Relative clauses

I. Defining clauses
II. Non-defining clauses
III. Notes
IV. Relative pronouns and prepositions
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I. Defining clauses

Defining clauses specify/define which person/thing/animal is meant. Remember that the defining clause is not separated from the rest of the sentence by a comma/commas.

<table>
<thead>
<tr>
<th>Defining pronouns</th>
<th>Subject</th>
<th>Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons</td>
<td>who</td>
<td>that</td>
</tr>
<tr>
<td>Things/Animals</td>
<td>which</td>
<td>that</td>
</tr>
</tbody>
</table>

Persons
I have a friend who spent a year at a British university. (formal)
I have a friend that spent a year at a British university. (informal)
Steve Jobs was a visionary whom many people admired. (very formal)
Steve Jobs was a visionary who many people admired. (less formal)
There’s the student that I met at yesterday’s workshop. (informal)
There’s the student I met at yesterday’s workshop. (informal)

Things/Animals
The computer is an invention which has revolutionized the business world. (formal)
The computer is an invention that has revolutionized the business world. (informal)
The device which you can see in this picture is the prototype developed by our team. (formal)
The device that you can see in this picture is the prototype developed by our team. (informal)
The device you can see in this picture is the prototype developed by our team. (informal)

II. Non-defining clauses

Non-defining clauses do not specify but give additional information. Remember that the non-defining clause is separated from the rest of the sentence by a comma/commas.

<table>
<thead>
<tr>
<th>Non-defining pronouns</th>
<th>Subject</th>
<th>Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons</td>
<td>who</td>
<td>who(m)</td>
</tr>
<tr>
<td>Things/Animals</td>
<td>which</td>
<td>which</td>
</tr>
</tbody>
</table>

Persons
We invited Dr Smith, who is an outstanding specialist in electrical machines, to speak to our students.
Dr Smith, whom you haven’t met yet, is an outstanding specialist in electrical machines. (very formal)
Dr Smith, who you haven’t met yet, is an outstanding specialist in electrical machines.

**Things/Animals**
The IEEE Sensors Journal, which is published monthly, is one of the leading journals in the field.
I’d like to borrow the April 2010 issue of the IEEE Sensors Journal, which you showed me yesterday.

### III. Notes

- Association with a person, organization, company, town, country is expressed by “whose”.
  
  Steve Jobs, whose name is for most people associated with Apple, died in 2011.
  
  We need to learn from companies whose marketing policy is better than ours.

With things, “noun + of which” or “whose” is used.

  He presented the latest Faculty project, the main objective of which/whose main objective is to modernize the teaching methods.

  It is, however, better to avoid this construction as it sounds rather clumsy.
  
  You can say:
  
  He presented the Faculty project. Its main objective is …
  
  The main objective of the Faculty project which he presented is …

- “All, little, much” (used as nouns) and superlatives are followed by “that” (not “which); when used as objects, they can be followed either by “that” or the zero pronoun.
  
  All that remains to be done can be done tomorrow. (not “which”)
  
  He is the best friend (that) I’ve ever had. (not “who”)

- “What” can also be used as a relative pronoun but only in the meaning “the things that” (= to, co). Distinguish between:
  
  They showed us what they had done. (not “that/which”)
  
  They showed us all (that) they had done. (not “what”)

- “Which” can also refer to a whole clause (= což). It is always preceded by a comma.
  
  He wasn’t able to cope with that situation, which surprised me.

- With nouns referring to a group of people (e.g. company, management, government) both who, which and that are used.
  
  Governments who tolerate corruption should resign.
  
  Governments which/that tolerate corruption should resign.

