‘Learn Lojban’ course

How to use this course:

1. read it
2. collect your feedback and suggestions
3. send them to the live chat

Lesson 1. The language at a glance

Alphabet

The basic thing you need to know about Lojban is obviously the alphabet.

Lojban uses the Latin alphabet (vowels are colored):

a b c d e f g i j k l m n o p r s t u v x y z ' .

Letters are pronounced as they are written.

There are 10 vowels in Lojban:

a	as in *b<u>a</u>th* (not as in *face*)
e	as in *g<u>e</u>t*
i	as in *mach<u>i</u>ne* (not as in *hit*)
o	as in *ch<u>o</u>ice*, *n<u>o</u>t* or *ough* in *th<u>ough</u>t* (not as in *so*, **o** should be a "pure" sound).
u	as in *c<u>oo</u>l* (not as in *but*)
y	as in *comm<u>a</u>* (not as in *misty* or *cycle*)
4 vowels are written using combinations of letters:	
au	as in *c<u>ow</u>*
ai	as in *h<u>igh</u>*
ei	as in *w<u>eigh</u>*
oi	as in *b<u>oy</u>*

As for consonants they are pronounced like in English or Latin, but there are several differences:

c	is pronounced as *c* in *ocean*, as *sh* in *shop*.
g	always *g* as in *gum* (never *g* as in *gem*).
j	like *s* in *pleasure* or *treasure*, like *j* in French *bonjour*.
x	like *ch* in Scottish *loch* or as in German *Bach*, Spanish *Jose* or Arabic *Khaled*. Try pronouncing *ksss* while keeping your tongue down and you get this sound.
'	like English *h*. So the apostrophe is regarded as a proper letter of Lojban and pronounced like a *h*. It can be found only between vowels. For example, **u'i** is pronounced as *oo-hee* (whereas **ui** is pronounced as *wee*).
.	a full stop (period, word break) is also regarded as a letter in Lojban. It's a short pause in speech to stop words running into each other. Actually any word starting with a vowel has a full stop placed in front of it. This helps prevent undesirable merging of two sequential words into one.
i	**i** before vowels is considered a consonant and pronounced shorter, for example: **ia** is pronounced as *ya* in *yard* **ie** is pronounced as *ye* in *yes*
u	**u** before vowels is considered a consonant and pronounced shorter, for example: **ua** is pronounced as *wo* in *wow* **ue** is pronounced as *whe* in *when*

Stress is put on the last but one vowel. If a word has only one vowel you just don't stress it.

r can be pronounced like the *r* in English, Scottish, Russian, thus there is a range of acceptable pronunciation for it.

Non-Lojban vowels like short *i* and *u* in Standard British English *hit* and *but* are used by some people to separate consonants. So if you have problems spitting out two consonant one after another, e.g. the **vl** in **tavla** (which means *to talk to*), then you can say *tavɪla* — where the *ɪ* is very short, but other vowels: **a**, **u** have to be long.

The simplest sentence

Now let's turn to constructing our first sentences in Lojban.

The basic unit in Lojban is called **bridi** meaning "sentence", "relation". Here are two simple ones:

> **le prenu cu tavla mi**
> *The person speaks to me.*

le prenu ≈ *the person*
tavla ≈ *... talks to ..., ... speaks to ...*
mi ≈ *I, me*

> **mi prami do**
> *I love you.*

prami ≈ *... loves ... (someone)*
do ≈ *you*

> **mi ca cu tavla do**
> *I now talk to you.*

ca ≈ *now*

Each sentence in Lojban consists of the following parts from the left to the right:

- the head:
  - consists of so called "terms",
  - **le prenu**, **mi**, **ca** are terms in the examples above.
- the head separator **cu**:
  - pronounced as *shoe* since **c** is for *sh*,
  - shows that the head ended,
  - can be omitted when it's clear anyway that the head is completed.
- the tail:
  - the main relation construct (**tavla**, **prami**) with possibly one or more terms after it: the terms **mi**, **do** in the examples above.

mi
I

tavla
to talk

One of your first thoughts might be "Where are nouns and verbs in Lojban?"

Well, in Lojban we mostly speak of relations rather than nouns and verbs.

Here are the two relation words, which roughly correspond to verbs:

prenu ≈ *... is a person / are people*
tavla ≈ *... speaks to ...*

do
you

To turn such "verb" into a noun we put a short word **le** in front of it:

le prenu ≈ *the person*

Similarly,

tavla ≈ *... speaks to ...*

and thus

le tavla ≈ *the speaker*

It might sound strange how *person* can be a "verb" but in fact this makes Lojban very simple:

relation word	noun
prenu — *to be a person*	**le prenu** — *the person*
tavla — *to speak to*	**le tavla** — *the speaker*

We can also say that **le** creates a noun from a relation construct with roughly the meaning of *the one which is ...* (*is a person — the person*), or even *those who do...* (*to speak to — the speakers*), *those who are...* (*are people — the people*).

Notice, that Lojban by default doesn't differentiate between *the speaker* or *the speakers*. That is, **le tavla** is vague in that regard and we will soon discover ways to define the number.

Terms in Lojban (no matter where in a given sentence they are used) are mostly represented with:

- nouns like **le prenu** (*the person*)
- pronouns like **mi** (*I, me*), **do** (*you*). Pronouns work exactly as nouns, but **le** is not used for them, they work as nouns on their own.
- modal terms like **ca** (*now, in present*). Modal terms specify additional, clarifying information.

Some more examples:

> **mi nintadni**
> *I am a new student.*

nintadni ≈ *... is a new student, a newbie*

Unlike in English we don't have to add the verb "am/is/are/to be" to the sentence. It is already there. The relation word **nintadni** (*... is a new student*) already has this English "am/is/are/to be" built into its English translation.

> **do jimpe**
> *You understand.*

> **mi pilno le fonxa**
> *I use the phone.*

pilno ≈ *... uses ... (something)*
fonxa ≈ *... is a phone, ... are phones*
le fonxa ≈ *the phone, the phones*

> **mi citka**
> *I eat.*

citka ≈ *... eats ... (something)*

> **do citka**
> *You eat.*

> **mi citka le plise**
> *I eat the apples.*

> **le plise cu kukte**
> *The apples are tasty.*

Here, **le plise** means *the apples*, **kukte** means *is tasty / are tasty*.

A simpler sentence in Lojban would contain only one main relation word:

> **karce**
> *Car!*

You could say this when you see a car coming. Here the context would be clear enough that there is a car somewhere around and probably it's dangerous.

karce itself is a verb meaning *is a car, to be a car.*

We can of course be more precise and say, for example:

> **ti karce**
> *This is a car.*

ti
this one (near me, the speaker)

where **ti** is a pronoun meaning *this thing near me.*

Similarly, you can say

> **carvi**
> *It is raining.*

where

carvi ≈ *... is rain, ... is raining*

or

> **pluka**
> *It's pleasant*

where

pluka ≈ *... is pleasant*

Notice that in Lojban there is no need in the word *it* in such sense. You just use the relation word you need.

> **prami**
> *Someone loves.*

> **bajra**
> *Someone runs.*

bajra ≈ *... runs using limbs*

Again context would probably tell who loves whom and who runs.

Task

Close the right part of the table. Translate from Lojban the sentences on the left.

pinxe ≈ *... drinks ... (something)*
le ladru ≈ *the milk*

do citka	*You eat.*
mi pinxe le ladru	*I drink milk.*
mi citka le plise	*I eat apples.*

«**.i**» separates sentences

The most precise way of uttering or writing sentences in Lojban would be placing a short word **.i** in the beginning of each of them:

> **mi tavla le prenu .i le prenu cu tavla mi**
> *I'm talking to the people. The people are talking to me.*

.i separates sentences like the full stop (period) at the end of sentences in English texts.

When saying one sentence after another in English we make a pause (it may be short) between them. But pause has many different meanings in English. In Lojban we have a better way of understanding where one sentence ends and another begins.

Also note that sometimes when pronouncing words quickly you can't figure out where one sentence ends and the word of the next sentence begins. Therefore it's advised to use the word **.i** before starting a new sentence.

Numbers: ‘*1 2 3 4 5 6 7 8 9 0*’ = «**pa re ci vo mu xa ze bi so no**»

le simply turns a verb into a noun but such noun has no number associated with it. The sentence

> **le prenu cu tavla mi**
> *The people talk to me.*
> *The person talks to me.*

doesn't specify the number of people talking to me. It is impossible to omit number in English because *people* in English implies *more than one person*. In Lojban you can omit even number.

Now let's specify how many of the people are relevant to our discussion.

Let's add a number after **le**.

pa	re	ci	vo	mu	xa	ze	bi	so	no
1	2	3	4	5	6	7	8	9	0

> **le pa prenu cu tavla mi**
> *The person talks to me.*
> *The one person talks to me.*

We add a number after **le** and thus specify individual people.

For numbers consisting of several digits we just string those digits together.

> **le re mu prenu cu tavla mi**
> *The 25 people talk to me.*

Yes, it's that simple.

If we want to count we can separate numbers with **.i**:

> **mu .i vo .i ci .i re .i pa .i no**
> *5 ... 4 ... 3 ... 2 ... 1 ... 0*

The number **za'u** means *more than ...* (> in math), the number **me'i** means *less than* (< in math):

> **le za'u re prenu cu tavla mi**
> *More than two people talk to me.*

> **le me'i pa no prenu cu tavla mi**
> *Fewer than 10 people talk to me.*

> **le za'u ci prenu cu tavla mi**
> *More than three people talk to me.*

To say just *people* (plural number) as opposed to *one person* we use **za'u pa**, *more than one* or simply **za'u**.

> **le za'u pa prenu cu tavla mi**
> **le za'u prenu cu tavla mi**
> *The people talk to me.*

za'u by default means **za'u pa** hence such contraction is possible.

le prenu ≈ *the person / the people (in general)*
le pa prenu ≈ *the person (one in number)*
le za'u prenu ≈ *the people (two or more in number)*

Task

Close the right part of the table. Translate from Lojban the sentences on the left.

le prenu ≈ *the person, people*
stati ≈ *... is smart, ... has a talent*
klama ≈ *... comes to ... (some place or object)*
nelci ≈ *... likes (something)*
le zarci ≈ *the market*
le najnimre ≈ *the orange (fruit), the oranges*
le badna ≈ *the banana, bananas*

le mu prenu cu klama le zarci	The five people come to the market.
le pa re prenu cu stati .i do stati	The 12 people are smart. You are smart.
le prenu cu nelci le plise	The people like the apples.
le za'u re prenu cu citka .i le me'i mu prenu cu pinxe le ladru	More than two people eat. Fewer than 5 people drink the milk.
le za'u re prenu cu stati	More than two people are smart.

Close the right part of the table. Translate to Lojban the sentences on the left.

The 256 people are smart.	le re mu xa prenu cu stati
Fewer than 12 apples are tasty.	le me'i pa re plise cu kukte

Compound verbs

Compound verbs (**le tanru** in Lojban) are several verb words one after another.

> **tu melbi zdani**
> *That one is a nice home.*

tu ≈ *that one (away from you and me)*
melbi ≈ *... is beautiful, nice*
zdani ≈ *... is a home or nest to ... (someone)*

> **do melbi dansu**
> *You nicely dance.*

dansu ≈ *... dances*

Here the verb **melbi** adds an additional meaning as it is to the left of another verb: **zdani**. The left part is usually translated using adjectives and adverbs.

Compound verbs are a powerful tool that can give us richer verbs. You just string two verbs together. And the left part of such compound verb adds a flavor to the right one.

We can put **le** (e.g. with a number) to the left of such compound verb getting a compound noun:

le pa melbi zdani ≈ *the beautiful home*

Now you know why there was **cu** after nouns in our example

> **le pa prenu cu tavla mi**
> *The person talks to me.*

Without **cu** it'd turn into **le pa prenu tavla** ... with the meaning *the person-talker* whatever that could mean.

Consider:

> **le pa tavla pendo**
> *The talking friend*

> **le pa tavla cu pendo**
> *The talking one is a friend.*

Remember about placing **cu** before the main relation construct in a sentence to prevent unintentional creation of compound verbs.

Compound verbs can contain more than two verbs. In this case the first verb modifies the second one, the second one modifies the third and so on:

> **le pa melbi cmalu karce**
> *the pretty-small car, the car small in a pretty way*

> **le mutce melbi zdani**
> *the very beautiful home*

mutce ≈ *... is very, ... is much*

Task

Close the right part of the table. Translate from Lojban the sentences on the left.

sutra ≈ *... is quick*
barda ≈ *... is big*
cmalu ≈ *... is small*
bajra ≈ *... runs*
mlatu ≈ *... is a cat*

le melbi karce	*the beautiful car / the beautiful cars*
do sutra klama	*You quickly come. You come fast.*
tu barda zdani	*That is a big home.*
le pa sutra bajra mlatu	*the quickly running cat*
le pa sutra mlatu	*the quick cat*
le pa bajra mlatu	*the running cat*

Close the right part of the table. Translate to Lojban the sentences on the left.

This is a small car.	**ti cmalu karce**
tasty apples	**le kukte plise**
the quick eaters	**le sutra citka**
You are a quickly going person.	**do sutra klama prenu**

‘*Yes/No*’ questions

In English, we make a *yes/no* question by changing the order of the words, for example

> *You are ... ⟹ Are you ...?*

or putting some form of the verb *to do* at the beginning, for example,

> *You know ... ⟹ Do you know?*

In Lojban we can retain the order of words.

We turn any assertion into a *yes/no* question by simply putting the word **xu** somewhere in the sentence, for example in the beginning:

> **xu do nelci le gerku**
> *Do you like the dogs?*

le gerku ≈ *the dog, the dogs*

Remember that in Lojban punctuation like "?" (question mark) is totally optional and used mostly for stylistic purposes. After all, we use the question word **xu** that shows the question anyway.

Other examples:

> **xu mi klama**
> *Am I coming?*

klama ≈ *... comes to ... (somewhere)*

> **xu pelxu**
> *Is it yellow?*

pelxu ≈ *... is yellow*

We can shift the meaning by placing **xu** after different parts of the relation. Some possible explanations of such shift in meaning are given in brackets:

> **xu do nelci le gerku**
> *Do you like the dogs?*

> **do xu nelci le gerku**
> *Do YOU like the dogs?*
> (I thought it was someone else who likes them).

> **do nelci xu le gerku**
> *Do you LIKE the dogs? (I thought you were just neutral towards them).*

> **do nelci le gerku xu**
> *Do you like the DOGS? (I thought you liked cats).*

So what is expressed using intonation in English is expressed by moving **xu** after the part we want to emphasize. Note, that the first sentence with **xu** in the beginning asks the most generic question without stressing any particular aspect.

xu is an interjection word. Here are the features of Lojban interjections:

 interjection modifies the construct before it. So when put after certain part of the relation like pronoun or a verb it modifies that verb:

> **do xu nelci le gerku**
> *Do YOU like the dogs?*

 being put in the beginning of a relation, interjection modifies the whole relation:

> **xu do nelci le gerku**
> *Do you like the dogs?*

 we can put an interjection after different parts of the same relation shifting the meaning.

Interjections don't break compound verbs, they can be used within them:

> **do nelci le barda xu gerku**
> *Do you like the BIG dogs?*

Now how to reply to such 'yes/no' questions? You repeat the main relation:

> **— xu le mlatu cu melbi**
> **— melbi**
> *— Are the cats pretty?*
> *— Pretty.*

To answer 'no' we use the modal term **na ku**:

> **— xu le mlatu cu melbi**
> **— na ku melbi**
> *— Are the cats pretty?*
> *— Not pretty.*

na ku ≈ *term: it is false that ...*

Or we can use a special verb **go'i** that simply refers to the main relation of the previous sentence:

> **— xu le mlatu cu melbi**
> **— go'i**
> *— Are the cats pretty?*
> *— Pretty.*

go'i ≈ *verb repeating the relation of the previous relation*

Here, **go'i** means the same as **melbi** since **melbi** is the relation of the previous relation.

