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Abstract
Although scientific text typically has a more complex structure and vocabulary than fiction or text written for the general public, its message should still be clear and concise. One way to ensure this is to use correct sentence structure. If a scientific text is hard to understand, it may be because the sentences do not follow the expected structure and have a confusing number of commas or short phrases. This article provides a short overview of the four main ways that English sentences can be structured, with accompanying examples and exercises for each type.

This article is primarily intended for medical writers who edit texts written by non-native English speakers, especially if they want to be able to help them improve their written English by explaining some basic sentence patterns. We hope it will also help non-native English speakers to construct informative but grammatically correct sentences. We have found these guidelines to be useful in our writing courses for PhD students at the University of Southern Denmark, as they help the students structure their writing and provide a framework for discussing the text with co-authors.

The sentence is the basic unit of a written paragraph or text. We can probably all agree that a sentence such as CT scans were undertaken every three months makes sense and sounds natural, but what if the same sentence belongs to this text: Each patient underwent blood tests and CT scans. CT scans were undertaken every three months. The CT scans were reviewed by the same radiologist. These sentences are grammatically correct but the text does not flow well because the sentences are disjointed with repetitive phrases. The text would flow better – and the message would be clearer – if we combined some of this information, e.g.

Each patient underwent blood tests and CT scans. The CT scans were undertaken every three months and were reviewed by the same radiologist.

Combining sentences to make a more compact message sounds simple enough, but in practice, it is not! Combining sentences requires us to think about the meaning of the messages we are trying to communicate and how they fit together logically. It is actually quite fascinating (maybe just to ‘word nerds’?) to realise how we can make subtle, or not-so-subtle, changes in our message just by using different linking words. Consider the following examples:

- CT scans were undertaken at varying intervals and were reviewed by the same radiologist. [indicating a study strength]
- CT scans were undertaken at varying intervals because they were reviewed by the same radiologist. [maybe the radiologist was only available at certain times]

If you can recognise the four basic types of English sentences, then you will be able to follow some of the main rules about sentence structure. You will be able to see why some sentences have a better flow than others and are easier to read. Often, if someone says that a piece of text is ‘heavy’ or hard to follow, it is because the sentences do not follow the expected structure.

What then is the expected sentence structure in English? There are four main ways that sentences can be structured, based on the number and type of clauses they contain:

- The simple sentence
- The compound sentence
- The complex sentence
- The compound-complex sentence

Before describing these sentence types let’s look at some definitions:

A sentence is a set of words that contains a subject (what the sentence is about, the topic of the sentence) and a predicate (what is said about the subject). In Atrial fibrillation is an important...
factor because its prevalence has increased in western countries, atrial fibrillation is the subject of the sentence and the rest is the predicate. Thus, a sentence:

- includes at least one verb (Atrial fibrillation is an important factor.),
- expresses a complete thought,
- begins with a capital letter and ends with a full stop, question mark (?), or an exclamation mark (!), and
- is also called an independent clause (or main clause).

In contrast, a dependent clause (or subordinate clause) is a group of words that contains a subject and verb but does not express a complete thought and is therefore not a sentence, e.g. because its prevalence has increased in western countries.

1. The simple sentence

- has only one independent clause, and
- contains a subject and a verb and expresses a complete thought, i.e. it makes sense on its own.

The subject (underlined in the examples below) can comprise several words (called a noun phrase, e.g. Most trauma surgeons work full-time), can be a gerund (a verb which functions as a noun, e.g. Monitoring is essential in diabetes), or can be a compound subject (The tubes and syringes were washed in saline). The subject is often at the start of the sentence.

The verb (underlined twice in the examples) is the action word and the most important part of the predicate. It is called action word because it says something about the subject(s) and gives information on aspect of time (past, present, future). It can comprise a single word (Many people worry about global warming) or can be a verb phrase (Samples were collected later).

The sentence Both the laser scanner and the modified gauging system performed well for three-dimensional measurements. has two noun phrases making a double subject (i.e. Both the laser scanner and the modified gauging system; verb = performed).

The predicate of the sentence WHO’s Global Action Plan specifies a 25% reduction or containment of the prevalence of raised blood pressure as one of its nine voluntary targets. includes one verb and a phrase with several other elements.

