main topics of the research and aim of a project, and also to say how your solution differs from previous ones. Such sentences are typically found in the Abstract and Introduction.

This paper **outlines** a methodology for establishing the amount of verbosity in a nation’s language.

The aim of the project **is** to ... **[is if the project is ongoing, was if it is finished]**

The aim of this paper **is** to ...

Use the SIMPLE PAST to state the decisions that motivated your choices.

We **decided** to focus on Italian and English because ...

Our methodology **was designed** so that ...

Use the PRESENT PERFECT to state the background situation as basis for current research, typically in the Abstract and Introduction, and when reviewing the literature. There must be some past-to-present time. In fact, the present perfect gives the idea of something that started in the past and leads up to the present day. It is thus typically used with expression such as: *since, until now, in the last few years, over the last decade, recently*

**Over the last 60 years** English **has transformed** itself from a predominantly writer-oriented language to a reader-oriented language.

**Since the 1950s** people **have been trying** to write in a more simple way.

**But** if no time reference is made, present simple:

Many native English speaking scientists **try** to write in a simple way.

2 STRUCTURE OF THE PAPER: PRESENT SIMPLE VS WILL

Use the PRESENT SIMPLE but not WILL to outline how the paper is organized. Note that you can use a mixture of active and passive sentences if you wish.

This paper **is organised** as follows. Section 1 **gives** a brief overview of the literature. A history of the English language **is presented** in Section 2

However, WILL can be used to describe in other sections of the paper to state what you intend to do next or later in the paper.

This **will be dealt** with in more detail in Sect 2. (the present simple is also possible here)

We **will see** how relevant this is in the next subsection.

We **will now explain** how \( x = y \).

3 LITERATURE REVIEW: PRESENT SIMPLE VS PAST SIMPLE VS PRESENT PERFECT

The PRESENT SIMPLE is sometimes used to introduce the literature review.

In the literature there **are** several examples of new strategies to perform these tests, which all **entail** setting new parameters [Peters 1997, Grace 2004, Gatto 2005].
Use the **PRESENT PERFECT** to refer to ongoing situations, i.e. when authors are still investigating a particular field. Even though specific past dates are mentioned in the three examples below, these dates are part of a series of dates that describe situations that researchers are still working on today and will continue in the future. This means that **PAST SIMPLE** cannot be used in any of these three cases.

*Since 1998* there **have been** many other attempts to establish an English/Italian readability index ([Wallwork et al., 1999; Smithson 2002]), but **until now** no one **has managed** to solve the issue of ....

**Recently** researchers **have found** innovative ways to solve the problem [5, 6, 10]. Researchers **have found** innovative ways to solve the problem [Peters 1997, Grace 2004, Gatto 2007].

You must use the **PAST SIMPLE** when the year of publication is stated within the main sentence (i.e. not just in brackets). In the two examples below we are talking about completely finished actions, so the **PRESENT PERFECT** cannot be used.

This problem **was** first analysed in **1994** [Peters].

Various solutions **were** found in the late **1990s** [Bernstein 1997, Schmidt 1998].

In all other cases, the simplest solution is to use **STYLE 1** (see previous page):

Evans [5] **studied** the differences between Italian and English. He **provides / provided** an index of ...

Lindley [10] **investigated** the use of the genitive in French and English. He **found** that $X = Y$, and his results **agree** with other authors’ findings in this area.

Smith and Jones [11, 12] **developed** a new system of comparison. In their system two languages **are / were compared** from the point of view of ...

So, use the:

**PAST SIMPLE** with the introductory verb (**study, propose, investigate, develop, design** etc).

**PAST SIMPLE** with the verbs that indicate what the author managed to do (**find, obtain, prove, demonstrate, highlight**)

**PRESENT SIMPLE** to describe the methodology of the author. However, there is no agreement about this, and you could also use the **PAST SIMPLE**. In the third example above, the use of the present seems to underline that Smith and Jones are still using their system and that it is still valid. The use of the past implies that Smith and Jones’ system is not in use anymore and it was just a step in this road of research that has subsequently been superseded.