> **— xu le mlatu cu melbi**
> **— na ku go'i**
> *— Are the cats pretty?*
> *— Not pretty.*

This course doesn't recommend negating **go'i** for negative answers. Just use **je'u nai**.

The modal term **na ku** can be used not only in answers:

> **na ku mi nelci le gerku**
> *It is false that I like the dogs.*
> *I don't like the dogs.*

> **mi na ku nelci do**
> *I don't like you.*

Its opposite, the term **ja'a ku** affirms the meaning:

> **mi ja'a ku nelci do**
> *I do like you.*

ja'a ku ≈ *term: it is true that ...*

Task

Close the right part of the table. Translate from Lojban the sentences on the left.

xu le barda zdani cu melbi	*Is the big home beautiful?*
— le prenu cu stati xu **— na ku stati**	*— Are the people smart?* *— No.*
do klama le zarci xu	*Do you go to the market?*
xu le verba cu prami le mlatu	*Does the child love the cats?*

Close the right part of the table. Translate to Lojban the sentences on the left.

Is the car fast?	**xu le karce cu sutra**
— Is the orange tasty? *— Yes, it is.*	**— xu le najnimre cu kukte** **— kukte**
Does the dog love you?	**xu le gerku cu prami do**

Polite requests

The interjection **.e'o** in the beginning of a sentence turns it into a request:

> **.e'o do lebna le cukta**
> *Could you take the book, please?*
> `Please take the book.`

.e'o ≈ *interjection: please (pronounced as eh-haw with a short pause or break before the word)*
lebna ≈ *to take (something)*
le cukta ≈ *the book*

In English to be polite one has to use *could you* + *please* + a question). In Lojban **.e'o** is enough to make a polite request.

Task

Close the right part of the table. Translate from Lojban the sentences on the left.

le tcati ≈ *the tea*
le ckafi ≈ *coffee*
catlu ≈ *to watch*
le skina ≈ *the film, the movie*
kurji ≈ *to care of (someone, something)*

.e'o do sutra bajra	*Run quickly!*
.e'o do pinxe le tcati	*Please, drink tea!*
.e'o catlu le skina	*Please, watch the film!*

Close the right part of the table. Translate to Lojban the sentences on the left.

Please, be smart!	**.e'o stati**
Please, go home!	**.e'o do klama le zdani**
Please, drink the coffee!	**.e'o do pinxe le ckafi**
Please, take care of the child.	**.e'o do kurji le verba**

‘*And*’ and ‘*or*’

> **do nintadni .i je mi nintadni**
> *You are a newbie. And I am a newbie.*

> **do .e mi nintadni**
> *You and I are newbies.*

> **mi tadni .i je mi tavla do**
> *I study. And I talk to you.*

> **mi tadni gi'e tavla do**
> *I study and talk to you.*

.i je ≈ *conjunction "and" combining sentences into one.*
.e ≈ *conjunction "and" connecting nouns.*
gi'e ≈ *conjunction "and" connecting sentence tails.*

We can combine two sentences into one statement using the conjunction **.i je** means *and*:

> **do nintadni .i je mi nintadni**
> *You are a newbie. And I am a newbie.*

Since both sentences have the same tail we can use a contraction: the conjunction **.e** means *and* for nouns and pronouns:

> **do .e mi nintadni**
> *You and I are newbies.*

do nintadni .i je mi nintadni means exactly the same as **do .e mi nintadni**

And we can use **.e** for connecting nouns and pronouns in other positions:

> **mi pinxe le ladru .e le jisra**
> *I drink the milk and the juice.*

That would mean the same as:

> **mi pinxe le ladru .i je mi pinxe le jisra**

le jisra ≈ *juice*

If the sentence head is the same but the tails differ we use the conjunction **gi'e** meanings *and* for sentence tails:

> **mi tadni .i je mi tavla do**
> **mi tadni gi'e tavla do**
> *I study and talk to you.*

Both variations mean the same, simply **gi'e** leads to a more consise realization.

We also have tools to add *and* for components of compound verbs:

> **le melbi je cmalu zdani cu zvati ti**
> *The pretty and small home is here.*

zvati ≈ *... is present at ...*
ti ≈ *this thing, this place near me*

je is a conjunction in Lojban, it means *and* in compound verbs.

Without **je** the sentence changes the meaning:

> **le melbi cmalu zdani cu zvati**
> *The prettily small home is here.*

Here **melbi** modifies **cmalu** and **melbi cmalu** modifies **zdani** according to how compound verbs work.

In **le melbi je cmalu zdani** (*the pretty and small house*) both **melbi** and **cmalu** modify **zdani** directly.

Other common conjunctions:

> **le verba cu fengu ja bilma**
> *The child is angry or ill (or maybe both angry and ill)*

> **do .a mi ba vitke le dzena**
> *You or I (or both of us) will visit the ancestor.*

ja ≈ *and/or*

.a = *and/or* when connecting nouns and pronouns.

fengu ≈ *... is angry*
bilma ≈ *... is ill*
vitke ≈ *to visit*
dzena ≈ *... is an ancestor*

> **le karce cu blabi jo nai grusi**
> *The car is either white or gray.*

> **do .o nai mi vitke le laldo**
> *Either you or I visit the old one.*

jo nai ≈ *either ... or ... but not both*
.o nai ≈ *either ... or ... but not both (when connecting nouns and pronouns)*

Note that it's better to remember **jo nai** as a single construct. The same for **.o nai**.

> **mi prami do .i ju do stati**
> *I love you. Whether or not you are smart.*

> **le verba cu nelci le plise .u le badna**
> *The child likes the apples whether or not (he/she likes) the bananas.*

ju ≈ *whether or not ...*
.u ≈ *whether or not ... (when connecting nouns and pronouns)*

«**joi**» is '*and*' for mass actions

> **do joi mi casnu le bangu**
> *You and I are discussing the language.*

casnu ≈ *... discusses ...*
le bangu ≈ *the language*
joi ≈ *conjunction and for masses*

If I say **do .e mi casnu le bangu** it may mean that you discuss the language, and I discuss the language. But it doesn't necessarily mean that we are in the same conversation!

This can be made more visible if we expand this using **.i je**:

> **do .e mi casnu le bangu**
> **do casnu le bangu .i je mi casnu le bangu**
> *You discuss the language. And I discuss the language.*

In order to emphasize that you and I participate in the same action we use a special conjunction **joi** meaning *and* that forms a "mass":

> **do joi mi casnu le bangu**
> *You and I are discussing the language.*
> *You and I being a single entity for this event are discussing the language.*

The pronoun **mi'o** (*you and I together*) can actually be expressed as **mi joi do**, which means exactly the same (it's just longer). In Lojban you may use not a single word for *we* but more precise constructs like **mi joi le pendo** (literally *I and the friends*).

Task

Close the right part of the table. Translate from Lojban the sentences on the left.

mi nelci le badna .e le plise	*I like the bananas, and I like the apples. I like the bananas and the apples.*
do sutra ja stati	*You are quick or smart or both.*
le za'u prenu cu casnu le karce .u le gerku	*The people discuss the cars whether or not (they discuss) the dogs.*
mi citka le najnimre .o nai le badna	*I eat either the oranges or the bananas.*

Close the right part of the table. Translate to Lojban the sentences on the left.

The friends and I like the rain.	**le pendo .e mi cu nelci le carvi**
Either I or you go to the market.	**mi .o nai do klama le zarci**
I look at the big and beautiful car.	**mi catlu le barda je melbi karce**
The child drinks milk and/or juice.	**le verba cu pinxe le ladru .a le jisra**
The child and the small one discuss the car.	**le verba joi le pa cmalu cu casnu le karce** (note the use of **joi**. *the small one* is just **le pa cmalu**).

But ...

> **le najnimre cu barda .i je ku'i le badna cu cmalu**
> *The oranges are big. But the bananas are small.*

ku'i ≈ *interjection: but, however*

Actually, in English *but* is the same as *and* + it adds a flavor of contrast.

In Lojban we just use the conjunction **.i je** (or **.e**, **gi'e**, **je** depending on what we connect) and add the flavor of contrast to it with the interjection **ku'i**. That will give us the necessary contrast. As usual, the interjection modifies the construct before it.

Events: '*dancing and being together*' — «**le nu dansu .e le nu kansa**»

Any relation can be turned into a verb by putting **nu** in front of it:

> **le nicte cu nu mi viska le lunra**
> *The night is when I see the Moon.*
> `Night is the event when I see the Moon.`

nicte ≈ *(some event) is a nighttime*
le nicte ≈ *the nighttime, nighttimes*
viska ≈ *to see (something)*
le lunra ≈ *the Moon*

Here **le nicte** is a noun of the sentence and **nu mi viska le lunra** is the main relation of the sentence as it starts with **nu**. But inside this main relation we can see another relation (**mi viska le lunra**) embedded!

The word **nu** actually transforms a sentence into a verb that denotes an event or a process.

Adding **le** in front of **nu** creates nouns that denote events:

pinxe ≈ *to drink*
le nu pinxe ≈ *the drinking*
dansu ≈ *to dance*
le nu dansu ≈ *the dancing*
kansa ≈ *... is together with ...*
le nu kansa ≈ *being together*
klama ≈ *to come to ...*
le nu klama ≈ *the coming*
le nu do klama ≈ *the coming of you, you coming*

le nu often corresponds to English *-ing*, *-tion*, *-sion*.

Some verbs require using events instead of ordinary nouns. For example:

> **mi djica le nu do klama ti**
> *I want you to come here (to this place)*

djica ≈ *to want (some event)*

> **mi gleki le nu do klama**
> *I'm happy because you are coming.*

gleki ≈ *... is happy (of some event)*

Some nouns describe events by themselves so no **le nu** is used:

> **le cabna cu nicte**
> *Now it's night. At present it's night.*

le cabna ≈ *the present time, the present event.*

Nouns made with **le nu** can be used for verbs that describe events by themselves:

> **le nu pinxe le ladru cu nabmi mi**
> *Drinking milk is a problem to me.*

nabmi ≈ *(event) is a problem (to someone), (event) is problematic (to someone)*

All Lojban words are divided into two groups:

- particles (called **le cmavo** in Lojban). Examples: **le**, **nu**, **mi**
- verbs (called **le selbrivla** in Lojban). Examples: **gleki**, **klama**. It is quite common to write several particles one after another without spaces between them. This is allowed by Lojban grammar. So don't be surprised to see **lenu** instead of **le nu**, **naku** instead of **na ku**, **jonai** instead of **jo nai** and so on. This doesn't change the meaning. However, this is not applied to verbs: they are to be separated with spaces.

Task

Close the right part of the table. Translate from Lojban the sentences on the left.

pilno ≈ *to use (something)*
le skami ≈ *the computer*

mi nelci le nu do dansu	*I like you dancing.*
xu do gleki le nu do pilno le skami	*Are you happy of using computers?*
do djica le nu mi citka le plise xu	*Do you want me to eat the apple?*

Close the right part of the table. Translate to Lojban the sentences on the left.

Coming here is a problem.	**le nu klama ti cu nabmi**
I want you to be happy.	**mi djica le nu do gleki**

Modal terms. Simple tenses: '*was*', '*is*', '*will be*' — «**pu**», «**ca**», «**ba**»

In Lojban we express time when something happens (grmmatically, in English it's usually called *tense*) with modal terms. We've already seen the modal term **ca** meaning *at present*.

Here is the series of time-related terms that tell when something happens:

> **le prenu pu cu tavla mi**
> *The people talked to me.*

> **le prenu ca cu tavla mi**
> *The people talk to me (at present).*

> **le prenu ba cu tavla mi**
> *The people will talk to me.*

If after the time-related particle we use a bare noun then we get a term with a slightly different meaning:

> **mi pinxe le ladru ca le nu do klama**
> *I drink milk while you are coming.*

The **ca le nu do klama** part is a long term meaning *while you come / while you are coming*. The **le nu do klama** is a noun meaning **coming of you, you coming**.

> **mi citka ba le nu mi dansu**
> *I eat after I dance.*

Time-related particles are grouped into series by their meaning to make them easier to remember and use.

Words for simple tense:

 pu means *before ... (some event)*, **pu** alone denotes past tense.
 ca means *at the same time as ... (some event)*, **ca** alone denotes present tense.
 ba means *after ... (some event)*, **ba** alone denotes future tense.

Tenses add information about time when something happens. English forces us to use certain tenses. One has to choose between

 The people talk to me.
 The people talked to me.
 The people will talk to me.

and other similar choices.

But in Lojban tense particles are optional, we can be as vague or as precise as we want.

The sentence

> **le prenu cu tavla mi**
> *The people talk to me.*

actually says nothing about when this happens. Context is clear enough in most cases and can help us. But if we need more precision we just add more words.

Similarly, **ba** means *after ... (some event)* so when we say **mi ba cu citka** we mean that we eat after the moment of speaking, that's why it means *I will eat.*

We can combine tense particles with and without noun arguments after them:

> **mi pu cu citka le plise ba le nu mi dansu**
> *I ate the apples after I danced.*

Note, that the term **pu** (past tense) is put only in the main relation (**mi pu cu citka**). In Lojban it is assumed that the event *I danced* happens relatively to the event of eating.

We shouldn't put **pu** with **dansu** (unlike English) as **mi dansu** is viewed relative to **mi pu cu citka** so we already know that everything was in past.

More examples of time-related terms:

> **le nicte cu pluka**
> *The night is pleasant.*

pluka ≈ *... is pleasant*

> **ba le nicte cu pluka**
> *After the night it is pleasant.*

Here, the head of the sentence contains one term **ba le nicte**, a term with its noun. Then after the separator **cu** the main relation of the sentence **pluka** is followed (**pluka** alone means *It is pleasant.*)

To say *will be pleasant* we should use the past tense term:

> **le nicte ba cu pluka**
> *The night will be pleasant.*

Also note that adding a noun after a time-related particle can lead to drastically different meaning:

> **le nicte ba le nu citka cu pluka**
> *The night is pleasant after eating.*

Note that **ca** can extend slightly into the past and the future, meaning *just about now*. Thus, **ca** reflects a widely used around the world notion of "present time".

It is also possible to integrate modal particles into the main relation construct:

> **le nicte ba cu pluka**
> **le nicte ba pluka**
> *The night will be pleasant.*

Both sentences mean the same, **ba pluka** is a relation construct meaning *... will be pleasant.*

The structure of **le nicte ba pluka** is the following:

- **le nicte** — the head of the sentence with just one term **le nicte**
- **ba pluka** — the tail of the sentence with just one verb **ba pluka**

Contrast this with the previous sentence **le nicte ba cu pluka**:

- **le nicte ba** — the head of the sentence with two terms **le nicte** and **ba**
- **pluka** — the tail of the sentence with just one verb **pluka**

The advantage of **le nicte ba pluka** over **le nicte ba cu pluka** is only in conciseness, you can usually skip saying **cu** in such cases since the sentence can't be understood otherwise anyway.

If you wish to put a modal term before a noun you can separate it from the following text by explicitly "ending" the term with the helper word **ku**:

> **ba ku le nicte cu pluka**
> **le nicte ba cu pluka**
> **le nicte ba pluka**
> *The night will be pleasant.*

ku prevents **ba le nicte** from appearing thus retaining **ba ku** and **le nicte** as separate terms.

One last note: English definitions of Lojban words may use tenses even when the original Lojban words do not imply them, e.g.:

tavla ≈ *... talks to ..., ... speaks to ...*
pluka ≈ *... is pleasant*

Although *talks*, *is* etc. are in present tense (we can't always get rid of tense in English words because that's how English works) we must always assume that tense is not implied in the meaning of the defined Lojban words unless the English definition explicitly mentions such tense restrictions.