### IV. Relative pronouns and prepositions

<table>
<thead>
<tr>
<th>Formal/Very formal style</th>
<th>Less formal/Informal style</th>
</tr>
</thead>
<tbody>
<tr>
<td>preposition + whom</td>
<td>who .................. + preposition</td>
</tr>
<tr>
<td>preposition + which</td>
<td>which .................. + preposition</td>
</tr>
<tr>
<td>whom + preposition</td>
<td>that/zero ........ + preposition</td>
</tr>
</tbody>
</table>
The gentleman about whom they spoke was from Manchester. (very formal)
The gentleman whom they spoke about was from Manchester. (very formal)
The gentleman who they spoke about was from Manchester. (less formal)
The gentleman (that) they spoke about was from Manchester. (informal)
The paper to which he referred was published in 2010. (formal)
The paper which he referred to was published in 2010. (less formal)
The paper (that) he referred to was published in 2010. (informal)

In formal style the preposition precedes the pronoun but can also come later in the relative clause. In informal style it always comes later in the relative clause.

Note:
“That” (relative pronoun) cannot be preceded by a preposition or a comma.
Wrong: The paper to that he referred … .

V. Relative clauses introduced by “wh-words”

“Wh-words” are often used instead of a preposition + the relative pronoun structure.

| when | where | whereby | why |

In formal style, the prepositional phrase is quite common.

This is the point where the two lines intersect.
This is the point at which the two lines intersect.
I don’t remember the date when we are to submit the thesis.
I don’t remember the date on/ by which we are to submit the thesis.
The University has adopted a program whereby/ by which plagiarism will be, if not eliminated, at least reduced.
Do you know the reason why he resigned?
Do you know the reason for which he resigned?

VI. Structures used instead of relative clauses

1. The “-ing and “-ed forms
   - ing
   The team working on the project consists of both staff and students. (that works)
   - ed
   The method used by our team proved to be very reliable and efficient. (that was used)
   “being + -ed”
   The issue being discussed at all faculties now is the University budget. (which is being discussed)

2. The “to infinitive” structure
   This structure is often used after: the first/ the second/ the third …
   the only/ the next/ the last
   superlative + noun
He was the first to come and the last to go. (the first who came, the last who went)
That’s the only thing to do/to be done in this situation. (that can be done)
He was the youngest person to be appointed Professor at this University. (that was appointed)

The issue to be discussed at the next meeting is the Faculty budget. (that will be discussed)

EXERCISES

I. Tick off all the relative pronouns that fit in the following sentences.
1. Did the University management, ………………………………….. ruled out smoking on the
campus, talk to the students first?
   a) zero                                 b) which                          c) that                      d) who
2. John Wilkie was one of the students ……………………………….. I studied with when I was at
   Brunel University.
   a) who                                  b) whom                          c) zero                     d) that
3. He told me all ……………………………… he knew.
   a) what                                 b) that                          c) which                  d) zero
4. He focused his presentation on ………………………………. he thought would be relevant to the
   audience.
   a) that                                   b) which                           c) what                   d) zero
5. One of the PhD students, ……………………………….. did not wish to be named, criticized the
   organization of the industrial visit to Škoda Transportation.
   a) who                                  b) zero                              c) that                     d) which
6. The laboratory was locked as early as 2 p.m., ………………………………… was rather
   surprising.
   a) what                                b) that                               c) which                  d) zero
7. There’s one person here ……………………………… name hasn’t been mentioned yet.
   a) who                                 b) which                            c) whose                 d) whom
8. What is the name of the student …………………………………. you share your room with?
   a) that                                   b) zero                              c) who                         d) whom
9. Was the experiment ………………………………….. cost you so much time and money worth
doing?
   a) what                                 b) which                            c) zero                        d) that
10. ……………………………….. you mustn’t miss at this conference is Professor White’s lecture.
   a) which                             b) who                                 c) zero                   d) what

II. Reformulate the following sentences so that they contain the pronouns in capitals and
the meaning remains the same.
1. My supervisor was the first person I asked for advice.                                 WHOSE
   My supervisor was the first person whose advice I asked for.
2. I don’t really like any changes for the worse.                                                 WHAT
   ............................................................................................................................
3. I’ve read all his papers but one.                                                                        THAT
   ............................................................................................................................
4. It was very strange that nobody asked any questions after the          WHICH
5. We are preparing a project. Its objective is to propose more efficient ways of waste recycling.