**4 YOUR METHODOLOGY + WHAT YOU DID IN THE LAB: PAST SIMPLE**

Use the **PAST SIMPLE** to say what equipment you used and what you did during your experiments.

In our experiments we **used** Wallwork’s system (Wallwork et al, 2008).

One thousand scientific articles written in English and the same number written in Italian **were scanned** using a conventional high resolution scanner. A high powered (10,000 billion mega) personal computer (supplied by Orange Computers Italia) equipped with a dedicated phrase analysis program ‘Word Parser’ **was then used** to analyse the articles in terms of:
5 + 6 YOUR RESULTS VS OTHER'S RESULTS: PRESENT SIMPLE VS PAST SIMPLE

The most important rule to learn from this section of the course is:

<table>
<thead>
<tr>
<th>In the sections on Methodology and Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>when you talk about published results, use the <strong>PRESENT</strong></td>
</tr>
<tr>
<td>when you talk about your results in this paper, use the <strong>PAST</strong></td>
</tr>
</tbody>
</table>

If you say *English sentences tend to be short and concise* this means that you are stating something that has already been reported in the literature and is now considered to be established scientific fact. You are NOT talking about what you found in your research.

Never use the **PRESENT** to refer to your results unless the reader will be 100% sure that you are referring to your results rather than what is known in the literature. Once you have established that you are referring to your findings (and not someone else’s) then it is possible to switch to the **PRESENT**.

So you could say:

*In our samples English sentences tended to be short and concise. This refers to your experiments which are now finished.*

*We found that English sentences tend to be short and concise. This refers to your conclusions (not just to what you did during your research) and it is preceded by ‘we found’, so it is absolutely clear that you are talking about your findings and not the literature in general.*

7 DISCUSSING YOUR RESULTS: SIMPLE PRESENT, MAY, WOULD

Use the **SIMPLE PRESENT** with the verbs that introduce the results (eg *show*, *demonstrate*, *underline*, *highlight*, *indicate*, *suggest*, *reveal*).

- The results *suggest* / *highlight* that ...
- Our studies *indicate* / *reveal* that Russian is the most suitable for ...

To state more tentative conclusions use a **MODAL VERB** or a **CONDITIONAL**.

- Our studies *revealed* that Russian *was* the most suitable for ... *This means* that Russian *may* / *might* / *would seem to* have many features that might be useful for ...
- Our method for quantifying verbosity *is* very reliable. It *can* / *could* be used for ...,

8 CONCLUSIONS: ALL TENSES

Use the **PRESENT PERFECT** to describe what you have done in the paper itself (i.e. to describe the writing process), not what you did in your research. The **PRESENT PERFECT** is typically with verbs such as *describe*, *outline*, *present*, *propose*, *show*, *highlight*.

- We *have described* a new method for highlighting verbosity in scientific articles. We *have shown* that it can be used in several situations.

Use the **PRESENT PERFECT** to describe how your methodology / system / equipment has been applied elsewhere.

- Our system *has been used* by several university faculties in order to ...

Use the **PAST SIMPLE** to refer to your methods and results.

- We *analysed* English, Italian, Portuguese and Russian. Our studies *revealed* that Russian
was the most suitable for ...

Use the **PRESENT CONTINUOUS** to refer to ongoing research not reported in this paper.

We are currently investigating the possibility of doing ...

Finally, use **WILL** to refer to future research.

Future research will address the problem of ....

**9 ACKNOWLEDGEMENTS: MANY TENSES**

To acknowledge the funding.

This work / research **has been** funded by ... = project probably ongoing

This work / research **is being** funded by ... = project certainly ongoing

This work / research **was** funded by ... = project finished

To thank particular people

The authors **would like** to thank

Thanks are due to ...