Modal terms. Event contours: «**co'a**», «**ca'o**», «**co'i**»

Another series of time-related particles, *event contours*:

co'a ≈ *tense particle: the event is at its beginning*
ca'o ≈ *tense particle: the event is in progress*
co'i ≈ *tense particle: the event is viewed as a whole (has started and then finished)*

Most verbs describe events without specifying the stage of those events. Event contours allow us to be more precise:

> **mi pu co'a cu cikna**
> **mi pu co'a cikna**
> *I woke up.*

cikna ≈ *... is awake*
co'a cikna ≈ *... wakes up, becomes awake*
pu co'a cikna ≈ *... woke up, became awake*

To precisely express English Progressive tense we use **ca'o**:

> **mi pu ca'o cu pinxe**
> **mi pu ca'o pinxe**
> *I was drinking.*

> **mi ca ca'o pinxe**
> *I am drinking.*

> **mi ba ca'o pinxe**
> *I will be drinking.*

co'i usually corresponds to English Perfect tense:

> **le verba ca co'i pinxe le jisra**
> *The children have drunk the juice.*

We could omit **ca** in these sentence since the context would be clear enough in most such cases.

Present Simple tense in English describes events that happen sometimes:

> **le prenu ca ta'e tavla**
> *The people (habitually, sometimes) talk.*

ta'e ≈ *simple tense: the event happens habitually*

We can use the same rules for describing the past using **pu** instead of **ca** or the future using **ba**:

> **le prenu pu co'i tavla mi**
> *The people had talked to me.*

> **le prenu ba co'i tavla mi**
> *The people will have talked to me.*

The relative order of time-related particles is important. In **ca co'i** we first say something happens in present (**ca**), then we state that in this present time the described event has been completed (**co'i**). Only when using this order we get Present Perfect tense.

Modal terms. Intervals: '*during*' — «**ze'a**»

Another series of modal particles emphasizes that events happened during an interval:

ze'i ≈ *for a short time*
ze'a ≈ *through some time, for a while, during ...*
ze'u ≈ *for a long time*

> **mi pu ze'a cu sipna**
> **mi pu ze'a sipna**
> *I slept for a while.*

> **mi pu ze'a le nicte cu sipna**
> *I slept through the night. I slept all night.*

Notice that we cannot elide **cu** here since **nicte sipna** (*... is a night sleeper*) is a tanru and thus would lead to some other (if weird) meaning.

> **mi pu ze'i le nicte cu sipna**
> *I slept through the short night.*

Compare **ze'a** with **ca**:

> **mi pu ca le nicte cu sipna**
> *I slept at night.*

sipna ≈ *... sleeps*
le nicte ≈ *the nighttime*

When using **ze'a** we are talking about the whole interval of what we describe. Don't forget that **nicte** is itself an event so we don't need **nu** here.

Modal terms. '*because*' — «**ri'a**», '*towards*' — «**fa'a**», '*at (place)*' — «**bu'u**»

Modal particle for *because*:

> **mi pinxe ri'a le nu mi taske**
> *I drink because I am thirsty.*

> **mi citka ri'a le nu mi xagji**
> *I eat because I am hungry.*

ri'a ≈ *because ... (of some event)*
taske ≈ *... is thirsty*
xagji ≈ *... is hungry*

Modal particles denoting place work the same way:

> **mi klama fa'a do to'o le zdani**
> *I go to you from the home.*

> **mi cadzu bu'u le tcadu**
> *I walk in the city.*

fa'a ≈ *towards ..., in the direction of ...*
to'o ≈ *from ..., from the direction of ...*
bu'u ≈ *at ... (some place)*

One thing is important. **nu** shows that a new relation in a sentence starts. Put **kei** after such relation to show its right border like we have right bracks ")" or "]" in math. Here is an example:

> **le gerku cu plipe fa'a mi ca le nu do ca'o klama**
> *The dog jumps towards me when you are coming.*

plipe ≈ *to jump*

but

> **le gerku cu plipe ca le (nu do ca'o klama kei) fa'a mi**
> *The dog jumps (when you are coming) towards me.*

Brackets are used here only to show the structure, they are not necessary in a normal Lojban text.

We use **kei** after the inner relation **nu do ca'o klama** to show that it ended and the main relation continues with its **cu**, terms, nouns, pronouns.

Compare this sentence with the following:

> **le gerku cu plipe ca le (nu do ca'o klama fa'a mi)**
> *The dog jumps (when you are coming towards me).*

As you can see **do klama fa'a mi** is a relation inside the big one. So **fa'a mi** is now inside it.

Now you, not the dog, come towards me.

At the end of the sentence **kei** is never needed as it's already the right border.

One more example with a time-related particle:

> **mi pu citka le plise ba le nu mi dansu**
> *I ate the apples after I danced.*

> **mi pu citka ba le nu mi dansu kei le plise**
> *I ate (after I danced) the apples.*

Thus we can move **ba le nu mi dansu** around the sentence provided that it's still put after **pu**.

Task

Close the right part of the table. Translate from Lojban the sentences on the left.

le tsani ≈ *the sky*
zvati ≈ *...is present at ... (some place or event), ... stays at ... (some place)*
le canko ≈ *the window*
le fagri ≈ *the fire*
mi'o ≈ *You and I*
le purdi ≈ *the garden*
le tcati ≈ *the tea*

mi ca gleki le nu do catlu le tsani	*I am happy that you look at the sky.*
xu le gerku pu ca'o zvati le zdani	*Were the dogs staying at home?*
do pu citka le plise ba le nu mi pinxe le jisra	*You ate the apples after I drank the juice.*
ko catlu fa'a le canko	*Look towards the window.*
xu do gleki ca le nu do ca'o cadzu bu'u le purdi	*Are you happy when you are walking in the garden?*
ca le nu mi klama le zdani kei do pinxe le tcati ri'a le nu do taske	*When I go home you drink tea because you are thirsty.*

Close the right part of the table. Translate to Lojban the sentences on the left.

You will look at the car.	**do ba catlu le karce**
You want it to rain in future.	**do ca djica le nu ba carvi**
Quickly run away from the fire!	**ko sutra bajra to'o le fagri**
You and I were staying together at home when it was raining.	**mi'o pu ca'o zvati le zdani ca le nu carvi**

Names. Choosing a name

le cmevla, or *name word* is a special kind of word used to build personal names. It's easy to recognize le cmevla in a flow of text as only le cmevla end in a consonant.

Besides, they are wrapped by one dot from each side.

Examples of le cmevla are: **.paris.**, **.robin.**

If one's name is Bob then we can create a cmevla ourselves that would sound as close as possible to this name, for example **.bab.**

The most simple example of using a name would be

> **la .bab. cu tcidu**
> *Bob reads/is reading.*

tcidu ≈ *... reads*

la is similar to **le** but it converts a word not to a simple noun but to a name.

In English we start a word with a capital letter to show that it's a name. In Lojban we use the prefix word **la**.

Always use **la** when producing names!

A name can consist of several cmevla one after another:

> **la .bab.djansyn. cu tcidu**
> *Bob Johnson reads/is reading.*

Here, we separated the two cmevla with just one dot, which is also a common style.

It's common to omit dots in front of and at the end of le cmevla to write texts faster, for example, when text chatting. After all, le cmevla are still separated from neighboring words by spaces around them:

> **la bab djansyn cu tcidu**

However, in spoken language it is still necessary to put a short pause before and after le cmevla.

Bob's first name goes into Lojban without much changes. The same for the name *Lojban*. It's a cmevla and is written as **.lojban.**:

> **la .lojban. cu bangu mi**
> *I speak Lojban.*
> Lojban is a language of me.
> `Lojban is a language I use.`

bangu ≈ *... is a language used by ... (someone)*

However, Lojban letters directly correspond to sounds. Therefore, there are some rules for adapting names to how they are written in Lojban. This may sound strange — after all, a name is a name — but in fact all languages do this to some extent. For example, English speakers tend to pronounce *Jose* something like *Hozay*, and *Margaret* in Chinese is *Magelita*. Some sounds just don't exist in some languages, so you need to rewrite the name so that it only contains Lojban sounds, and is spelt according to letter-sound correspondence.

Example:

la .djansyn. ≈ *Johnson (probably, closer to American pronunciation)*
la .suzyn. ≈ *Susan*

In the English name *Susan* the two letters *s* are pronounced differently. The second one is actually a *z*, and the *a* is not really an *a* sound, it's the "schwa" explained in the beginning of this chapter. So *Susan* is written as **.suzyn.** in Lojban.

Pay attention to how the name is pronounced natively. Thus, the English and French names *Robert* come out differently in Lojban: the English name is rather **.robyt.** in UK English, or **.rabyrt.** in some American dialects, but the French is **.rober.**

Here are "Lojbanizations" of some names:

- *Alice* ⟹ **la .alis.**
- *Mei Li* ⟹ **la .meilis.**
- *Bob* ⟹ **la .bab.**
- *Abdul* ⟹ **la .abdul.**
- *Yan or Ian* ⟹ **la .ian.**
- *Ali* ⟹ **la .al.**
- *Doris* ⟹ **la .doris.**
- *Michelle* ⟹ **la .micel.**

- *Kevin* ⇒ **la .kevin.**
- *Edward* ⇒ **la .edvard.**
- *Adam* ⇒ **la .adam.**
- *Lucas* ⇒ **la .lukas.**

Notes:

- Two extra full stops (periods) are necessary because if you didn't put those pauses in speech, you might not know where the name started and ended, or in other words where the previous word ended and the next word began.
- The last letter of a cmevla must be a consonant. And if a name doesn't end in a consonant we usually add use *s* to the end; so in Lojban, *Mary* becomes **.meris.**, *Joe* becomes **.djos.** and so on. An alternative is to leave out the last vowel, so *Mary* would become **.mer.** or **.meir.**
- You can also put a full stop in between a person's first and last names (though it's not compulsory), so *Jim Jones* becomes **.djim.djonz.**

Rules for making le cmevla

Here is a compact representation of Lojban sounds:

- vowels:
  - **a e i o u y au ai ei oi**
- consonants:
  - **b d g v z j** (voiced)
  - **p t k f s c x** (unvoiced)
  - **l m n r**
  - **i u**. They are considered consonants when put between two vowels or in the beginning of a word. **.iaua** — **i** and **u** are consonants here. **.iai** — here is the consonant **i** with an vowel **ai** after it.
  - **'** (apostrophe). It is put only between two vowels: **.e'e**, **.u'i**
  - **.** (dot, word break)

We first write a name with Lojban letters and then change it according to these rules:

1. it ends in consonants except ' . Additionally they are wrapped by a dot from each side: **.lojban.** It's quite common to omit word breaks in informal texts.
2. vowels can be put only between two consonants: **.sam.**, **.no'am.**
3. double consonants are merged into one: *dd* becomes **d**, *nn* becomes **n** etc. Or a **y** is out between them: **.nyn.**
4. if a voiced and a unvoiced consonants are next to each other then **y** is inserted inside: **kv** becomes **kyv**. Or you can remove one of the letters instead: **pb** can be turned into a single **p** or a single **b**.
5. if one of **c**, **j**, **s**, **z** are next to each other then **y** is inserted inside: **jz** becomes **jyz**. Or you can remove one of the letters instead: **cs** can be turned into a single **c** or a single **s**.
6. if **x** is next to **c** or next to **k** then **y** is inserted inside: **cx** becomes **cyx**, **xk** becomes **xyk**. Or you can remove one of the letters instead: **kx** can be turned into a single **x**.
7. the substrings **mz**, **nts**, **ntc**, **ndz**, **ndj** are fixed by adding **y** inside or deleting one of the letters: **nytc** or **nc**, **.djeimyz.**
8. double **ii** between vowels is merged into a single **i**: **.eian.** (but not **.eiian.**)
9. double **uu** between vowels is merged into a single **u**: **.auan.** (but not **.auuan.**)

10. The sound for the English "h" as in Harry can be either dropped or replaced with **x**. *Harry* can become **.aris.** or **.xaris.**

Relation words as names

You can use not only cmevla, but also relation words to choose your nickname in Lojban. If you prefer, you can translate your name into Lojban (if you know what it means, of course) or adopt a completely new Lojban identity.

Here are a few examples of Lojbanic names:in

Original name	Original meaning	Word in Lojban	Meaning in Lojban	Your name
Alexis	*helper* in Greek	**le sidju**	*the helper*	**la sidju**
Ethan	*solid, during* in Hebrew	**le sligu**	*the solid*	**la sligu**
Mei Li	*beautiful* in Mandarin Chinese	**le melbi**	*the beautiful ones*	**la melbi**

‘*he*’ ‘*she*’

Lojban doesn't really have words for *he* or *she*. Possible solutions:

le ninmu ≈ *the woman (in gender sense)*
le nanmu ≈ *the male man (in gender sense)*

> **le ninmu cu tavla le nanmu .i le ninmu cu jatna**
> *The woman talk to the man. She is the leader.*

jatna ≈ *... is a leader, commander*

le ninmu
the woman (female human)

Lojbanists have proposed various words for other genders like

le nonmu ≈ *the agender person*
le nunmu ≈ *the non-binary-gendered person*

although in most cases the simplest **le prenu** (*the person*) or personal names are fine.

Another option is to use the short pronoun **ri**. It refers to the previous noun:

le nanmu
the man (male human)

mi pu klama le nurma .i ri melbi
I went to the country. It was beautiful.

le nurma ≈ *the rural area*

Here, **ri** refers to the country side.

mi tavla le pendo .i ri jundi
I talk to the friend. He/she is attentive.

jundi ≈ *... is attentive*

Here, **ri** refers to the friend.

ri skips pronouns **mi** (*I*) and **do** (*you*):

le prenu cu tavla mi .i ri pendo mi
The person talks to me. He/she is a friend of mine.

Here, **ri** skips the previous pronoun **mi** and thus refers to **le prenu** that is the previous noun/pronoun available.

Introducing yourself. Vocatives

Vocatives in Lojban are words that function just like interjections (**xu** which we earlier discussed) but they attach the following noun after them:

coi do
Hello, you!

coi ≈ *vocative: Hello! Hi!*

We use **coi** + a noun or pronoun to greet someone.

co'o do
Goodbye to you.

co'o ≈ *vocative: goodbye!*

coi ro do
Hello everyone!
`Hello each of you`

— is how people usually start a conversation with several people. Other numbers are possible of course: **coi re do** means *Hello you two* etc.

Since vocatives work like interjections we have nice types of greetings:

cerni coi
Good morning!
`It's morning — Hello!`

cerni
... is morning

vanci coi
Good evening!

vanci
... is evening

donri coi
Good day!

donri
... is daylight time

nicte coi
Nightly greetings!

Note that in English *Goodnight!* means *Goodbye!* or denotes wishing someone spending good night. By its meaning *Goodnight!* doesn't belong to the series of greetings above. Thus, we use a different wording in Lojban:

nicte
... is night

nicte co'o
Good night!

or

.a'o pluka nicte
Pleasant night!

.a'o ≈ *interjection: I hope*
pluka ≈ *... is pleasant to ... (someone)*

Of course, we can be vague by just saying **pluka nicte** (just meaning *pleasant night* without any wishes explicitly said).

The vocative **mi'e** + a noun/pronoun is used to introduce yourself:

> **mi'e la .doris.**
> *I'm Doris. This is Doris speaking.*

mi'e ≈ *vocative: identifies speaker*

The vocative **doi** is used to show who we're talking to:

> **mi cliva doi la .robert.**
> *I'm leaving, Robert.*

cliva ≈ *to leave (something or someone)*

Without **doi** the name might become the first noun of the relation:

> **mi cliva la .robert.**
> *I'm leaving Robert.*

doi is a like Old English *O* (as in *O ye of little faith*) or the Latin vocative (as in *Et tu, Brute*). Some languages don't distinguish between these contexts although as you can see Old English and Latin did.

Two more vocatives are are **ki'e** for saying thanks and **je'e** for accepting them:

> **— ki'e do do pu sidju mi**
> **— je'e do**
> *— Thank you, you helped me.*
> *— Not at all.*

sidju ≈ *... helps ... (someone)*

We can omit the noun after the vocative only if this is the ends of the sentence. For example we can just say

> **— coi .i xu do kanro**
> *— Hello. How do you do?*
> — Hello. Are you healthy?

kanro ≈ *... is healthy*

Here, a new sentence starts immediately after the vocative **coi** so we omitted the name. Or we can say:

> **coi do mi djica le nu do sidju mi**
> *Hello. I want you to help me.*
> Hello you. I want that you help me.

Thus, in case you don't know the name of the listener you just place **do** after it if you want to continue the same sentence after the vocative.