The sentence The data were collected and analysed. can be classified in two ways. We classify it here as a simple sentence with one subject (the data) and a compound predicate, i.e. two verbs that share the same helping verb (were); thus both verbs are linked to the same subject. But it can also be classified as a compound sentence4 (see below) in which two simple sentences – each with one subject and one predicate (The data were collected and The data were analysed) – are fused to avoid repetition. The important issue here, however, is to be able to identify the subject and its verb(s) to ensure correct subject-verb agreement.

The simple sentence is useful for conveying messages, but too many of them one after the other can make the text choppy and boring. The added benefit of being able to identify the subject and the verb(s) to conjugate the verb correctly, i.e. the finding is or the findings are.

(See Box 1 for exercises on simple sentences.)

Box 1. Simple sentences

Identify the subject and verb of these sentences by underlining the subject once and the verb twice.

1. Infection from wet gangrene can spread quickly through the body.
   e.g. A specialist nurse interviewed the patients. → A specialist nurse interviewed the patients.

2. More children survive to the age of five.
   e.g. More children survive to the age of five, and significant progress has been made against infectious diseases.

3. The new procedure was cheaper and more effective, so the committee quickly agreed to implement it in all the outpatient clinics.
   e.g. The new procedure was cheaper and more effective, so the committee quickly agreed to implement it in all the outpatient clinics.

4. Two patients were injured, but they managed to arrive safely.
   e.g. Two patients were injured, but they managed to arrive safely.

2. The compound sentence

- has two independent clauses (i.e. simple sentences) joined by the conjunctions ‘F.A.N.B. O.Y.S.’ i.e. for – and – nor – but – or – yet – so.
- These ‘FANBOYS’ serve as coordinating conjunctions and signal the start of an independent clause.

The following sentences use these conjunctions: More children survive to the age of five, and significant progress has been made against infectious diseases.

Laser scanners are particularly useful for making three-dimensional measurements, but few hospitals can afford them.

The new procedure was cheaper and more effective, so the committee quickly agreed to implement it in all the outpatient clinics.

Two patients were injured, but they managed to arrive safely.

The independent clauses in a compound sentence should communicate related messages. In the first example above, the underlying topic in both sentences is child mortality. In the second example, both sentences refer to laser scanners. In the third example, the first sentence explains why the committee quickly agreed to implement the procedure. (See Box 2 for exercises on compound sentences.)

Box 2. Compound sentences

Join the following pairs of sentences using a FANBOYS word. (In some cases, there may be more than one correct answer.)

1. No curative treatment exists. Over-the-counter medications can help relieve symptoms.
   e.g. More children survive to 5 years old. Significant progress has been made against infectious diseases.

2. The patient was offered a higher dosage of morphine. He chose to remain on the lower dosage.
   e.g. More children survive to 5 years old, and significant progress has been made against infectious diseases.

3. Children with ear infections may have trouble hearing. This is not usually a problem after treatment.
3. The complex sentence
• has one independent clause (i.e. a simple sentence) and a dependent clause.
• The dependent clause ‘depends’ on the independent clause to have a meaning. It adds more information to the sentence and starts with a subordinating conjunction (e.g. because, until, when, after…). Another type of a dependent clause is the relative clause, which starts with a relative pronoun (who, which, whose, whom, that).

In Many people are concerned about global warming because it affects the environment, the dependent clause is because it affects the environment as it cannot stand alone.

The dependent clause in All the university students who passed their exams received a diploma, is the relative clause who passed their exams signalled by the relative pronoun who. It adds the information that not everyone received a diploma, but only those who passed the exams.

If the dependent sentence comes at the start of the sentence, it usually has a comma after it especially if the dependent clause is relatively long, e.g. Although progress in immunisation coverage has been made, various challenges remain. (See Box 3 for exercises on complex sentences.)

4. The compound-complex sentence
• has at least two independent clauses (linked to form a compound sentence) and one or more dependent clauses.