To describe the contribution of particular people.

The authors would like to thank Prof Wallwork ...

... who made a useful contribution to .. / ... whose comments were fundamental in ..

... who provided the samples

**MORE ON THE USE AND MISUSE OF THE PRESENT PERFECT**

Misuse of the **present simple vs present perfect**, and the **simple past vs present simple** is very common. Here are some typical examples. *NB Sentences in italics are incorrect.*

**NO!** We have begun to use this system in 2003.

**NO!** They are three years that we use this system.

We have been using this system for several years / since 2003.

We first used this system in 2003.

**NO!** We don't use this system from several years.

We haven't used this system for several years.

The last time we used the system was several years ago.

**NO!** It is the first time that we use this system.

It is the first time that we have used this system.

Verbs that indicate an action that took place at a particular time (*begin, start, install, implement*) rather than repeatedly over time (*study, test, use*) are generally used with past simple.

We have implemented this system since the late 1990s.

We first implemented this system in the late 1990s.

We began implementing this system in the late 1990s.

We have been using / testing this system since the late 1990s.
Active or passive? What kind of writing style should I use?

If you are writing a paper for publication you should look at the relevant journal to see whether authors use an active/ personal or passive/ impersonal style.

However the ISO recommends: Use the third person (eg it was found) unless use of the first person (eg we found) will avoid very complex and difficult to read sentence constructions, and lead to greater clarity' (ISO 214: 1976). In any case, and as with the whole paper, you must have a clear idea of your intended audience.

Not all journals accept the use of 'we', though this situation is changing (fortunately!).

To avoid ambiguity, use active sentences. Passive sentences do not reveal the author of the action and so the reader will not understand if you are referring to your findings or another person. If you insist on using the passive, then you must use the simple past.

1. **GOOD!** In 2008, **we confirmed** that Italians are more intelligent than the British [25].

2. **GOOD!** In 2007, **Carter suggested** that complex sentences could also lead to high levels of stress for the reader [36].

3. **HEAVY!** In 2007, **it was suggested** that complex sentences could also lead to high levels of stress for the reader [Carter, 36].

4. **BAD!** In 2007, **it was suggested** that complex sentences could also lead to high levels of stress for the reader [25].

5. **DISASTER!** In 2007, **it was suggested** that complex sentences could also lead to high levels of stress for the reader.

Below are some alternatives.

**PERSONAL / ACTIVE VOICE**

- We developed XYZ..
- Our approach
- Our results show that ...
- We believe that these results represent ...

**IMPERSONAL / PASSIVE VOICE**

- In the present study XYZ was developed
- The approach adopted in this work
- The results obtained in this study show ..
- These results may represent

More pros and cons of the impersonal vs personal styles

Sometimes the use and non- use of **we** and **our** can be confusing.

Here is the first line of an Abstract.

> When we analyze empirical networks, we often compare those to theoretical models.

Does we refer to a) the network community in general b) the authors of the paper?

In this case it is better to use the passive: When empirical networks are **analysed** ...
Here are two potentially ambiguous sentences:

It was found that $x = y$.

Future research will be dedicated to investigating $X$.

Who did / will do the actions of finding and dedicating a) the community in general b) the authors of the paper?

In this case it might be less ambiguous to write:

Our research revealed that ... In our tests it was found that ...

Our future research

Sometimes you have to use ‘us’ or change the construction.

No! This allows to determine the quantities.

= This allows us to determine the quantities.

= This allows the quantities to be determined.

= This means the quantities can be determined.

Summary: In all sections of your paper you must clearly distinction between what you did and what others have done. So generally only use ‘we’ and ‘our’ to refer to what you have done.

EXERCISES

1 Underline the correct tense.

1. Abstract In this paper we describe / will describe a new method for ...

2. Introduction It is well known that some modern languages are / were more complex than others (eg Japanese vs English) but in our research we find / found that English has / had a higher level of complexity than is / was previously thought.