If you use the vocative on its own (without a noun after it) and the sentence is not finished yet then you need to separate it from the rest, because the things likeliest to follow the vocative in a sentence could easily be misconstrued as describing your addressee. Use the word **do** for that. For example,

> **coi do la .alis. la .doris. pu cliva**
> *Hello! Alice left Doris.*
> Hello you! Alice left Doris

> **coi la .alis. la .doris. pu cliva**
> *Hello, Alice! Doris left.*

And if you want to put both vocatives and interjections modifying the whole sentence please put interjections first:

> **.ui coi do la .alis. la .doris. pu cliva**
> *Yay, Hello! Alice left Doris.*

Note that in the beginning of sentences usually interjections are put before vocatives because

> **coi .ui do la .alis. la .doris. pu cliva**
> means

> *Hello (I'm happy about this greeting) you! Alice left Doris.*

So an interjection immediately after a vocative modifies that vocative. Similarly, interjection modifies the vocative noun when being put after it:

> **coi do .ui la .alis. la .doris. pu cliva**
> *Hello you (I'm happy about you)! Alice left Doris.*

Lesson 2. More basic stuff

Order of arguments

Earlier we provided such definitions of verbs as:

mlatu ≈ *... is a cat, to be a cat*
citka ≈ *... eats ...*
prami ≈ *... loves ...*
klama ≈ *... come to ...*

The dictionary at the end of this textbook presents all verbs with x1, x2 etc. symbols:

prami ≈ *x1 loves x2*
karce ≈ *x1 is a car ...*
citka ≈ *x1 eats x2 ...*
klama ≈ *x1 comes to x2 ...*

These x1, x2 etc. are quite simple. They are called places of arguments and more precisely represent the order in which we add nouns or pronouns. For example:

> **mi prami do**
> *I love you.*

This also means that

- x1 denotes *the one who loves* and
- x2 denotes *the one who is loved by.*

The advantage of such style of definitions is that all participants of a relation are in one definition.

We can also omit nouns making the sentence more vague:

> **carvi**
> *It is raining.*
> `is rain, is raining`

(although time here is determined by context, it can also mean *It often rains*, *It was raining* etc.)

> **prami do**
> *Someone loves you.*
> `loves you`

All omitted places in a relation just mean **zo'e** = *something/someone* so it means the same as

> **zo'e prami do**
> *Someone loves you.*

And

> **prami**

is the same as

> **zo'e prami zo'e**
> *Someone loves someone.*

Modal terms like **ca**, **fa'a** etc. add new places to relations but they don't remove existing places of verbs. In

> **mi klama fa'a do**
> *I come towards you.*

the second place of **klama** is still omitted. For example:

> **mi klama fa'a le cmana le zdani**
> *I come (in the direction of the mountain) to the home.*

le cmana ≈ *the mountain*

And here the second place of **klama** is **do**. And the sentence means that the mountain is just a direction whereas the final point is you.

Here, the term **fa'a la cmana** (*in the direction of the mountain*) doesn't replace the second place of the verb **klama**. The second place of **klama** is **la zdani** here.

The sentence means that my home is simply located in the direction of the mountain but it doesn't mean I want to reach that mountain. The final destination of me coming is not necessarily the mountain but the home.

Similarly, in

> **mi citka ba le nu mi cadzu**
> *I eat after I walk.*

the second place of **citka** is still omitted. A new word **ba** with its argument **le nu mi cadzu** adds meaning to the sentence.

The order of arguments of compound verbs is the same as the one of the last verb word in it:

> **tu sutra bajra pendo mi**
> *That is my quickly running friend.*
> `That is a quickly running friend of me.`

pendo ≈ *... is a friend of ... (someone)*

So the order of arguments is the same as of **pendo** alone.

More than two places

There might be more than two places. For example:

> **mi pinxe le ladru le kabri**
> *I drink the milk from the cup.*

pinxe ≈ *x1 drinks x2 from x3*

> **le kabri**
> *the cup*

In this case there are three places and if you want to exclude the second place in the middle you have to use **zo'e:**

> **mi pinxe zo'e le kabri**
> *I drink [something] from the cup.*

If we omit **zo'e** we get something meaningless:

> **mi pinxe le kabri**
> *I drink the cup.*

Another example:

> **mi posydu'a le cukta do**
> *I give the books to you.*

posydu'a ≈ *x1 gives, donates x2 to x3*
le cukta ≈ *the books*

Relations inside relations

In

> **le nicte cu nu mi viska le lunra**
> *The night is when I see the Moon.*

we have

- **le nicte** - x1 of the relation,
- **nu mi viska le lunra** - the main relation.

However, inside **nu mi viska le lunra** we have another sentence with

- **mi** - x1 of the inner relation,
- **viska** - the inner relation,
- **le lunra** - x2 of the inner relation.

So notice that despite having an inner structure the **nu mi viska le lunra** is also relation with its first term filled with **le nicte** in this case.

Similarly, in

> **mi citka ba le nu mi dansu**
> *I eat after I dance.*

we have

- **mi** - x1 of the relation,
- **citka** - the main relation,
- **ba le nu mi dansu** - a modal term of the main relation of the sentence.

And inside this term we have:

- **mi** - x1 of the relation inside the term,
- **dansu** - the main relation construct inside the term.

Such "recursive" mechanism of wrapping relations into relations allows expressing complex ideas precisely.

Why are verbs defined the way they are?

English uses a limited set of prepositions that are reused across various verbs and thus have no fixed meaning. Compare the usage of the English preposition *to*:

> *I speak to you.*

> *I come to you.*

> *To me it looks pretty.*

In each of those examples the *to* has a new role that is at best remotely similar to roles in other sentences.

Needless to say that other languages use other ways of marking roles of verbs that in many cases are very different from those used in English.

Lojban marks core roles of relations by fully defining such relations with the roles placed in sequence (or marked with **fa**, **fe**, ...):

klama ≈ *x1 comes to x2 ...*
tavla ≈ *x1 talks to x2 ...*
melbi ≈ *x1 is beautiful, pretty to x2 ...*

Such core roles are essential in defining relations.

However, there can be optional roles that make relations more precise:

> *I speak to you while I'm eating.*

> *It's hard to me because this thing is heavy.*

In Lojban a similar notion of such optional roles is expressed via separate relations or for most common cases with modal terms:

> **mi tavla do ze'a le nu mi citka**
> *I speak to you while I'm eating.*

> **nandu mi ri'a le nu ti tilju**
> *It's hard to me because this thing is heavy.*

nandu ≈ *x1 is hard to x2*
tilju ≈ *x1 is heavy*

Prepositions in English are similar to modal particles in Lojban, although a usual English preposition can nhave many meanings while in Lojban every modal particle has only one (even if vague) meaning.

General rules in the order of arguments

The order of places in verbs might be sometimes hard to remember. But let's not worry — like in English you don't need to remember all places of all verbs (do you remember the meaning of hundreds of thousands of words in English?)

You may study places when you find them useful or when people use them in a dialogue with you.

Most of verbs have one or two places. Usually you can guess the order using context and a few rules of thumb:

1. The first place is often the person or thing who does something or is something:

   klama = *x1 goes ...*

2. The object of some action is usually just after the first place:

   punji = *x1 puts x2 on x3,*

   posydu'a = *x1 gives x2 (gift) to x3 (recipient)*

3. And the next place will usually be filled with the recipient:

   punji = *x1 puts x2 on x3,*

   posydu'a = *x1 gives x2 (gift) to x3 (recipient)*

4. Destination (*to*) places nearly always come before origins (*from*) places:

   klama = *x1 goes to x2 from x3*

5. Less-used places come towards the end. These tend to be things like 'by standard', 'by means' or 'made of'.

The general idea is that first come the places which are most likely to be used.

No need to fill all places all the time. Unfilled places just have values irrelevant or obvious to the speaker (they take the value of **zo'e** = *something*).

Types of places

The dictionary may also mention types of places, e.g.

djica ≈ *x1 wants x2 (event)*

This *event* means that you have to fill the place with a noun that represents an event. E.g.

le nicte ≈ *nighttime*
le nu mi dansu ≈ *me dancing*

So we get

> **mi djica le nicte**
> *I want the nighttime event.*

> **do djica le nu mi dansu**
> *You want me to dance.*

It'd be strange to say, e.g.:

> **mi djica le plise**
> *I want the apple.*

because you want to do something, you want some event happening with the apple, e.g.:

> **mi djica le nu mi citka le plise**
> *I want to eat the apple.*
> `I want that I eat the apple.`

Places for nouns

How do we say *You are my friend* ?

do pendo mi
You are my friend.
`You are a friend of me.`

le pendo
the friend / the friends

And now how do we say *My friend is smart.*?

le pendo be mi cu stati
My friend is smart.

le cukta
the book, the books

So when we convert a verb into a noun (**pendo** — *to be a friend* into **le pendo** — *a friend*) we can still retain other places of that verb by placing **be** after it.

By default it attaches the second place (x2). We can attach more places by separating them with **bei**:

mi posydu'a le cukta
I give the book

mi posydu'a le cukta do
I give the book to you.

le posydu'a be le cukta bei mi
The grantor of a book to me

le posydu'a be le cukta bei mi cu pendo mi
The giver of the book to me is my friend.
`The one who gives the book to me is a friend of mine.`

Another example:

mi klama le pendo be do
I come to a friend of yours.

klama ≈ *x1 comes to x2 from x3 ...*

We can't omit **be** because **le pendo do** are two independent places:

> **mi klama le pendo do**
> *I come to a friend from you.*

Here, **do** took the third place of **klama** since it's not bound to *pendo* via **be**.

Neither could we use **nu** because **le nu pendo do** is the event of someone being a friend of yours.

So **le pendo be do** is the correct solution.

Another example:

> **la .lojban. cu bangu mi**
> *Lojban is my language.*
> `Lojban is a language of me.`

However,

> **mi nelci le bangu be mi**
> *I like my language.*

Using **be** for verbs not converted to nouns has no effect: **mi nelci be do** is the same as **mi nelci do**.

Relative clauses

> **le prenu poi pendo mi cu tavla mi**
> *The person that is friend of mine talks to me.*

> **le prenu noi pendo mi cu tavla mi**
> *The person, who is incidentally a friend of mine, talks to me.*

blabi ≈ *... is white*

In the first sentence the word *that* is essential to identifying the person in question, it clarifies whom among people in context we are talking about. Out of probably many people around we choose only those who are my friends. Maybe there is only one person around that is my friend.

As for *who is incidentally a friend of mine* from the second sentence it just provides additional information about the person. It doesn't help us to identify the person. For example, this might happen when all the people around are my friends.

poi pendo mi is a relative clause, a relation attached to the right of the noun **le prenu**. It ends just before the next word **cu**:

> **le prenu (poi pendo mi) cu tavla mi**
> *The person that is friend of mine talks to me.*

In Lojban we use **poi** for relative clauses that identify entities (objects, people or events) and **noi** for incidental information.

> **la .bob. ba co'a speni le ninmu poi pu xabju le nurma**
> *Bob will marry a girl who lived in the country.*

xabju ≈ *... lives in ..., ... inhabits ... (place, object)*
le nurma ≈ *the rural area*

This sentence doesn't exclude Bob marrying someone else as well! Removing the relative clause with **poi** changes the meaning:

> **la .bob. ba co'a speni le ninmu**
> *Bob will marry a girl.*

Another example:

> **le prenu poi gleki cu ze'u renvi**
> *People (which ones?) who are happy live long.*

ze'u ≈ *modal term: for a long time*
renvi ≈ *to survive*

Removing the relative clause with **poi** changes the meaning:

> **le prenu ze'u renvi**
> *The people live long.*

On the other hand, relative clauses with **noi** contain just additional information about the noun to which they are attached. That noun is sufficiently defined by itself so that removing a relative clause with **noi** doesn't change its meaning:

> **mi nelci la .doris. noi mi ta'e zgana bu'u le panka**
> *I like Doris, whom I habitually see in the park.*
> *I like Doris. What else can I say about her? I habitually see her in the park.*

zgana ≈ *to observe (using any senses)*

Removing the relative clause with **noi** retains the meaning: *I like Doris.*

In spoken English the distinction is often achieved using intonation or by guessing. Also relative clauses with **noi** are traditionally separated with commas in English, they use *which* or *who* and the word *that* is not used in them.

Let's have another example.

> **mi klama le pa tricu**
> *I come to the tree.*

> **le pa tricu cu barda**
> *The tree is big.*

le pa tricu ≈ *the tree (one tree)*
barda ≈ *x1 is big/large*

And now let's join those two sentences:

> **le tricu noi mi klama ke'a cu barda**
> *The tree, to which I go, is big.*

Note the word **ke'a**. We move the second sentence about the same tree into a relative clause and replace the noun **le tricu** with **ke'a** in the relative clause. So the pronoun **ke'a** is like *who* and *which* in English. It points back to the noun to which the relative clause is attached.

So literally our Lojbanic sentence sounds like

> *The tree, such that I go to which, is big.*

ke'a can be dropped if we are to place it just after **noi** or **poi**. That's why the two following sentences mean the same:

> **le prenu poi pendo mi cu tavla mi**
> **le prenu poi ke'a pendo mi cu tavla mi**
> *The person that is friend of mine talks to me.*

ke'a goes to the first unfilled place:

> **mi nelci la .doris. noi mi ta'e zgana bu'u le panka**
> **mi nelci la .doris. noi mi ta'e zgana ke'a bu'u le panka**
> *I like Doris, whom I habitually see in the park.*

Here, **mi** fills the first place of the verb **ta'e zgana** (*... habitually sees ...*), thus, **ke'a** is assumed for the next, second place.

Relative clauses like usual relations can contain constructs with modal terms:

> **le tricu noi mi pu klama ke'a ca le cabdei cu barda**
> *The tree, to which I went today, is big.*

le cabdei ≈ *the day of today*

Note that **ca le cabdei** belongs to the relative clause. Compare:

> **le tricu noi mi pu klama ke'a cu barda ca le cabdei**
> *The tree, to which I went, is big today.*

The meaning has changed a lot.

Finally, **voi** is used to form **le**-like nouns but with relative clauses:

> **ti voi le nu ke'a cisma cu pluka mi cu zutse tu**
> *These ones whose smile pleases me are sitting down.*

ti ≈ *this one near me, these ones near me*
cisma ≈ *x1 smiles*
pluka ≈ *x1 is pleasant to x2*
zutse ≈ *x1 sits, is sitting on x2*

Here, **voi** defines the object near me.

Compare it to:

> **ti poi le nu ke'a cisma cu pluka mi cu zutse**
> *Of these ones those whose smile pleases me are sitting down.*

poi restricts the selection to those described in the relative clause. This example might imply that there are many objects (people etc.) around me but with **poi** I select only necessary ones.

Compare it to:

> **ti noi le nu ke'a cisma cu pluka mi cu zutse**
> *These ones (who are incidentally such that their smile pleases me) are sitting down.*

noi simply adds incidental information that is not necessary to determine what **ti** (*these ones*) refers to. Perhaps, there is nobody else around to describe.

Finally, just like **nu** has the right border marker **kei** we have

ku'o ≈ *right border marker for **poi**, **noi** and **voi**.*

> **mi tavla la .doris. noi ca zutse tu ku'o .e la .alis. noi ca cisma**
> *I talk to Doris, who is now sitting over there, and Alice who now smiles.*

Notice that without **ku'o** we would have **tu** (*over there*) joined together with **la .alis.** (*Alice*) leading to a weird meaning:

> **mi tavla la .doris. noi ca zutse tu .e la .alis. noi ca cisma**
> *I talk to Doris, who is now sitting over there and on top of Alice (who now smiles).*

Notice the **zutse tu .e la .alis.** part.

For all of **poi**, **noi** and **voi** the right border marker is still the same: **ku'o**.

