Course N^0= 3: Grammar rules in English scientific writing I (Dependent and independent clauses, Relative clauses, Whose, Where / when / why)

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1   Introductory Words, Clauses, and Phrases

Introductory words, clauses, and phrases introduce, link to a previous sentence, and provide background. Clauses are dependent; phrases are similar to clauses but not complete. They typically begin with adverbs (e.g., after, although, as, because, before, if, since, though, until, when).

Use a comma after an introductory word, clause, or phrase.

2   Dependent and Independent clauses:

2.1   Independent Clauses

A group of words containing a subject and a verb that form a complete thought and can stand alone as a sentence is an independent clause. It is not preceded by a subordinating conjunction.

Independent clauses are connected by a coordinating conjunction preceded by a comma. Other connectors include also, consequently, furthermore, however, moreover, nevertheless, therefore. These connectors follow a semicolon and are followed by a comma.

Wrong: The phenotype appeared to be driven by **this gene so we** used a conditional knockout. (There are two independent clauses; we have to separate them with a coma)

Right: The phenotype appeared to be driven by **this gene, so we** used a conditional knockout.

Wrong: The phenotype appeared to be driven by the gene **in vitro, however** there was no change in vivo. (However has to follow a semicolon and to be followed by a comma

Right: The phenotype appeared to be driven by the gene **in vitro; however,** there was no change in vivo.

2.2   Dependent Clauses

A group of words containing a subject and a verb without forming a complete thought (i.e., subordinate clauses). Usually indicated by signal words (e.g., after, because, unless, whether). Should not stand alone as a sentence.

If a dependent clause acts as a nonessential adjective, offset it with commas.

Wrong: This gene **which is highly expressed in cardiomyocytes** is upregulated.

Right: This gene, which is highly expressed in cardiomyocytes, is upregulated.

Use a comma if an adverbial, dependent clause is used at the beginning of a sentence but notif it's at the end.

Wrong: Aspirate the supernatant, **when the centrifugation finishes**. (The adverbial clause is used in the end, so we do not use the coma)

Right: Aspirate the supernatant when the centrifugation finishes.

Wrong: <u>When the centrifugation finishes</u> aspirate the supernatant. (The adverbial clause is at the beginning, so we have to use the coma)

Right: When the centrifugation finishes**,** aspirate the supernatant.

3   Relative clauses :

3.1   What is a relative clause?

We can use relative clauses to joint two English sentences, or to give more information about something.

 The herbivore is an animal. The herbivore feeds up on vegetation.

→ The herbivore is an animal **that** feeds up on vegetation**.**

She studies microbiology. She likes microbiology.

→ She studies microbiology**, which** she likes.

3.2   Defining and Non-defining

A **defining relative clause** tells which noun we are talking about :

- I like the student **<u>who takes seriously his courses</u>**.
  (If I don't say 'who takes seriously his courses', then we don't know which kind of student I like).

A **non-defining relative clause** gives us extra information about something. We don't need this information to understand the sentence.

- The plant needs water, **which is indispensable for its life**.
  (the first clause is enough to understand that water is indispensable for the plant's life, so 'which indispensable for its life' is an extra information).

3.2.1   Defining relative clauses:

a)   *The relative pronoun is the subject:*

First, let's consider when the relative pronoun is the subject of a defining relative clause.

We can use 'who', 'which' or 'that'. We use 'who' for people and 'which' for things. We can use 'that' for people or things.

The relative clause can come after the subject or the object of the sentence. We cannot drop the relative pronoun.

For example (clause after the object of the sentence):

- I'm looking for **a secretary** who / that can use a computer well.
  The object   (we cannot drop the relative pronoun)

  I'm looking for **a secretary** can use a computer well
  The sentence is wrong

- She has **a son** who / that is a doctor.
- We bought **a house** which / that is 200 years old.
- I sent **a letter** which / that arrived three weeks later.

b) *The relative pronoun is the object:*

Next, let's talk about when **the relative pronoun** is the object of the clause. In this case we can drop the relative pronoun if we want to. Again, the clause can come after the subject or the object of the sentence. Here are some examples:

(Clause after the object)

- She loves **the chocolate** (which / that) I bought.   She loves **the chocolate** I bought.
  The object (we can drop the relative pronoun)   The sentence is right

- We went to **the village** (which / that) she recommended.
- He met **a person** (who / that) I had been to school with.
- The police arrested **a man** (who / that) my brother worked with.

(Clause after the subject)

- **The bike** (which / that) I like was stolen.   **The bike** I like was stolen.
  The subject (we can drop the relative pronoun)   The sentence is right

- **The university** (which / that) she likes is famous.
- **The doctor** (who / that) my fathervisits is from another country.
- **The girl** (who / that) my sisterplayed with lives in our neighborhood.

3.2.2   Non-defining relative clauses:

We don't use 'that' in non-defining relative clauses, so we need to use 'which' if the pronoun refers to a thing, and 'who' if it refers to a person. We can't drop the relative pronoun in this kind of clause, even if the relative pronoun is the subject of the clause.

(Clause comes after the subject)

- My boss**, who is very nice,** lives in Algiers.
  non-defining relative clauses

  ➢ My boss**, is very nice,** lives in Algiers. (Wrong)

- My sister**, who I live with,** knows a lot about insects.
  non-defining relative clauses

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- ➢ My sister knows**, I live with,** a lot about insects. (Wrong)

- My bicycle**, which I have had for more than ten years**, is falling apart.

  - ➢ My bicycle**, I have had for more than ten years,** is falling apart. (Wrong)

- My mother's house**, which I grew up in,** is very small.

  - ➢ My mother's house**, I grew up in,** is very small. (Wrong)

(Clause comes after the object)

- Yesterday I called our friend Julie**, who lives in New York.**

  Yesterday I called our friend Julie**, lives in New York.** (Wrong)

- The photographer called to the Queen**, who looked annoyed.**
- Last week I bought a new computer**, which I don't like now.**
- I really love the new Chinese restaurant**, which we went to last night.**

3.3 Prepositions and relative clauses

If the verb in the relative clause needs a preposition, we put it at the end of the clause:

For exemple :

- **Listen to**

The course is useful. Asia **listens to** the course.

→ The course (which / that) Asia **listens to** is useful.

- **Work with**

My coworker has hypersensitivity to the chemical products. I used to **work with** the chemical products.

→ My coworker has hypersensitivity to the chemical products (which / that) I used to **work with**.

- **Go to**

The country is very hot. He **went to** the country.

→ The country (which / that) he **went to** is very hot.

- **Come from**

I visited the city. My friend **comes from** the city.

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→ I visited the city (that / which) my friend **comes from**.

- **Apply for**

The job is well paid. She **applied for** the job.

→ The job (which / that) she **applied for** is well paid.

4 Whose

'Whose' is always the subject of the relative clause and can't be left out. It replaces a possessive. It can be used for people and things.

The dog is over there. The dog's owner lives next door.

→ The dog **whose** owner lives next door is over there.

The little girl is sad. The little girl's doll was lost.

→ The little girl **whose** doll was lost is sad.

The house belongs to me. Its roof is very old.

→ The house **whose** roof is old belongs to me.

5 Where / when / why

We can sometimes use these question words instead of relative pronouns and prepositions.

I live in a city. I study in the city.

→ I live in the city **where** I study.

→ I live in the city **that / which** I study **in**.

→ I live in the city **in which** I study.

The summer was long and hot. I graduated from university in the summer.

→ The summer **when** I graduated from university was long and hot.

→ The summer **that / which** I graduated from university **in** was long and hot.

→ The summer **in which** I graduated was long and hot.