For example, The instructions in the two questionnaires differ, and although the meaning is the same, it is possible that patients’ responses will be altered. has two independent clauses (The instructions in the two questionnaires differ and it is possible). Dependent clauses are although the meaning is the same and that patients’ responses will be altered.

In The medication should be taken in the morning, but the patients took it in the evening because it made them sleepy. there are two independent clauses linked by but and a dependent clause starting with the subordinating conjunction because. (See Box 4 for exercises on compound-complex sentences.)

Box 3. Complex sentences
Underline the dependent clause in each sentence.

e.g. Frostbite requires medical attention because it can damage the skin and other areas of the body.
1. Response rates for individual questions varied because some respondents did not answer every question.
2. The patients were concerned about confidentiality, although study participation was anonymous and the information was archived using only their project number.
3. Workers usually receive compensation if a serious or debilitating injury occurs on the job or during the commute to work.
4. Every Friday, patients were given schedules for physiotherapy sessions, which helped them organise their time and prepare for the upcoming week.
5. Parents tend to worry and often give their children over-the-counter medications to alleviate discomfort even though fever is a common childhood symptom.

Box 4. Compound-complex sentences
In the sentences below, first identify the simple sentences and then the dependent clause.
1. Therapeutic hypothermia is associated with several complications, and patients with complex heart arrhythmias or in-hospital cardiac arrest could be more vulnerable to these complications because they have a higher risk of co-morbidity.
2. Nearly 35% of Danish geriatricians agree that people have the right to decide for themselves when to die, but only 25% think that euthanasia is justifiable when a suffering patient expresses a wish to die.
3. The analysis is based on hospital admissions, and if a person has had more than one hospital admission, the most recent one is used.

4. Polypharmacy has been linked with increased risk of adverse drug reactions, which significantly rises with the number of concomitant drugs used, and drug interactions may interfere with the intended effects of the drugs.

5. Over half of the prescriptions are made over the telephone, and the quality of prescription refills tends to be lower compared to paper prescriptions because information about the medication is often omitted.

Note that compound-complex sentences can get quite long, so try to avoid too many independent and dependent clauses in the same sentence.

Putting it all together
With practice it gets easier to recognise these four sentence types. By combining simple sentences in the ways described, you can make the text more interesting and easier to understand. (See Box 5 for an exercise on combining sentences.)

Box 5. Combining short, choppy sentences
Revise the following paragraph to avoid the many short sentences. See if you can use and identify compound and complex sentences.

Osteoporosis is a disease of the bones. The disease is characterised by reduced bone mass and poor bone quality. People with osteoporosis often have no symptoms. People with osteoporosis have an increased risk of fractures. This is because the bone is weaker. Bone mineral density scans are used to detect bone density. They measure bone density in the spine, hip, or wrist. The bone mineral density results help doctors diagnose osteoporosis. Doctors use bone mineral density results to predict the likelihood of developing osteoporosis in the future. Osteoporosis is more common in women than in men. The risk of osteoporosis increases with age. It increases after menopause.

As a last exercise (Box 6), see if you can break up the long sentences to give a clearer message.

When you are satisfied with the written text, read it aloud. This is surprisingly effective for identifying problematic text. You will soon hear (or you will run out of breath) if the sentences are too long or complicated!
Box 6. Breaking up long sentences

The following sentences are long-winded. Break them up into shorter sentences to make the message clearer.

1. The final article in the series describes why writing for the general public can be so difficult and time-consuming and gives some advice on how scientists can cope with this challenge and what institutions and organisations can do to help.

2. After discharge from the ward many intensive care patients and their families will feel the need to discuss their experiences with the medical staff who treated them and may feel that only the intensive care clinicians can adequately address their questions, so to help meet this need for communication, intensive care team members should consider making follow-up phone calls to discharged patients and their families.

3. A limitation in the present study was the low participation rate among schools, as only 30% of the eligible schools participated, and this to some degree can be explained by the recent school reform, which demands extra resources of the school staff and therefore some school headmasters refused to participate.

4. In agreement with a large number of international reports, our results showed that younger users (20-40 years) were less likely to attend appointments than other age groups and at both clinics, non-attendance among males was significantly more frequent than among females, but other studies have reported a higher non-attendance among both females and males.