Short relative clauses. '*About*'

Sometimes you might need to attach to a noun an additional noun or pronoun:

> **mi djuno le vajni pe do**
> *I know something important about you.*

le vajni ≈ *something important*

pe and **ne** are similar to **poi** and **noi** but connect nouns (and pronouns) to nouns:

> **le pa penbi pe mi cu xunre**
> *The pen that is mine is red.*
> (*mine* is essential to identifying the pen in question)

> **le pa penbi ne mi cu xunre**
> *The pen, which is mine, is red.*
> (additional information)

ne ≈ *which is about, has relation to ... (a noun/pronoun follows)*
pe ≈ *that is about, has relation to ... (a noun/pronoun follows)*

> **le pa penbi ne mi ge'u .e le pa cukta ne do cu xunre**
> *The pen, which is mine, and the book, which is yours, are red.*

ge'u ≈ *right border marker for **pe**, **ne**.*

«**be**» and «**pe**»

Notice that relative clauses are attached to nouns whereas **be** connects to the verb that is transformed into a noun afterwards.

Actually, **le bangu pe mi** is a better translation of *my language*, since like in English, the two nouns are related to each other in a vague way.

However, you can say **le birka be mi** as *my arm*. Even if you saw off your arm, it'll still be yours. That's why **birka** has a place of the owner:

birka ≈ *x1 is an arm of x2*

Notice that **be** attaches to the verb word. But **pe**, **ne**, **poi** and **noi** attach to nouns. For example,

> **le pa melbi be mi cukta pe le pa pendo be mi cu barda**
> `The beautiful to me book of the friend of mine is big.`

Here, **be mi** is applied only to the verb **melbi** = *to be beautiful to ... (someone)*. But **pe le pa pendo** is applied to the whole noun **le pa melbi be mi cukta** = *the beautiful to me book*.

It can also happen that we need to attach **be** to a noun and then attach **pe** to the same noun:

> **le pa pendo be do be'o pe la .paris. cu stati**
> *The friend of yours who is related to Paris is smart.*

> **le pu posydu'a be le pa cukta bei do be'o pe la .paris. cu stati**
> *Who gave the book to you (and who is related to Paris) is smart.*

be'o ≈ *right border marker for the string of nouns attached with **be** and **bei***

Here, **pe la .paris.** is attached to the whole noun **le pa pendo be do be'o** and to **le pu posydu'a be le pa cukta bei do be'o**.

Compare it to:

> **le pa pendo be do pe la .paris. cu stati**
> *The friend of yours (who is related to Paris) is smart.*

> **le pu posydu'a be le pa cukta bei do pe la .paris. cu stati**
> *Who gave the book to you (who is related to Paris) is smart.*

The difference in the meaning is huge. In the first two examples your friend has some relation to Paris (maybe, he/she is from Paris). In the second two examples, you have this relation.

‘*Alice is a teacher*’ and ‘*Alice is the teacher*’

In English the verb *is, are, to be* makes a noun work like a verb in English. In Lojban even such concepts as *cat* (**mlatu**), *person* (**prenu**), *house* (**dinju**), *home* (**zdani**) work like verbs by default. Only pronouns work as nouns.

However, here are three cases:

> **la .alis. cu ctuca**
> *Alice teaches.*

> **la .alis. cu me le ctuca**
> *Alice is one of the teachers.*

me ≈ *... is among ..., ... is one of ..., ... are members of ... (noun follows)*

> **la .alis. ta'e ctuca**
> *Alice habitually teaches.*

ta'e ≈ *modal particle: the event happens habitually*

> **la .alis. cu du le ctuca**
> *Alice is the teacher.*

du ≈ *... is identical to ...*

The particle **me** takes a noun after it and shows that there are probably other teachers, and Alice is one of them.

However, when using the verb **du** we mean that Alice is, for example, the teacher that we have been searching for or talking about.

Thus **me** and **du** can sometimes reflect what in English we use the verb *to be/is/was* for.

In Lojban we first rely on the meaning of what we need to say, not necessarily on how it is literally said in English or other languages.

Other examples:

> **mi me la .bond.**
> *I am Bond.*

> **mi du la .kevin.**
> *I am Kevin (the one you needed).*

> **ti du la .alis. noi mi ta'e zgana bu'u le panka**
> *This is Alice, whom I habitually see in the park.*

noi du and **poi du** are used in Lojban to introduce alternate names for something. They correspond to English *namely, i.e.*:

> **la .alis. cu penmi le prenu noi du la .abdul.**
> *Alice met the person, namely Abdul.*

When using **me** you can connect several nouns with *and*:

> **tu me le pendo be mi be'o .e le tunba be mi**
> *Those are some (or all) of my friends and my siblings.*

tunba ≈ *x1 is a sibling of x2*

Modal particles inside nouns

We can place a modal particle not only before the main relation construct of the sentence but at the end of it giving the same result:

> **mi ca tcidu**
> **mi tcidu ca**
> *I (now read).*

tcidu ≈ *to read (some text)*

When using **nu** we create a relation describing some event. Notice, the difference between these two examples:

> **le nu tcidu ca cu nandu**
> *The current reading is complicated, difficult.*

> **le nu tcidu cu ca nandu**
> *The reading is now complicated.*

Other examples:

> **mi klama le pa cmana pu**
> *I went to the mountain.*
> `I go to a mountain (in past).`

> **le nu mi klama le pa cmana pu cu pluka**
> *That I went to a mountain is pleasant.*

When not using **nu** we don't have event relations. Nouns start with **le** and end in its verb (whether it's a single or a compound verb). Thus we can put term particles before a verb in a noun only before that verb:

> **le pu kunti tumla ca purdi**
> *What was a desert is now a garden.*

So **pu** belongs to **le kunti tumla** and **ca** belongs to **purdi** (as **le pu kunti tumla** can't add **ca** in the end).

This doesn't contradict with using **be** after the verb since with **be** you change the verb: **bangu be mi** is considered one verb.

Having several modal particles in order is no problem:

> **le pu ze'u kunti tumla ca purdi**
> *What was for a long time a desert is now a garden.*

ze'u ≈ *modal term: for a long time*

Placing term particles after nouns binds them to outer verbs:

> **le kunti tumla pu purdi**
> **(le kunti tumla) pu purdi**
> *The desert was a garden.*

New nouns from places of the same verb

> **do posydu'a ti mi**
> *You grant this to me.*

> **ti se posydu'a do mi**
> *This is granted by you to me.*

posydu'a ≈ *x1 grants, gives x2 in possession to x3*

We can swap the first two places round in the verb using **se** and thus change the place structure.

do posydu'a ti mi means exactly the same as **ti se posydu'a do mi**. The difference is solely in style.

You may want to change things around for different emphasis, for example, to mention the more important things in a sentence first. So the following pairs mean the same thing:

> **mi prami do**
> *I love you.*

> **do se prami mi**
> *You are loved by me.*

> **le nu mi tadni la .lojban. cu xamgu mi**
> *My study of Lojban is good for me.*

xamgu ≈ *... is good for (someone)*

> **mi se xamgu le nu mi tadni la .lojban.**
> *For me it's good to study Lojban.*

The same can be done with nouns:

le posydu'a ≈ *those who give in possession, the givers, the donors, the donators*
le se posydu'a ≈ *something that is given in possession, gifts*

As we know, when we add **le** in front of a verb it becomes a noun. So

- **le posydu'a** means *those which could fit in the first place of* ***posydu'a***
- **le se posydu'a** means *those which could fit in the second place of* ***posydu'a***

Thus, in Lojban we don't need a separate word for *gift*. We reuse the same verb and save a lot of effort because of such clever design. Indeed, we can't imagine a gift without implying that someone gave it or will give it. When phenomena are interconnected Lojban reflects this.

For the ease of understanding and memorizing predicate words prefixed with **se** are put into the dictionary in entries for many verbs together with their definitions although you can figure out their meaning yourself.

Changing other places in main relations

se is the first particle in the series **se, te, ve, xe** (they go in alphabetical order):

- **se** changes round the first and second places

 te changes round the first and third places
 ve, the first and fourth, and
 xe, the first and fifth.

> **mi zbasu le pa stizu le mudri**
> *I made the chair out of the piece of wood.*

zbasu ≈ *x1 builds, makes x2 out of x3*
le pa stizu ≈ *the chair*
le mudri ≈ *the piece of wood*

> **le mudri cu te zbasu le stizu mi**
> *The piece of wood is what the chair is made of by my friend.*

The **mi** has now moved to the third place in the sentence, and can now be dropped out without being missed if we are too lazy to specify who made the chair or we just don't know who made it:

> **le mudri cu te zbasu le stizu**
> *The piece of wood is the material of the chair.*

Similarly to our example with **le se posydu'a** (*gift*) we can use **te**, **ve**, **xe** to get more words from other places of verbs:

klama ≈ *x1 goes to x2 from x3 via x4 by means x5*

Thus, we can derive that

le klama ≈ *the comer / the comers*
le se klama ≈ *the destination place*
le te klama ≈ *the place of origin of the movement*
le ve klama ≈ *the route*
le xe klama ≈ *the vehicle*

le xe klama and the fifth place of **klama** can denote any means of movement like a car or your feet.

se is used a lot more than the other particles for swapping places.

Free word order. Tags for places

Usually we don't need all the places of a verb, so we can omit the unnecessary ones by replacing them with **zo'e**. However, we can use *place tags* to explicitly refer to a needed place. Place tags work like modal particles but deal with the place structure of relations:

> **mi prami do**
> is the same as
> **fa mi prami fe do**
> *I love you.*

 fa marks the first place of a verb (x1)
 fe — marks the second place (x2)
 fi — marks the third place (x3)
 fo — marks the fourth place (x4)
 fu — marks the fifth place (x5)

More examples:

> **mi klama fi le tcadu**
> *I go from the city.*

fi marks **le tcadu** as the third place of **klama** (the origin of movement). Without **fi**, the sentence would turn into **mi klama le tcadu** meaning *I go to the city.*

> **mi pinxe fi le kabri**
> is the same as
> **mi pinxe zo'e le kabri**
> *I drink (something) from the cup.*

pinxe ≈ *x1 drinks x2 from x3*

> **mi tugni zo'e le nu vitke le rirni**
> **mi tugni fi le nu vitke le rirni**
> *I agree (with someone) about visiting parents.*

tugni ≈ *x1 agrees with someone x2 about x3 (proposition)*
le rirni ≈ *the parent / the parents*

With place tags we can move places around:

> **fe le cukta pu posydu'a fi mi**
> *Someone gave a book to me.*

Here

 le cukta = *the book*, we put it into the second place of **posydu'a**, what is given
 mi = *me*, we put it into the third place of **posydu'a**, the recipient.

As we can see in the last example we can't even reflect the order of words in its English translation.

Extensive use of place tags can make our speech harder to perceive but they allow for more freedom.

Unlike **se** series using place tags like **fa** doesn't change the place structure.

We can use place tags inside nouns by placing them after **be**:

> **le posydu'a be fi mi cu pendo mi**
> *Who gives something to me is my friend.*

Another option in placing nouns is that we can put all the nouns of one main relation in front of the relation construct (preserving their relative order). Because of this freedom we can say:

> **mi do prami**
> which is the same as

> **mi prami do**
> *I love you.*

> **ko kurji ko**
> is the same as

> **ko ko kurji**
> *Take care of yourself.*

The following sentences are also equal in meaning:

> **mi posydu'a le pa plise do**
> *I give the apple to you.*

> **mi le pa plise cu posydu'a do**
> *I the apple give to you.*

> **mi le pa plise do posydu'a**
> *I the apple to you give.*

Infinitives

Infinitives are verbs that are often prefixed with *to* in English. Examples include *I like to run* with *to run* being the infinitive.

> **le verba cu troci le ka cadzu**
> *The child is trying to walk.*

le verba ≈ *the child, the children*
troci ≈ *x1 tries to do or to be x2 (ka)*
cadzu ≈ *x1 walks*

The particle **ka** works much like **nu** but it indicates that the noun on the left does or would do the action following **ka**. It makes the first noun of the outer verb (**troci** in this case) also the first omitted noun of the embedded verb started by **ka** (**cadzu** in this case) so you don't have to repeat this noun the second time.

Some verbs require only infinitives in some of their places. Definitions of such words mark such places with the term *property* or **ka**. For example,

cinmo ≈ *x1 feels x2 (ka)*

This means that the infinitive in the second place (x2) is applied to some place (most likely, the first place, x1). Cases where infinitive is applied to places other than x2 are rare and are explained for corresponding verbs or in case of verbs invented unofficially can be deduced from common sense.

Note that only the first unfilled place of the embedded relation takes the meaning of the outer place:

> **mi troci le ka do prami**
> *I try to be loved by you.*

tcidu ≈ *x1 reads x2 from x3*

Here, the first unfilled place is the second place of **prami** thus it takes the value **mi** (*I*).

It is also possible by using the pronoun **ce'u** to explicitly mark a place that has to be applied to some outer noun:

> **mi troci le ka do prami ce'u**
> *I try to be loved by you.*

Another example:

> **mi cinmo le ka xebni ce'u**
> **mi cinmo le ka se xebni**
> *I feel like someone hates me.*
> *I feel being hated.*

Prenex

Prenex is a "prefix" of relation, in which you can declare variables to be used later:

> **pa da poi pendo mi zo'u da tavla da**
> *There is someone who is a friend of me such that he/she talks to himself/herself*

zo'u ≈ *prenex separator*
da ≈ *pronoun: variable.*

The pronoun **da** is translated as *there is something/someone ...* If we use **da** the second time in the same relation it always refers to the same thing as the first **da**:

> **mi djica le nu su'o da poi kukte zo'u mi citka da**
> *I wish there was at least something tasty so that I eat it.*

su'o ≈ *number: at least 1*

If the variable is used in the same relation and not in any embedded relations then you can omit the prenex altogether:

> **mi djica le nu su'o da poi kukte zo'u mi citka da**
> **mi djica le nu mi citka su'o da poi kukte**
> *I wish there was at least something tasty so that I eat it.*

Both examples mean the same, in both cases **su'o da** denotes *there is (were/will be) something or somebody.*

However, prenex is useful and necessary when you need to use **da** deep inside your relation, i.e. within embedded relations:

> **su'o da poi kukte zo'u mi djica le nu mi citka da**
> *There is at least somethint tasty: I wish I ate it, I want to eat it.*

Notice how the meaning changes. Here, we can't omit the prenex because it will change to the meaning of the previous example.

One more example:

> **le nu pilno pa le bangu kei na ku banzu**
> *Using just one of the languages is not enough.*

pilno ≈ *... uses ...*
banzu ≈ *... is enough for purpose ...*

Compare it to:

> **le nu pilno le pa bangu kei na ku banzu**
> *Using the language (the one in question) is not enough.*

More examples:

> **mi tavla**
> *I talk.*

> **mi tavla su'o da**
> **mi tavla da**
> *There is someone I talk to.*

By default, **da** as a pronoun alone means the same as **su'o da** (*there is at least one ...*) unless an explicit number is used.

da tavla da
Someone talk to themselves.

da tavla da da
Someone talk to themselves about themselves.

tavla ≈ *x1 talks to someone x2 about topic x3*

pa da poi ckape zo'u mi djica le nu da na ku fasnu
There is one dangerous thing: I wish it never happens.

da doesn't imply any particular objects or events, which is often useful:

xu do tavla su'o da poi na ku slabu do
Do you talk to someone not familiar to you? (no particular person in mind is described).

.e'u mi joi do casnu bu'u su'o da poi drata
Let's discuss in another place (no particular place in mind)

Nouns of existence

pa da poi me le pendo be mi zo'u mi prami da
There is someone who is a friend of me such that I love him/her.

Since **da** is used only once we are tempted to get rid of the prenex. But how to handle the relative clause **poi pendo mi** (*who is a friend of mine*)?

Thankfully, in Lojban there is a shortcut:

pa da poi me le pendo be mi zo'u mi prami da
mi prami pa le pendo be mi
There is someone who is a friend of me such that I love him/her.

Both sentences mean the same.

Nouns starting with numbers like **pa le pendo** (*there is someone who is a friend of mine*), **ci le prenu** (*there are three people*) may refer to new entities every time they are used. That's why

> **pa le pendo be mi ca tavla pa le pendo be mi**
> *There is one friend of mine who talks to one friend of mine.*

This sentence is not precise in telling whether it's your friend talking to himself/herself or you are describing two friends of yours such that the first one is talking to your second one.