3. Introduction The paper is / was organized as follows: ... The methodology used is / will be outlined in Section 4, and finally areas of future research are drawn / will be given in Section 5.

4. Introduction In the last few years System A is gaining / gained / has gained considerable interest in the literature. ... System B is not / has not been used for several years but we believe it is still valid today.

5. Introduction This system was / has been first used in 1996. But since that time it is only / has only been used rarely. We believe that this is the first time that the problem of $X$ is / has been / was addressed so specifically.

6. Overview of the literature This problem was / has been addressed by several authors [Blake, Milton, Holt] but so far no one managed / has managed to find a complete solution.

7. Overview of the literature Jackson [12] investigates / has investigated / investigated this problem and finds / has found / found it easy to solve. In his model, various new parameters are / have been / were used. Philipps [13] obtains / has obtained / obtained good results using $xyz$ ...

2 The text below appears in the Results / Discussion section of a paper. For each numbered verb, decide whether you think the action was made by the author (A), someone else (S) or whether you can’t tell (C) if it was the author or another person. If you think the tenses are wrong, change them.
The relationship between the complexity in the way people of a nation write and the complexity in their bureaucratic system has been dealt with in many papers (for a review see Smith et al., 1997). The level of bureaucracy in seven major towns in Italy and in France was assessed. The time taken to obtain certain documents - passport, driving licence, permission to carry out house renovations - was analyzed. The left part of the brain was analysed in a random sample of inhabitants of these towns. Under conditions of stress in municipality offices in Italy, the left part of the brain loses more cells than in municipality offices in France.

3 The text below is the continuation of the text above. Where necessary correct the tense of the verbs in bold.

We also analysed the left part of the brain in a random sample of inhabitants of these towns. Under conditions of stress in municipality offices in Italy, the left part of the brain loses more cells than in municipality offices in France (Figure 4). Interestingly, the brain displays the highest level of cell loss when subjects are attempting to get a passport for travel during the summer holidays ($S^2=0.810$, data not shown). In fact, in some cases Italians undergo total brain shutdown when faced with unhelpful and often rude employees in the passport office. Our results show that the sample of subjects in France remain significantly calmer while performing tasks that are identical to their Italian counterparts. This finding is confirmed by other authors who found that administrators that deal with driving licences France were considerably more helpful and efficient than those in Italy (Guyot 2008, Bruni 2005, Moron 2001).

4 Passive to active

Convert the sentences below into the active

1. The results are shown in Figure 2.
2. This quantity was determined from the values in Table 2.
3. This meant that the values could be determined.
4. The model was built in accordance with Phellatio, Kunnilingus et al [69].
5. In the Methodology it is shown how to follow the steps. NB this sentence is not correct English

5 Change the parts of the sentences that might sound arrogant.

1. Although some authors recently investigated the brand strategy occurring in mergers, this is the first attempt to systematically examine a relatively large sample of M&As.
2. Our results prove that the Italians are more intelligent than the English.
3. This study will help broaden of our understanding of the brain of PhD students.

4. Our results should stimulate other researchers in this field to ...

### 6 Conclusions

We 1) describe / have described / described a system for defining the level of verbosity in a language. We 2) compare / have compared / compared the levels of bureaucracy of several European countries to see if there 3) is / was / has been connection with the level of complexity in that nation's language/s. We 4) find / have found / found that the maximum level of bureaucracy was in Italian society and this is reflected in the seemingly infinite length of sentences in the Italian language. We 5) see / have seen / saw no reason why our verbosity index cannot be applied to other languages such as Arabic, Chinese Hindi, Japanese, and Korean. We believe that our results 6) are / will be / may be / should be of interest to researchers working in other fields such as social and political sciences. Our future research 7) is / will be / may be / should be dedicated to extending this research to other laboratories around the world.