6. I don’t remember the name of the author of that paper.

7. He couldn’t give us a better example than this.

8. She said something about their new approach; unfortunately, I didn’t catch it.

9. I admire researchers such as Adam G. Riess; he won the Nobel prize for physics this year.

10. The Chairman of the afternoon session did an excellent job. His name is difficult to pronounce.

III. Complete with prepositions.
1. I attended many workshops on management and marketing the best which was the one held at this University last week.
2. We took the visitor to the top floor where it is possible to see the whole campus.
3. He published tens of papers many which were cited in a number of prestigious journals.
4. We only have one week till next Friday which time the application must reach the Ministry.
5. Several people criticized the way which the celebration was organized.
6. This is a method which you can easily determine the presence of chemicals in water.

IV. Reduce the relative clauses by using the “to infinitive, -ed, -ing” or “being + -ed” constructions.
1. The first step that we have to take is the creation of an estimation model.
2. The authors find that their model compares favourably with the model which was published by XY in 2008.
3. The relationship that this research revealed provides valuable insight for both researchers and practitioners.
4. The report which will be published next month will contain all the important facts.
5. The new research centre which is being built next to the Faculty is financed from a European grant.
6. The only Czech who will participate in the international competition is a PhD student from our University.

7. Information sharing is one of the issues that will be dealt with at the next meeting.

8. Seniors who lack experience in the use of computers will be offered some basic training.

9. If you want to know when the International Summer Language School starts, the person you should contact is Ms XY from the International Office.

10. The two faculties which are doing research into environmental issues have agreed on close cooperation.

V. Formulate definitions of the terms below (1 to 10) by matching phrases in A with phrases in B and using a relative clause (sometimes you may have to add a preposition). Where possible, use also the reduced relative clause.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>... is a nuclear reactor</td>
<td>It is able to sense, grip and move objects.</td>
</tr>
<tr>
<td>... is an algebraic expression, equation or quantity</td>
<td>They form the current-carrying element of an electrical machine or static transformer.</td>
</tr>
<tr>
<td>... is a general term for alloys</td>
<td>It is designed to produce both useful power and fuel.</td>
</tr>
<tr>
<td>... is the turning moment exerted by a tangential force</td>
<td>Metal objects are made by casting in moulds.</td>
</tr>
<tr>
<td>... is a screw thread cutter</td>
<td>It remains the same while the variables change.</td>
</tr>
<tr>
<td>... is a computer-controlled machine</td>
<td>They have practical value and/or industrial use.</td>
</tr>
<tr>
<td>... is a system of moving parts</td>
<td>It studies the interrelations between living organisms and their environment.</td>
</tr>
<tr>
<td>... is the practice, description and terminology of any or all of the applied sciences</td>
<td>It acts at a distance from the axis of rotation.</td>
</tr>
<tr>
<td>... is the scientific discipline</td>
<td>The electron beam comes to a focus inside the accelerating anode of a cathode-ray tube.</td>
</tr>
<tr>
<td>... is a system of insulated conductors</td>
<td>It helps us understand the nature of something or determine its essential features and their relations.</td>
</tr>
</tbody>
</table>
... is the point They are used for joining metals together.

... is a workshop Its edge is serrated to the profile of the screw thread.

... is a fundamental particle They transmit motion.

... is a process It is present in all atoms.

1. A foundry is a workshop where/in which metal objects are made by casting in moulds.
2. A robot
3. Ecology
4. The cross-over area
5. Torque
6. A winding
7. A gear
8. A constant
9. Solder
10. Technology
11. A power breeder
12. A chaser
13. The proton
14. Analysis