It's more reasonable to say:

> **le pa pendo be mi ca tavla ri**
> *The friend of mine is talking to himself/herself.*

ri ≈ *pronoun: refers to the previous noun excluding **mi**, **do**.*

Here, **ri** refers to the previous noun: **le pa pendo** altogether.

Note the difference:

- **da** means *there is something/someone*, **da** always refers to the same entity when used more than once in the same relation.
- noun like **pa le mlatu** (with a bare number) is similar to using **pa da poi me le mlatu** but it can refer to new entities every time it is used.

> **mi nitcu le nu pa da poi mikce zo'u da kurju mi**
> *I need a doctor to take care of me (implying "any doctor will do").*

> **pa da poi mikce zo'u mi nitcu le nu da kurju mi**
> *There is a doctor whom I need to take care of me.*

'I have an arm.' 'I have a brother.'

The English verb *to have* has several meanings.

pa da birka mi
I have an arm.
`There is something that is an arm of me`

birka ≈ *x1 is an arm of x2*

We use the same strategy for expressing family relationship:

pa da bruna mi
mi se bruna pa da
Someone is my brother.
I have one brother.
`There is someone who is a brother of me`

re le bruna be mi cu clani
I have two brothers and they are tall.

clani ≈ *x1 is long, tall*

So we don't need the verb *to have* to denote such relationship. The same for other family members:

da mamta mi
mi se mamta da
I have a mother.

da patfu mi
mi se patfu da
I have a father.

da mensi mi
mi se mensi da
I have a sister.

> **da panzi mi**
> **mi se panzi da**
> *I have a child (or children).*

panzi ≈ *x1 is a child, offspring of x2*

Note that using a number in front of **da** isn't necessary if context is enough.

Another meaning of *to have* is *to keep*:

> **mi ralte le pa gerku**
> *I have the dog.*
> `I keep the dog`

> **mi ralte le pa karce**
> *I have the car.*

ralte ≈ *x1 keeps x2 in their possesion*

If you own, possess something according to some law or documents you should use **ponse**:

> **mi ponse le karce**
> *I own the car.*

ponse ≈ *x1 owns x2*

Scope

The order of terms starting with numbers, modal terms and modal particles of relation constructs matters and is to be read left to right:

> **ci le pendo cu tavla re le verba**
> *There are three friends, each talking to two children.*

The overall number of children here maybe as high as 6.

By using **zo'u** we can make our sentence more clear:

> **ci da poi me le pendo ku'o re de poi me le verba zo'u da tavla de**
> *For three **da** which are among the friends, for two **de** which are among the children: **da** talks to **de**.*

Here we see that each of the friends is said to talk to two children, and it might be different children each time; up to six children in total.

How then are we to express the other interpretation, in which just two children are involved? We cannot just reverse the order of variables in the prenex to

> **re de poi me le verba ku'o ci da poi me le pendo zo'u da tavla de**
> *For two **de** which are among the children, for three **da** which are among the friends, **da** talks to **de***

for although we have now limited the number of children to exactly two, we end up with an indeterminate number of friends, from three to six. The distinction is called a "scope distinction": in the first example **ci da poi me le pendo** is said to have wider scope than **re de poi me le verba**, and therefore precedes it in the prenex. In the second example the reverse is true.

To make to scope equal we use a special conjunction **ce'e** connecting two nouns:

> **ci da poi me le pendo ce'e re de poi me le verba cu tavla**
> **ci le pendo ce'e re le verba cu tavla**
> *Three friends [and] two children, talk.*

which picks out two groups, one of three friends and the other of two children, and says that each of the friends talks to each of the children.

The order matters with modal particles modifying main relation constructs too:

> **mi speni**
> *I am married, I have a wife or a husband.*

> **mi co'a speni**
> *I get married.*

> **mi mo'u speni**
> *I am widowed.*

mo'u ≈ *term: the event is completed*

Now compare:

> **mi mo'u co'a speni**
> *I am newlywed.*
> `I finished becoming a married person.`

> **mi co'a mo'u speni**
> *I get widowed.*
> `I become finishing being married.`

If there are several modal particles in one sentence, the rule is that we read them from left to right together, thinking it as a so called *imaginary journey*. We begin at an implied point in time and space (the speaker's "now and here" if no noun follows), and then follow the modals one after another from left to right.

Let's take **mi mo'u co'a speni**.

mo'u means that an event is complete. Which event? The event **co'a speni** — to become married. Hence, **mi mo'u co'a speni** means *I finish the process of the becoming married*, i.e. *I am newlywed.*

We say in such case that **co'a speni** is within the "scope" of **mo'u**.

In **mi co'a mo'u speni** the order or event is different.

First, it is said that an event started (**co'a**), then it is stated that it is an event of finishing being married. Hence, **mi co'a mo'u speni** means *I get widowed.*

We can say that here **mo'u speni** is within the "scope" of **co'a**.

Another example:

> **mi co'a ta'e citka**
> *I start to habitually eat.*

> **mi ta'e co'a citka**
> *I habitually start to eat.*

Examples with simple tenses:

mi pu ba klama le cmana
It happened before I went to the mountain.
`I in past: in future: go to the mountain.`

mi ba pu klama le cmana
It will happen after I went to the mountain.
`I in future: in past: go to the mountain.`

The rule of reading terms from the left to the right can be overriden by connecting modal particles with the conjunction **ce'e**:

mi ba ce'e pu klama le cmana
I went and will go to the mountain.
`I in future and in past: go to the mountain.`

mi cadzu ba le nu mi citka ce'e pu le nu mi sipna
I walk after I eat and before I sleep.

Modal particles + «**da**» + nouns that start with numbers

Like with modal terms the position of **da** matters:

mi ponse da
There is something I own.

mi co'u ponse da
I lost all my property.

ponse ≈ *x1 owns x2*
co'u ≈ *modal term: the event stops*

This might look like a mind-breaking example. Here, a person was able to say *I own something*. But then for every thing the person owned this situation ended.

Another example:

> **ro da vi cu cizra**
> *Everything is strange here.*
> `Every thing here strange`

vi ≈ *here, at a short distance*
cizra ≈ *x1 is strange*

> **vi ku ro da cizra**
> *Here everything is strange.*
> `Here: every thing strange`

Did you catch that?

1. *Everything is strange here* means that if something is not strange somewhere then it becomes strange at this place.
2. *Here everything is strange* simply describes those objects or events that are here (and they are strange). We don't know anything about others in other places.

Another example with a noun started with a number:

> **pa le prenu ta'e jundi**
> *There is one person who is habitually attentive.*

— it is the same person who is attentive.

> **ta'e ku pa le prenu cu jundi**
> *It habitually happends that there is one person who is attentive.*

— it is always that one person is attentive. People may change but there is one always attentive.

Generic nouns. ‘I like cats (in general)’. Sets

> **mi nelci le'e mlatu**
> *I like cats.*

We've seen **le** being mostly translated as English *the*. However, in some cases we might want to describe some typical object or event that best exemplifies such type of objects or events in out context. In this case we replace **le** with **le'e**:

> **mi nelci le'e badna .i mi na ku nelci le'e plise**
> *I like bananas. I don't like apples.*

I might not have any bananas or apples at hand. I'm simply talking about bananas and apples as I understand, remember, or define them.

To make a noun describing the set of object or events (from which we derive such typical element) we use the word **le'i**:

> **le danlu pendo pe mi cu mupli le ka ca da co'a morsi kei le'i mabru**
> *My pet is an example that at one point mammals die.*

danlu ≈ *x1 is a mammal*
morsi ≈ *x1 is dead*
co'a morsi ≈ *x1 dies*
ca da ≈ *at some point in time*
mupli ≈ *x1 is an example of x2 (property) among x3 (set)*

Dictionaries specify when places of verbs have to be filled with sets.

Masses

> **lei prenu pu sruri le jubme**
> *The people surrounded the table.*
> `The mass of people did surround the table.`

lei prenu cu sruri le jubme
The people surrounded the table.

We use **lei** instead of **le** to show that the mass of objects is relevant to the action but not those objects individually. Compare:

> **le prenu pu smaji**
> *The people were silent.*

> **lei prenu pu smaji**
> *The crowd was silent.*

le prenu ≈ *the person, the people*
lei prenu ≈ *the crowd, the mass of people*
smaji ≈ *x1 is silent*

> **le since cu sruri le garna**
> *The snakes surrounded the rod.*
> *Each of the snakes surrounded the rod.*

— here, each snake surrounded the rod probably by curling around it.

> **lei since cu sruri le garna**
> *The snakes surrounded the rod.*
> *The snakes together as a mass surrounded the rod.*

— here, we don't care about individual snakes but we state that snakes as a mass surrounded the rod.

> **lei re djine cu sinxa la .lojban.**
> *The two rings is a symbol of Lojban.*

> **na ku re le djine cu sinxa la lojban**
> *It's not true that each of the two rings is a symbol of Lojban.*

djine ≈ *x1 is a ring*

Indeed, only the two rings together form a symbol.

Consider a sentence:

> *Apples are heavy.*

Does it mean that each apple is heavy or does it mean that they are heavy if taken together?

In Lojban we can easily distinguish between these two cases:

> **le ci plise cu tilju**
> *Each of the three apples is heavy.*

> **le plise cu tilju**
> *Each of the apples is heavy.*

> **lei ci plise cu tilju**
> *The three apples are heavy in total.*
> (so that every apple might be light but together they are heavy)

tilju ≈ *x1 is heavy*

As you can see there is an important difference between describing one object of a mass or describing the mass as a whole.

Numbers in places

> **le ci plise cu grake li pa no no**
> *Each of the three apples weigh 100 grams.*

> **lei ci plise cu grake li pa no no**
> *The three apples weigh 100 grams in total.*
> (so that every apple weighs ≈ 33 grams on average)

grake ≈ *x1 weighs x2 (number) grams*

When a place of a relation requires a number as mentioned by the dictionary then to use that number we prefix it with the word **li**.

li is a prefix signalling that a number, a timestamp or some math expression is coming.

> **li mu no**
> *Number 50.*

A simple **mu no** not being prefixed by **li** would be used to denote 5 objects or events.

Raising

> **mi stidi le ka klama le barja**
> *I suggest going to the pub.*

> **mi stidi tu'a le barja**
> *I suggest the pub.*

tu'a le barja ≈ *something about the pub*

> **mi djica le nu mi citka pa le plise**
> *I want to eat an apple.*

> **mi djica tu'a pa le plise**
> *I want an apple.*

tu'a pa le plise ≈ *something about an apple*
stidi ≈ *x1 suggest action x2 (property) to x3*
djica ≈ *x1 desires x2 (event)*

Place structure may put too much burden to specify actions or events. Sometimes we want to specify only some object in those events or places and skip describing the action or the event altogether.

In the examples above *I suggest the pub.* most likely implies going to the pub and *I want an apple.* implies eating it.

However, the Lojban verb **stidi** requires a property in its x2 place. Similarly, **djica** requires an event in its x2 place.

The short so called qualifier word **tu'a** before a term implies an abstraction (property, event, or proposition) but selects only this term from this abstraction skipping the rest. It can be vaguely translated as *something about*:

> **mi stidi tu'a le barja**
> *I suggest something about the pub (maybe visiting it, meeting near it etc.).*

> **mi djica tu'a pa le plise**
> *I want something about an apple (probably, eating it, maybe chewing it, licking it, throwing it at your friend etc.).*

When skipping abstractions only context decides what was skipped.

Lesson 3. Quoting. Questions. Interjections

«**sei**»: comments to the text

The particle **sei** allows to insert into a relation a comment about our attitude about what is said in that relation:

> **do jinga sei mi gleki**
> *You won! (I'm happy about that!)*

However:

> **do jinga sei la .ian. cu gleki**
> *You won! (And Yan is happy about that!)*

Like with nouns formed with **le** the relation formed with **sei** must end in a verb.

> **la .alis. cu prami sei la .bob. cu gleki la .kevin.**

Let's add brackets to make it more easily readable.

> **la .alis. cu prami (sei la .bob. cu gleki) la .kevin.**
> *Alice loves (Bob is happy) Kevin.*
> *Alice loves Kevin (Bob is happy).*

We can add more nouns to the verb with **be** and **bei** like we do for nouns:

> **do jinga sei mi zausku be fo la fircku**
> *You won! (I'll post congrats on Facebook)*

la fircku ≈ *Facebook*
zausku ≈ *to praise*

Quotation marks

For quoting text we place quotation particle **lu** before the quote and place **li'u** after it. The result is a noun representing a quoted text:

> **mi cusku lu mi prami do li'u**
> *I say "I love you."*

cusku ≈ *x1 expresses/says x2 (quote) to audience x3*

A nice feature of Lojban is that **lu** — «quote» and **li'u** — «unquote» marks are pronounceable. It is quite handy since in spoken Lojban you don't have to change intonation to show where a quoted text starts and ends.

However, in written text that quotes a conversation, the author often pays reader's attention to the content of quotations. In such cases **sei** is preferred.

We can also nest quotations, for example:

> **la .ian. pu cusku lu la .djein. pu cusku lu coi li'u mi li'u**
> *Yan said "Jane said 'Hello' to me."*

which is similar to

> **la .ian. pu cusku lu la .djein. pu rinsa mi li'u**
> *Yan said "Jane greeted me."*

Note that in Lojban we distinguish things and their names:

> **lu le munje li'u cu cmalu**
> *"The universe" is small.*

> **le munje na ku cmalu**
> *The universe is not small.*

le munje ≈ *the universe, world*

Here, the text *"the universe"* is small whereas the universe is not.

Interjections and vocatives work like **sei** constructs:

> **je'u mi jinga sei ra cusku**
> *Truly, "I won", he said.*

je'u ≈ *interjection: truly*

As you can see **je'u** is not his words. It's your attitude to the relation. If you want to quote "**je'u mi jinga**" use quotation marks getting:

> **lu je'u mi jinga li'u se cusku ra**
> *"Truly, I won", he said.*

See the difference between the two examples?

Several common verbs related to talking:

> **ra pu retsku lu do klama ma li'u**
> *She asked "Where do you go?"*

> **mi pu spusku lu mi klama le zdani li'u**
> *I replied "I am going home."*

> **mi pu spuda le se retsku be ra le ka spusku lu mi klama le zdani li'u**
> *I replied to her question by saying in reply "I am going home."*

spuda ≈ *x1 replies to x2 by doing x3 (property of x1)*

The remaining three verbs have identical place structure:

cusku ≈ *x1 expresses/says x2 (quote) to audience x3*
retsku ≈ *x1 asks x2 (quote) to audience x3*
spusku ≈ *x1 replies/says answer x2 (quote) to audience x3*

«zo» — quoting one word

zo is a quotation marker, just like **lu**. However, **zo** quotes only one word immediately after it. This means it does not have an unquote word like **li'u**: we already know where the quotation ends. Thus we save two syllables making our speech more concise.

> **zo robin cmene mi**
> *"Robin" is my name.*
> *My name is Robin.*

cmene ≈ *x1 (quote) is a name of x2 ...*

This is how you present yourself in Lojban using your Lojbanized name.If you have a name consisting of more than one verb word then use **lu ... li'u**:

> **lu .robin.djonsyn. li'u cmene mi**
> *Robin Johnson is my name.*

Another way is to use **me**.

> **mi me la .robin.djonsyn.**
> *I'm Robin Johnson.*

Note that the first place of **cmene** is a quote, a text. Thus, we use not **la** (prefix for names) but **lu ... li'u** or **zo** to make a quote and fill the first place of **cmene** with it. Thus, **mi me la robin** but

> **zo robin cmene mi**
> `"Robin" (quotation) is a name of me`

Content questions

English also has a number of *wh-* questions — *who, what* etc. In Lojban we use one word for all of these: **ma**. This is like an instruction to fill in the missing place. For example:

> — **do klama ma**
> — **la .london.**
> — *Where are you going?*
> — *London.*

> — **ma klama la .london.**
> — **la .kevin.**
> — *Who's going to London?*
> — *Kevin.*

> — **mi posydu'a ma do**
> — **le cukta**
> — *I give what to you?* (probably meaning *What was it I was supposed to be giving you?*)
> — *The book.*

To translate *which/what* we also use **ma**:

> — **ma gugde gi'e se xabju do**
> — **le gugde'usu**
> — *In what country do you live?*
> — *USA*
> — `What is a country and is inhabited by you`
> — `USA`

xabju ≈ *... (someone) inhabits ... (some place)*
se xabju ≈ *... (some place) is inhabited by ... (someone)*

mo is like **ma**, but questions the main relation, not a noun — it's like English *What does X do?* or *What is X?* (remember, Lojban doesn't force you to distinguish between being and doing!)