### 7 More on Present vs Present Perfect (Continuous). Correct the mistakes.

1. This is the first time that such results are reported in the literature.

2. For the last decade the number of these cases is increasing.

3. They are five years that we are working on this problem.

4. We began using this system since 2004.

### SECTION 8 AMBIGUITY

#### TOP PROBEMS IN RESEARCH PAPERS

1. Long convoluted complex sentences
2. Redundancy
3. Words in the wrong order
4. Ambiguity

These all affect READABILITY. They may cause your paper to be rejected. A few grammar mistakes will not cause your paper to be rejected.

Below are four grammatical areas that typically cause ambiguity. In addition, you need to be careful with tense usage in distinguishing your work from other researchers: page 7 (making reference to other authors), page 21 (points 5 &6) , and pages 23-24 (active or passive?).
1) THE DEFINITE ARTICLE

I love English = the language
I love the English = the people
Italian PhD students are intelligent. = all Italian PhD students
The English PhD students are intelligent. = just those English students that I know or that I have been talking about

DO NOT USE the IN THESE CASES:
When talking about general concepts.
   The Languages are useful.
   The User guides are often written too quickly.
When a number is associated with figure, table, sections etc, and with percentages
   The Fig. 2. The Section 3. The Point 2. In The Step 2. The 42%.
Before names of people, countries, languages
   The Smithson's article. The Italy is a beautiful country. The English is not an easy language.

general (G) vs specific (S)

Problems when learning English are very common.
Which problems? We don't know. General problems
The problems we've been having with our English pronunciation are very serious.
Which problems? The problems we've had. Specific problems)
   Differences in opinions on this subject are very common. G
   The main differences are: X, Y and Z. S
   Progress is both inevitable and desirable. G
   The progress we have made so far has been very slow. S

Use THE in these cases
1) For something you have already mentioned.
   This paper presents a new system for modeling 4D maps. The system is based on …

2) noun of noun (This ‘rule’ works in 95% of cases)
   the university of Pisa
   the history of Italy

2) PROBLEMS WITH PRONOUNS

Avoid using pronouns: it, they, this, that and one. Also avoid The former .. The latter
The problem is that you are forcing the reader to try and understand what these pronouns refer to, or to read backwards to find out what the former and the latter refer to. It may be obvious to you, but it will not be for the reader.
Instead, repeat the word that these pronouns refer to
   I like bread and pasta.
I eat it for breakfast. I eat bread for breakfast.
I eat the former for breakfast. I eat bread for breakfast.

3) RELATIVE CLAUSES
There is a big difference between who/which and that.
* (people) which (things): for additional information
* (people + things): to define / distinguish
  1) My brother, who lives in Paris, is a researcher
    = I only have one brother. The fact that he lives in Paris is just extra information.
  2) My brother that lives in Paris is a researcher
    = I have more than one brother. I use Paris to define which brother I am talking about

The sentence below is ambiguous:
Correct the sentences below which contain grammatical mistakes mean:
It could mean that you have to correct all (1) the sentences, or it could mean you only need to correct those sentences that contain grammatical mistakes.
To disambiguate:
1) Correct the sentences below, all of which contain grammatical mistakes:
2) Correct only those sentences below that contain grammatical mistakes:

4) GERUND
The gerund is often ambiguous because it does not require a subject. Thus it is difficult for the reader to know what the gerund refers to.

   Inflation will go down reducing taxes.

Does this the above sentence mean inflation will go down :
a) before taxes are reduced b) after taxes have been reduced
First taxes will be reduced and then inflation will go down.
= Inflation will go down by reducing taxes.
Inflation will go down first and then taxes will go down.
= Inflation will go down thus reducing taxes.
   THUS + gerund = and the consequence is
   BY + gerund = this how it will happen

You can find more on all the above (apart from the use of pronouns) in the Grammar and Vocabulary Handout.