5. Not all scientists are gifted writers, but because they are trained to think logically, they should be able to write clearly and share their enthusiasm not only with their peers but also with the public.

For further information and exercises on English grammar and style, see the online resources, e.g. Purdue Owl.1

Summary

This article provides a short overview of the four main ways that English sentences can be structured. We hope that the exercises have helped you to distinguish between these sentence types and that you will be able to use this knowledge in your future writing or editing. You will be able to make a piece of text more interesting by varying the sentence types.

You may have noticed how you can make subtle changes to the meaning of a sentence by simply altering the linking word or the order of the phrases. When you analyse sentence structure, you are forced to think about the meaning and logic of the sentences, and this can only be useful! It takes time, but is well worth the effort, considering that the final goal is to produce an informative text that flows well and is easily understood.

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References

1 The Purdue University Online Writing Lab (OWL). Sentence types. 2017 [cited 2017 January 10]. Available from: https://owl.english.purdue.edu/owl/owlprint/573/.


Author information

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Jude Pedersen, BA English Literature, University of Texas at Austin, is a TESOL certified language instructor who has over 25 years of experience teaching English as a second language in the US, Japan, and Denmark.
Can you recognise the four types of English sentences? – Gudex and Pedersen

Answers to Exercises

Box 1. Simple sentences
1. Infection from wet gangrene can spread quickly through the body.
2. Cancellation and non-attendance without notice were registered daily.
3. Signs and symptoms of sunburn typically appear a few hours after sun exposure.
4. Submitting to a journal and having a paper published have been considered a challenge for many researchers.
5. Being overweight, eating unhealthy food, and failing to get adequate exercise (all) contribute to the risk of developing diabetes.

[Examples 2, 3, and 4 have two subjects, and example 5 has 3 subjects. They all have one predicate.]

Box 2. Compound sentences
1. No curative treatment exists, but over-the-counter medications can help relieve symptoms.
2. The patient was offered a higher dosage of morphine, but yet he chose to remain on the lower dosage.
3. Children with ear infections may have trouble hearing, but this is not usually a problem after treatment.
4. The neck of the glass stopper should have a length of 20 mm, and the sealing surface of the jar’s finish a width of 5-6 mm.
5. Almost half of all antibiotic prescriptions written for children are for ear infections, and the cost of treating middle ear infections is estimated to be over $2 billion a year.

Box 3. Complex sentences
1. Response rates for individual questions varied because some respondents did not answer every question.
2. The patients were concerned about confidentiality, although study participation was anonymous and the information was archived using only their project number.
3. Workers usually receive compensation if a serious or debilitating injury occurs on the job or during the commute to work.
4. Every Friday, patients were given schedules for physiotherapy sessions, which helped them organise their time and prepare for the upcoming week.

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5. Over half of the prescriptions are made over the telephone, and the quality of prescription refills tends to be lower compared to paper prescriptions because information about the medication is often omitted.

Box 5. Combining short, choppy sentences
(Please note that there are different ways of revising the text. Here is one example.)
Osteoporosis is a disease that is characterised by reduced bone mass and poor bone quality. People with osteoporosis often have no symptoms, but they have an increased risk of fractures because the bone is weaker. Bone mineral density scans measure bone density in the spine, hip, or wrist, and doctors use the results to diagnose osteoporosis or to predict the likelihood of its development in the future. Osteoporosis is more common in women than in men, and the risk of osteoporosis increases with age and after menopause.

Box 6. Breaking up long sentences
1. The final article in the series describes why writing for the general public can be so difficult and time-consuming. It gives some advice on how scientists can cope with this challenge, and what institutions and organisations can do to help.
2. After discharge from the ward, many intensive care patients and their families will feel the need to discuss their experiences with the medical staff who treated them and may feel that only the intensive care clinicians can adequately address their questions. To help meet this need for communication, intensive care team members should consider making follow-up phone calls to discharged patients and their families.
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4. In agreement with a large number of international reports, our results showed that younger users (20–40 years) were less likely to attend appointments than other age groups. At both clinics, non-attendance among males was significantly more frequent than among females, but other studies have reported a higher non-attendance among both females and males.
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