We can see **mo** as asking someone to describe the relationship between the nouns in the question.

> — **do mo**
> — *How do you do? What's up?*
> — `You are what, you do what?`

This is the most common way of asking *How do you do?*, *Howdy?* in Lojban. Some possible answers:

> **— mi gleki**
> *— I'm happy.*

gleki ≈ *x1 is happy*

> **— mi kanro**
> *— I'm healthy.*

> **mi tatpi**
> *I'm tired.*

> **mi gunka**
> *I'm working.*

Another way of asking *How do you do?*:

> **— do cinmo le ka mo**
> *— How do you feel (emotionally)?*

cinmo ≈ *x1 feels x2 (property of x1)*

Other examples:

> **ti mo**
> *What is this?*

> **la .meilis. cu mo**
> *Who is Mei Li? / What is Mei Li? / What is Mei Li doing?*

Possible answers depending on context:

- **ninmu**: *She's a woman.*
- **jungo**: *She's Chinese.*
- **pulji**: *She's a police officer.*

 sanga: *She's a singer* or *She's singing.*

> **do mo la .kevin.**
> *What are you to Kevin?*
> `You are what (you do what) to Kevin.`

The answer depends on the context. Possible answers to this question are:

 nelci: *I like him.*
 pendo: *I am his friend*
 prami: *I adore/am in love with him.*
 xebni: *I hate him.*
 fengu: *I'm angry with him.*
 cinba: *I kissed him.*

Note once again that the time is not important here: just as **cinba** can mean *kiss*, *kissed*, *will kiss* and so on, **mo** does not ask a question about any particular time.

To differentiate between *to do* and *to be someone or something* we use additional verbs with **ma**:

> **la meilis cu zukte ma**
> `Mei Li does what?`

> **la meilis cu zukte le ka lumci**
> *Mei Li is does cleaning.*

zukte ≈ *x1 does x2 (property of x1)*
lumci ≈ *to clean (something)*

> **do du ma**
> `You are who?`

> **mi du le ctuca**
> *I am the teacher.*

Using modal terms with **ma** can give us other useful questions:

word	meaning	[literally]
ca ma	When?	during what
bu'u ma	Where?	at what
ma prenu gi'e ...	Who?	who is a person and ...
ma dacti gi'e	What? (about objects)	what is an object and ...
ri'a ma	Why?	because of what
pe ma	Whose? Which? About what?	pertaining to what or whom
le mlatu poi mo	Which cat? Which kind of cat?	

pe ma is attached only to nouns:

> **le penbi pe ma cu zvati le jubme**
> *Whose pen is on the table?*

Number questions

> **le xo prenu cu klama ti**
> *How many people are coming here?*

> **mu**
> *Five.*

The word **xo** means *How many?* and thus asks for a number. The full answer will be:

> **le mu prenu cu klama ti**
> *The 5 people are coming to this place.*

So the person being asked is supposed to put an appropriate value in place of **xo**.

A few more examples:

> **le xo botpi cu kunti**
> *How many bottles are empty?*

> **do ralte le xo gerku**
> *How many dogs do you keep?*

Verbs of facts

Consider the example:

> **mi djuno le du'u do stati**
> *I know that you are smart.*

djuno ≈ *x1 knows x2 (proposition) about x3*

> **mi jimpe le du'u do pu citka**
> *I understand that you were eating.*

jimpe ≈ *x1 understands x2 (proposition) about x3*

In places that describe facts the particle **du'u** is used (instead of **nu**).

djuno (*to know*) and **jimpe** (*to understand*) describe facts. It'd be stupid to say *I understand that you were eating but in fact you weren't.*

Note that the relation started with **du'u** doesn't have to be true:

> **le du'u do mlatu cu jitfa**
> *That you are a cat is false.*

jitfa ≈ *x1 (proposition) is false*

Where to use **du'u** and where to use **nu**? You may look into the dictionary:

 The label *(du'u)* or *(proposition)* marks places where **du'u** is recommended.
 The label *(nu)* or *(event)* marks places where **nu** is recommended.

If by mistake you use **nu** instead of **du'u** you will still be understood. But usually people speaking fluent Lojban distinguish these particles.

Indirect questions

> **mi djuno le du'u ma kau tadni la .lojban.**
> *I know who is studying Lojban.*

This is called an indirect question. The word *who* here is not a request for information, there's no question mark. The answer is presumed. In fact you yourself know the answer to the question *Who is learning Lojban?*

kau is an interjection that we put after a question word telling that its an indirect question.

If I ask you the question **ma tadni la .lojban.**, you know what value to fill in the **ma** slot with: **la .kevin.** So you could just say

> **ma tadni la .lojban.**
> *Who is studying Lojban?*

> **mi djuno le du'u ma kau tadni la .lojban.**
> *I know who is studying Lojban. I know the identity of the person studying Lojban.*

> **mi djica le nu ma tadni la .lojban.**
> *Who do I want to study Lojban?*
> `I want who to study Lojban?`

This can never be an indirect question: it is asking for an answer (even if you're doing it rhetorically).

You can put it after other question words:

> **mi djuno le du'u le xo kau prenu cu tadni la .lojban.**
> *I know how many people study Lojban.*

Indirect quotations (reported speech)

A relation like *Alice said "Michelle said “Hello” to me"* can also be expressed in a rather more subtle way:

> **la .alis. pu cusku zo'e pe le nu la .micel. pu rinsa le ninmu**
> *Alice said something about Michelle greeting her before.*
> `Alice said something about the event of Michelle greeted her.`

or a bit shorter:

> **la .alis. pu cusku le se du'u la .micel. pu rinsa le ninmu**
> *Alice said that Michelle had greeted her.*

The combination **se du'u** allows expressing indirect speech.

Here are the examples of verbs related to talking when using reported speech:

> **le ninmu pu retsku le se du'u mi klama ma kau**
> *She asked where I was going.*

> **mi pu spusku le se du'u mi klama le zdani**
> *I replied that I was going home.*

> **mi pu spuda le se retsku be le ninmu le ka spusku le se du'u mi klama le zdani**
> *I replied to her question by saying in reply that I was going home.*

Questions in reported speech:

> **mi pu cusku le se du'u ma tadni la .lojban.**
> *Who did I say is studying Lojban?*
> `I said who is studying Lojban?`

Thus, Lojban has several words for *that* ..., depending on what sort of thing is meant.

- If *that* describes what can be seen, heard, what happens, use **nu**.
- If *that* describes what you think, some fact or information, use **du'u**.
- If *that* describes what you say, use **se du'u**.

⚙ But if you need a literal quote use **lu ... li'u**.

Emotional interjections

We know such interjection as **.a'o** (*I hope*). There are interjections expressing other emotional states. They are similar to smileys like ;-) or :-(but in Lojban we can be more specific about our emotions still remaining concise in our speech.

Here are examples of widely used emotional interjections:

> **do jinga ui**
> *You won! (I'm happy about that!)*

ui ≈ *interjection: Yay!, interjection of happiness*

Interjections work like **sei** with their relations. **ui** means the same as **sei mi gleki** so we could as well say **do jinga sei mi gleki** meaning the same (although it's a bit more lengthy).

> **ie tu mlatu**
> *Yes, that is a cat.*

> **ie nai .i tu na ku mlatu**
> *No, I don't agree. That is not a cat.*

ie ≈ *interjection: Yeah! Aye! (agreement)*
ie nai ≈ *interjection: disagreement*

> **.ai mi vitke do**
> *I'm going to visit you.*

.ai ≈ *interjection: I'm going to ... (intent)*

> **.au do kanro**
> *I wish you were healthy.*

.au ≈ *interjection of desire*

> **.a'o do clira klama**
> *I hope you come early.*

.a'o ≈ *interjection: I hope*

> **.ei mi ciska le xatra**
> *I should write a letter.*

.ei ≈ *I should ... (obligation)*

> **i'e do pu gunka le vajni**
> *Very good! You did an important work.*

i'e ≈ *interjection: Fine! (approval)*

> **.o'u tu mlatu**
> *Oh, that's only a cat.*

.o'u ≈ *interjection: Phew! (relaxation)*

In this case you probably thought that was something dangerous but it's only a cat so you are saying **.o'u**.

> **.u'i ti zmiku**
> *Ha-ha, this is a robot.*

.u'i ≈ *interjection: Ha-ha! (amusement)*

You can add or remove interjections to/from a sentence without the risk of breaking it.

Any word that starts with a pure vowel (excluding **u** and **i** before vowels) is prefixed with a dot in Lojban in writing and with a pause in speech. So the correct spelling is **.a'o** and so on. It's common to omit dots. We will do this later in this course for brevity. However, while speaking you should always show this dot by making a short pause before saying such word to prevent merging two neighboring words together into one.

Like with **xu** or **sei**-relations we can add interjections after any noun, pronoun or verb thus expressing our attitude towards that part of the sentence.

Urging interjections

A special group of interjections (in English called "imperative/hortative" interjections) make instigations, commands, requests, among which we already know **.e'o**:

> **.e'o mi ciksi da poi mi cusku djica**
> *Please, let me explain what I want to say.*

.e'o ≈ *interjection: Please ... (request)*

> **— au mi klama le nenri**
> **— .e'a**
> *— I'd like to enter.*
> *— Please do.*

.e'a ≈ *interjection: I allow, you may ... (permission)*
le nenri ≈ *the interior, what is inside*

> **.e'ei do zukte**
> *C'mon, do it!*

.e'ei ≈ *interjection: Come on! (encourgament, instigation, provokation). Unofficial word*

> **.e'i do zutse doi le verba**
> *Sit down, child!*

.e'i ≈ *interjection: Do that! (command)*

> **.e'u do pinxe le jisra**
> *I suggest that you drink the juice. You'd better drink the juice.*

.e'u ≈ *interjection: Let's ... (suggestion)*

«**ko**» for quicker urges

> **do bajra**
> *You run.*

> **bajra**
> *Someone runs.*

In English the verb itself is a command:

> *Run!*

In Lojban **bajra** as a sentence means *Someone runs* (or *is running* / *was running* and so on depending on context). **bajra** can also mean a command *Do run!* but sometimes context isn't enough to make you decide whether it's an urge to run or simply a statement of the fact that someone runs or is running.

The pronoun **ko** is used instead of **do** to make requests, suggestions, commands.

> **ko bajra**
> *Run! Do run! Do it so that you run!*

ko is simply a more vague alternative to **do .e'o**, **do .e'u**, **do .e'i**.

It's perfectly fine to say a more precise

> **do .e'o bajra**
> *You, please run!*

putting the emphasis in our politeness onto **do** (*you*).

Moving **ko** in a relation moves command/request to that part, for example:

> **nelci ko**
> *Make it so you are liked by someone!*

nelci ≈ *... likes ... (something or someone)*

As you can see we have to restructure this relation in English which still sounds weird, but you could use it in Lojban in the sense of *Try to make a good impression.*

Note that **prami** corresponds to English *to love* while **nelci** corresponds to English *to like*.

We can even have several **ko** in one sentence:

> **ko kurji ko**
> *Take care of yourself.*

kurji ≈ *… takes care of … (someone or something)*

Discursive interjections

> **.i mi venfu do .e ji'a le cmalu gerku pe do**
> *I'll get you and your little dog, too!*

ji'a ≈ *additionally, also, means that there exist others who also are the same (you in this case) or who do the same*

> **mi si'a nelci do**
> `I too like you`

> **— mi nelci le'e mlatu**
> **— mi si'a nelci le'e mlatu**
> *— I like cats.*
> *— I like cats too (Me too).*

si'a ≈ *similarly, too, denotes that something is similar while being different in other unmentioned aspects*

Structure of interjections: «**nai**», «**sai**», «**pei**», «**dai**»

Interjection can consist of

1. the root like **ui** (*Yay!*)
2. then suffixes like **pei**, **dai**, **zo'o**:

   > **ui zo'o**
   > *Yay! (kidding, I'm not actually happy)*

3. both the root and each of the suffixes can be modified with scalar particles like **nai**:

> **ui nai**
> *Alas!*

> **ui nai zo'o**
> *Alas! (kidding, I'm not serious in this feeling)*

> **ui nai zo'o nai**
> *Alas, I'm not kidding, I feel unhappy*

Some examples of how scalar particles work.

- **ju'o** = *interjection: I'm sure (certaintty)*
- **ju'o cu'i** = *interjection: maybe, perhaps (uncertainty)*
- **ju'o nai** = *interjection: I have no idea!*

Common examples of interjections:

- interjection with bare root:

> **ju'o le bruna co'i klama**
> *I'm sure, the brother has come.*

- scalar particle **cu'i** turns bare interjection into the middle attitude:

> **ju'o cu'i le bruna co'i klama**
> *Maybe the brother has come, I'm not sure.*

- scalar particle **nai** turns interjection into the opposite attitude:

> **ju'o nai le bruna co'i klama**
> *Maybe the brother has come, maybe not, I have no idea*

Similarly, **ui** is *Whee! Yay!* while **ui nai** means *Alas!*

Precise meanings of interjections that are meaningful with their scalar particles **cu'i** and **nai** are given in the dictionary.

- scalar particle **sai** denotes strong intensity of interjection:

.u'i sai
Ha-ha-ha!

Vocatives too can be modified with scalar particles:

ki'e sai do
Thank you a lot!

Suffixes are added after the root of interjection (together with its scalar particles if we used them):

 interjection suffix **pei** turns interjection into a question.

— .au pei do .e mi klama le zarci
— .au cu'i
— Do you want that you and I go to the store?
— Meh, I don't have any preferences.

— ie pei tu melbi
— ie
— That one is pretty, isn't it?
— Yeah.

 interjection suffix **dai** shows another's feelings, not feelings of the speaker:

ui nai dai do na ku co'i jinga
You must be sad, you haven't won.

.a'u
That's interesting!

.a'u dai
That must have been interesting for you!

- Bare interjections express the attitude of the speaker. **ei do cliva** means not *You ought to leave*, but *I feel the obligation for you to leave*. **dai** shows that the speaker is empathizing someone else's feelings.

> **.ei dai do cliva**
> *You feel the obligation for yourself to leave.*

Note that interjections don't necessarily show attitude towards the speakers themselves. Instead, they express speakers' attitude towards other things.

- interjection suffix **zo'o** marks the attitude as expressed not seriously:

> **.e'u zo'o do pinxe ti**
> *I suggest that you drink it (kidding).*

zo'o is used just like the smiley-face in e-mail, to indicate that you're being humorous when saying something, and it's used for much the same reason. Although, simleys can be ambiguous, and **zo'o** has only one meaning, which is handy.

- Suffixes can also be modified with scalar particles:

> **ie zo'o nai**
> *I agree (not kidding).*

- **zo'o nai** is used to show that the information is not a joke:

> **zo'o nai ra pu klama la .paris.**
> — *I'm serious, he went to Paris.*

- Suffixes can be used on its own:
  - **pei** when used alone asks for any interjection that the listener would feel appropriate:

> **— pei le lunra cu crino**
> **— .ie nai**
> — *The moon is green (what is your feeling about it?)*
> — *I disagree.*

- For other suffixes they mean that the root interjection **ju'a** (*I state*) was omitted:

> **zo'o do kusru**
> **ju'a zo'o do kusru**
> *You are cruel (kidding).*

ju'a ≈ *interjection: I state (don't confuse it with **ju'o** (I'm sure))*

Just for reference: interjections in tables

Here is a bigger picture: emotional, urging and some other interjections in series.