EXERCISES
1 Insert the where necessary.
A man collected (1) ______ antique clocks - see (2) ______ figure below. He spent (3) ______ hours both carrying out (4) ______ research into (5) ______ history of (6) ______ clocks, and collecting (7)
Information on them. One morning he wound up two of (8) most valuable ones and then settled down to a full English breakfast. One of (9) clocks went two minutes per hour too slow, and (10) other one went one minute per hour too fast. When he had finished his breakfast he looked at (11) clocks: (12) faster one was exactly 60 minutes ahead of (13) other. How long had (14) clocks been ticking? (15) Figure 1: Antique clocks.

2 Insert the where necessary.

It is well known that (1) women are more intelligent than (2) men. Even (3) women with absolutely no education and who live in total poverty tend to be more intelligent than (4) men, even (5) men who have been to (6) university. Of course there are always (7) exceptions. In our case (8) exceptions are (9) women in this class. (10) women in this class have exceptionally low levels of (11) intelligence. (12) PhD students tend to be above average intelligence, indeed (13) female PhD students from most parts of the world who study here in Italy are extremely intelligent. Despite this, (14) female PhD students are here with us today show few or no signs of (15) intelligence. On the other hand (16) intelligence of (17) men in this class is supersonic, particularly (18) English teacher, although (19) English teachers normally don’t understand anything. (20) end.

3 pronouns: disambiguate these sentences

1. I put the book in the car and then I left it there all day.
2. We could go to Australia, Canada or the Canaries, but they are a long way from here.
3. No user names or passwords are required, unless the system administrator decides that one is necessary.

4 Relative clauses. Disambiguate / Correct only those sentences that are ambiguous or which need commas inserting. You may need to write two different versions to explain the two possible interpretations

1. We rejected the samples which were contaminated.
2. Our findings which can be generalized to many other situations can be found in Sect 1.
3. Our findings are in accordance with their findings which all show high values.
4. The component which we wanted to use was unfortunately damaged.

5 gerunds: disambiguate these sentences

1. Professor Rossi teaches the students having a good level of English.
2. By watching too much television, the muscles become weaker.
3. This will improve performance keeping clients satisfied.
6 Who did what? Part 1

The following extract is the first paragraph of a Discussion (though something very similar might also be found in an Introduction). For each verb associated with a number, try to understand if the verb refers to something Kim (the author) did or found, or to something another author (AA) did or found.

Bilingual children were found 1 to show a greater adaptability to new situations (e.g. change of school, change of diet) and demonstrated a greater ease in communicating confidently with adults [Simons, 1995]. As result of an extensive search for bilingual children in ten European countries, 149 children were identified 2 (Table 1). One hundred and twenty two children with parents of different nationalities were assigned 3 to a group (hereafter Group A). It has been found 4 that those children with parents of the same nationality but who lived in a foreign country (for example, a child with English parents living in Italy) have 5 a greater level of adaptability than those children with parents of different nationalities living in the native country of one of the parents. Similar adaptability levels have been found 6 in trilingual children of parents of different nationalities living in a third country [Schenker, 2011], for example the child of a Dutch/Russian couple living in France. However, in many such cases it was found 7 that one of the three languages was not as strong as the other two (Table 2).

7 Who did what? Part 2

Measurements were made 1 of the speed with which bilingual adults performed simultaneous translations of politicians' speeches because politicians tend to use formal language [Anderson and Kim, 2008]. Similar tests 2 with Nobel prize winners' acceptance speeches gave similar values of speed. This finding strongly suggests that formal language represents an easier element for translation than informal language. The performance of teenagers in analogous situations 3 also confirms the above finding. Considering that informal language, in particular slang, intensifies 4 the stress levels of subjects undertaking simultaneous translation the lack of changes in stress levels 5 of the bilingual adults with respect to bilingual teenagers when simultaneously translating extracts from a teenage soap opera, would seem to indicate that experience plays an important role. Consequently, stress levels in bilingual subjects tend 6 to decrease with age.
9 VARIOUS STYLISTIC CONVENTIONS

Generic pronouns
Do not use he, him, his if you are referring to a generic person.

*The user can use his mouse if he wants.*

The user can use his/her mouse if he/she wants. (OK, but unnecessary and clumsy)

The user can use their mouse if they want. (Seems ungrammatical but is now correct)

**Users** can use their mouse if they want. (This solution is the best)

Plurals
1) To form the plural of acronyms and decades simply add an s (no apostrophe is required though it is commonly and mistakenly used).

   one CD, two CDs

   the 1990s

2) Do not add an s to abbreviated forms of measurements. No full stop (.) is required after such abbreviations

   5 kg (5 kilograms), 100 m (100 meters), 6 h (6 hours), 8 min (eight minutes)

3) Do not put an s on adjectives and words that function as adjectives.

   Our other results were unclear. = Our other results were unclear.

   These results were different from the others. ('others' is a noun here)

   *The samples were incubated for a three-month period.*

   The samples were incubated for a three-month period.

   The samples were incubated for three months.

Numbers and abbreviations
1) Never begin a sentence with a number in figures or an abbreviation such as Fig., Tab., App.

   20,000 people came to the convention

   Twenty thousand people ...

   The convention hosted 20,000 people

   **Fig. 2 shows the values**

   **Figure 2** shows the values

   The values are shown in Fig. 2

2) Use written forms for the numbers from one to nine. However, check with the journal where you want to publish your paper and see what their style convention is for this.

   *There were 9 people at the meeting.*

   There were nine people at the meeting.

   The above rule does not apply to numbers that:

   - come before an abbreviation for a measurement eg 3 ml
3) Use a full stop (.) for decimal numbers, and a comma (,) for whole numbers.

No! The convention hosted 20.000 people
The convention hosted 20,000 people

Acronyms
The first time you want to use an acronym, write its full form first and then the acronyms in parentheses.

No! This policy is called FIFO (first in first out).
This policy is called First In First Out (FIFO).

Apostrophes
1) Avoid contracted forms in formal papers. However, some journals do accept contracted forms - so check with your journal of publication.

Let’s assume that ... = Let us assume that ...
This doesn’t happen if = This does not happen

2) Do not use with acronyms and dates. Dates should always be four digits (eg 1940s rather than ‘40s).

CD’s became common in the late 1980’s. = CDs became common in the late 1980s.

3) Apostrophes may be needed with symbols or letters to show plurals.

Three Ω’s are required.
There are two c’s in Lucca.

GENITIVE
Generally only indicates human possession (including nations, institutes, companies etc), and also animals or personified objects

No! The PC’s screen.
The user’s PC.
The European Space Agency’s Giotto probe was reactivated in 1992.
Italy’s gold reserves
No! Mathematics’ rules. = The rules of mathematics.
No! Malaria’s effects. = The effects of malaria.

But where do I put the apostrophe? And do I use ‘the’?

No! The Homer Simpson’s brain
Homer Simpson’s brain. = the brain of Homer Simpson
Tess’s dilemma. = the dilemma of Tess
Bart and Homer's paper = the paper of Bart and Homer
The Simpsons' house = the house of the Simpsons

**University**

The University of Pisa is organizing a series of seminars on Scientific English. university / organization point of view, formal

*No! I studied mathematics at Pisa's University.*

I studied mathematics at Pisa University. student point of view, less formal

*No! Pisa's three universities are world famous.*

The three universities in Pisa are world famous.

**Genitive with time periods**

The genitive can be used with time periods.

I'm taking three weeks' vacation next month. = three weeks of vacation

But not when these are preceded by a / the.

*No! He's on a three weeks' vacation.*

He's on a 3-week vacation.

**Best solution for Genitive**

Don't write anything that you are not 100% sure is correct.

If in doubt, check with Google (Advanced search, domains: .ac, .edu)