.au *Wish ...*	**.ai** *I'm gonna...*	**.ei** *It should be...*	**.oi** *Ouch!*
.au cu'i *meh* indifference	**.ai cu'i** indecision	**.ei cu'i**	**.oi cu'i**
.au nai *Nuh-uh!* disinclination, reluctance	**.ai nai** unintentionally, accidentally	**.ei nai** freedom, how things might need not be	**.oi nai** pleasure

Emotion				
ua *"wah" as in "won", "once"* *Aha! Eureka!*	**ue** *"weh" as in "wet"* *What a surprise!*	**ui** *"weeh" as "we"* *hooray!*	**uo** *"woh" as in "wombat", "what"* *voila!*	**uu** *"wooh" as "woo"* *oh poor thing*
ua cu'i	**ue cu'i** *I'm not really surprised*	**ui cu'i**	**uo cu'i**	**uu cu'i**
ua nai *Duh! I don't get it!* confusion	**ue nai** expectation, lack of surprise	**ui nai** *Alas!* feeling unhappy	**uo nai** feeling incomplete	**uu nai** *Mwa ha ha!* cruelty

Emotion				
ia *"yah" as in "yard"* *I believe*	**ie** *"yeh" as in "yes"* *aye! agreed!*	**ii** *"yeeh" as in "hear ye"* *yikes!*	**io** *"yoh" as in "yogurt"* *respect*	**iu** *"yooh" as in "cute, dew"* *I love it*
ia cu'i	**ie cu'i**	**ii cu'i**	**io cu'i**	**iu cu'i**
ia nai *Pshaw!* disbelief	**ie nai** disagreement	**ii nai** *I feel safe*	**io nai** disrespect	**iu nai** hatred

Emotion				
.u'a *"oohah" as in "two halves"* *gain*	**.u'e** *"ooheh" as in "two heads"* *what a wonder!*	**.u'i** *"ooheeh" as in "two heels"* *hahaha!*	**.u'o** *"oohoh" as in "two hawks"* *courage*	**.u'u** *"oohooh" as in "two hoods"* *sorry!*
.u'a cu'i	**.u'e cu'i**	**.u'i cu'i**	**.u'o cu'i** shyness	**.u'u cu'i**
.u'a nai loss	**.u'e nai** *Pff!* commonplace	**.u'i nai** *Blah* weariness	**.u'o nai** cowardice	**.u'u nai**

Attitude				
.i'a *"eehah" as in "teahouse"* *ok, I accept it*	**.i'e** *"eeheh" as in "teahead"* *I approve!*	**.i'i** *"eeheeh" as in "we heat"* *I'm with you in that*	**.i'o** *"eehoh" as in "we haw"* *thanks to it*	**.i'u** *"eehooh" as in "we hook"* *familiarity*
.i'a cu'i	**.i'e cu'i** non-approval	**.i'i cu'i**	**.i'o cu'i**	**.i'u cu'i**
.i'a nai resistance	**.i'e nai** *Boo!* disapproval	**.i'i nai** feeling antagonism	**.i'o nai** envy	**.i'u nai** unfamiliarity

Attachment to situation				
.a'a *"ahah" as "aha"* *I'm listening*	**.a'e** *"aheh"* *alertness*	**.a'i** *"aheeh" as in "Swahili"* *oomph!* effort	**.a'o** *I hope*	**.a'u** *hm, I wonder...*
.a'a cu'i inattentively	**.a'e cu'i**	**.a'i cu'i** no special effort	**.a'o cu'i**	**.a'u cu'i** *Ho-hum* disinterest
.a'a nai avoiding	**.a'e nai** *I'm tired*	**.a'i nai** repose	**.a'o nai** *Gah!* despair	**.a'u nai** *Eww! Yuck!* repulsion

Urging				
.e'a *"ehah"* *you may*	**.e'ei** *"ehey"* *come on, do it!*	**.e'i** *"eheeh"* *do it!*	**.e'o** *"ehoh"* *please, do it*	**.e'u** *"ehooh"* *I suggest*
.e'a cu'i	**.e'ei cu'i**	**.e'i cu'i**	**.e'o cu'i**	**.e'u cu'i**
.e'a nai prohibiting	**.e'ei nai** expressing discouragement, demoralization	**.e'i nai**	**.e'o nai** offering, granting	**.e'u nai** warning, disadvise

Emotion				
.o'a *"ohah"* *pride*	**.o'e** *"oheh"* *I feel it at hand*	**.o'i** *"oheeh"* *danger!*	**.o'o** *"ohoh" as in "sawhorse"* *patience*	**.o'u** *"ohooh"* *relaxation*
.o'a cu'i modesty, humility	**.o'e cu'i**	**.o'i cu'i**	**.o'o cu'i** mere tolerance	**.o'u cu'i** composure, balance
.o'a nai *How embarrassing. It makes me ashamed.*	**.o'e nai** distance	**.o'i nai** rashness, recklessness	**.o'o nai** impatience, intolerance	**.o'u nai** stress, anxiety

Note how an emotion changes to its opposite with **nai** and to the middle emotion using **cu'i**.

Why are some cells of interjections with **cu'i** and **nai** empty? Because English lacks concise ways of expressing such emotions.

What is more, most of such interjections are used quite seldom.

These tables might help you understand their design.

Combining interjections

> **iu ui nai**
> *I am unhappily in love.*

> **ue ui do jinga**
> *Oh, you won! I'm so happy!*

jinga ≈ *... wins*

In this case the victory was unprobable, I'm surprised and happy at the same time.

Interjections (unlike scalar particles and interjection suffixes) don't modify each other:

> **ue ui do jinga**
> **ui ue do jinga**
> *Oh, you won! I'm so happy!*

Here two interjections modify the same construct (the whole sentence) but they don't modify each other so their order is not important.

> **pei .u'i le gerku cu sutra plipe**
> *(What do you feel?) Heh, the dog is quickly jumping.*

Here **pei** is used alone and doesn't modify **.u'i** which is put after it.

Forgot to put an interjection at the beginning?

> **do pu sidju mi ui**
> *You help me (yay!)*

ui modifies only the pronoun **mi** putting the attitude only to *me*.

> **ui do pu sidju mi**
> *Yay, you helped me.*

What if we forgot to add **ui** at the beginning of this relation?

We can explicitly label the relation as complete with **vau** and then put the interjection:

> **do pu sidju mi vau ui**
> *You helped me, yay!*

Lesson 4. Practice

Now we know most crucial parts of the grammar and can start accumulating new words through situations.

Colloquial expressions

Here are some common structures used by fluent speakers of Lojban + examples illustrating their usage.

They may help you get used to colloquial Lojban faster.

.i ku'i ≈ *But...*

> **mi djuno .i ku'i mi na ku djica**
> *I know. But I don't want.*

mi djica le nu ≈ *I want that ...*

> **mi djica le nu mi sipna**
> *I want to sleep.*
> `I want that I sleep.`

mi djuno le du'u ma kau ≈ *I know what/who ...*

> **mi djuno le du'u ma kau smuni zo coi**
> *I know what is the meaning of* ***coi****.*

> **mi na ku djuno**
> *I don't know.*

jinvi le du'u ≈ *... has an opinion that ...*

> **mi jinvi le du'u la .lojban. cu zabna**
> *I think that Lojban is cool.*

> **coi ro do**
> *Hello, everyone!*

> **co'o ro do**
> *Bye, everyone!*

.ai mi ≈ *I'm going to ...*

> **ai mi cliva .i co'o**
> *I'm going to leave. Bye!*

.ei mi ≈ *I should ...*

> **.ei mi citka .i co'o**
> *I should eat. Bye!*

ca le nu ≈ *when ...*

> **mi pu bebna ca le nu mi citno**
> *I was stupid when I was young.*

va'o le nu ≈ *provided that ...*

> **va'o le nu do djica kei mi ka'e ciksi**
> *If you want I can explain.*

simlu le ka ≈ *... seems to be ...*

> **simlu le ka zabna**
> *It seems to be cool.*

ca le cabdei ≈ *today*

> **ca le cabdei mi surla**
> *Today I rest.*

mi nelci ≈ *I like*

> **mi nelci le mlatu**
> *I like the cat.*

le nu pilno ≈ *using …*

> **na ku le nu pilno le vlaste cu nandu**
> *Using dictionaries isn't hard.*

kakne le ka ≈ *capable of …*

> **xu do kakne le ka sutra tavla**
> *Are you able to talk quickly?*

tavla fi ≈ *talk about …*

> **.e'ei tavla fi le skami**
> *Let's talk about computers!*

mutce le ka ≈ *very …*

> **mi mutce le ka se cinri**
> *I am very interested.*

troci le ka ≈ *… tries to …*

> **mi troci le ka tavla fo la .lojban.**
> *I am trying to talk in Lojban.*

rinka le nu ≈ *(event) leads to …*

> **le nu mi tadni la .lojban. cu rinka le nu mi jimpe fi do**
> *That I study Lojban makes me understand you.*

gasnu le nu ≈ *(agent) causes …*

> **mi pu gasnu le nu le skami pe mi co'a spofu**
> *I made it so that my computer got broken.*

xusra le du'u ≈ *assert that …*

xu do xusra le du'u mi na ku drani
Do you state that I am not right?

mi na ku kanpe
I am not sure.

A simple dialogue

coi la .alis.
Hi, Alice!

coi la .doris.
Hi, Doris!

do mo
How are you?

mi kanro .i mi ca tadni la .lojban. .i mi troci le ka tavla do
I'm healthy. I now study Lojban. I'm trying to talk to you.

kanro ≈ *to be healthy*
tadni ≈ *to study ... (something)*
troci ≈ *to try ... (to do something)*
tavla ≈ *to talk [to someone]*

zabna .i ma tcima ca le bavlamdei
Good. What will be the weather tomorrow?

zabna ≈ *... is nice, cool*
tcima ≈ *... is the weather*
ca ≈ *at (some time)*
le bavlamdei ≈ *tomorrow day*

> **mi na ku djuno .i le solri sei mi pacna**
> *I don't know. It'll be sunny, I hope.*

djuno ≈ *to know (fact)*
le solri ≈ *the sun*

Note that **le solri cu tcima** (literally *the sun is the weather*) is the way of using **tcima** in Lojban.

sei ≈ *comment starts*
pacna ≈ *to hope (for some event)*

> **mi jimpe**
> *I understand.*

> **co'o**
> *Goodbye.*

Human senses

Verbs related perception will be explained after the dialogue.

> **ju'i la .alis.**
> *Hey, Alice!*

ju'i ≈ *vocative that draws attention: Hey! Psst! Ahem! Attention!*

> **re'i**
> *Listening.*

re'i ≈ *vocative: I'm ready to receive information.*

xu do viska ta
Do you see that thing near you?

In English we say *Can you see*, in Lojban we say just **xu do viska** — *You see?*

viska .i plise
.i le plise cu xunre .i skari le ka xunre
Yes. It is an apple.
The apple is red. It's colored red.

plise ≈ *... is apple*

xu do viska le tarmi be le plise
Can you see the form of the apple?

viska .i le plise cu barda
Yes. The apple is big.

xu do jinvi le du'u le plise ca makcu
Do you think that the apple is ripe?

makcu ≈ *... is ripe*

.au mi zgana le sefta be le plise
I'd like to palpate it.

.i ua xutla
Oh, it is smooth.

.i mi pacna le nu makcu ie
I hope that it is ripe, yeah.

panci pei
What about the smell?

.i .e'o do sumne le plise
Please, smell it.

le xrula cu panci
It smells of flowers.

.i .au mi zgana le vrusi be le plise
I'd like to taste the apple.

.i .oi nai le kukte cu vrusi
Yum, it tastes sweet.

.i .oi
Oh-no.

le xrula ≈ *the flower(s)*

ma pu fasnu
What happened?

mi pu farlu fi le ve'i cmana
I fell down from the hill.

xu do cortu
Do you feel pain?

cortu .i mi cortu le cidni
Yes, I feel pain in the knee.

.i na ku ckape
It's not dangerous.

.i ca ti mi ganse le nu da vi zvati
And now I can sense a presence of someone here.

doi la .alis. do cliva .e'o sai
Alice, please, return immediately!

ko denpa .i mi ca tirna le sance
Wait, I can hear some sound.

le sance be ma
A sound of what?

mi pu tirna le nu le prenu cu tavla
I heard a person talking.

.i ca ti mi zgana le lenku
Now I feel cold.

> **ju'i la .alis.**
> *Hey, Alice!..*

In this dialogue most important verbs for human senses have been used. Here are their place structures together with more verbs and more examples.

Vision

viska ≈ *x1 sees x2 (object, form, color)*
skari ≈ *x1 is an object with the color x2 (property)*
tarmi ≈ *x1 is the form of x2*

> **mi viska le plise**
> *I see the apple.*

> **mi viska le tarmi be le plise**
> *I see the form of the apple.*

> **.i le plise cu se tarmi le cukla**
> *The apple is round.*

> **.i le plise cu skari le ka xunre**
> *The apple is colored red.*

Notice that we can both say *see the form of the apple* and *see the apple.*

Hearing

tirna ≈ *x1 hears x2 (object or sound)*

> **mi tirna le palta**
> *I hear the plate*

> **mi tirna le sance be le palta poi ca'o porpi**
> *I hear the sound of a plate that is falling.*

> **.i le palta cu se sance le cladu**
> *It sounds loud.*

le palta ≈ *the plate*
cladu ≈ *x1 is loud*
tolycladu ≈ *x1 is quite in sound*
tonga ≈ *x1 is a tone of x2*

We can use **cladu** and similar words directly:

> **mi tirna le cladu**
> *I hear something loud.*

> **mi tirna le tolycladu**
> *I hear something quite in sound.*

> **mi tirna le tonga be le palta poi farlu**
> *I hear the tone of the plate falling down.*

Similarly to vision, we can say *hear a sound* and *hear something producing the sound*:

> **— ma sance gi'e se tirna do**
> *— What sound do you hear?*

> **— le zgike**
> *— The music.*

> **— do tirna le sance be ma**
> *— You hear a sound of what?*

> **— le plise poi co'i farlu**
> *— The apple that has fallen down.*

Perception in general

We can also use the vague **ganse** — *to sense stimulus.*

ganse ≈ *x1 senses stimulus x2 (object, event) by means x3*
ganse le glare ≈ *to feel the heat*
ganse le lenku ≈ *to feel the cold*

> **mi ganse le plise**
> *I sense the apple.*

For observing our perceptions we can use **zgana**:

> **mi zgana le tarmi be le plise**
> *I observe the form of an apple.*

> **.i le plise cu se tarmi le'e cukla**
> *The apple is round.*

zgana ≈ *x1 notices, observes, watches x2. Not limited to vision*

Some words can be used with different sensory verbs. For example, we can

viska le sefta ≈ *to see the surface*
zgana le sefta ≈ *to palpate the surface*

Sense of smell

sumne ≈ *x1 smells x2 (odor)*
panci ≈ *x1 is an odor of x2 (object)*

mi sumne le xrula
I smell the flower.

mi sumne le panci be le za'u flora
I smell the odor of flowers.

mi sumne le panci be le plise
I smell the odor of the apple.

.i le plise cu se panci le xrula
The apple smells of flowers.

Note that English confuses smelling an odor and smelling an object that produces that odor. We say *to smell the apple, the apple smells of flowers (has the scent of flowers)*. This two-fold distinction is important because an apple produces aromatic particles that are distinct from the apple itself. The same for a falling plate and its sound — we may not want to mix them.

In Lojban we can easily separate between those cases like shown in the examples above.

Sense of taste

vrusi ≈ *x1 is a taste of x2*

mi zgana le vrusi be le plise
I taste the apple.
`I observe the taste of the apple`

.i le plise cu se vrusi le kukte
The apple tastes sweet.

Sense of touch

sefta ≈ *x1 is a surface of x2*

> **mi zgana le sefta be le plise**
> *I palpate, touch-feel the surface of the apple.*

> **.i le plise cu se sefta le xutla**
> *The apple has a smooth surface.*

Pain

> **mi cortu le birka be mi**
> *I feel pain in my arm.*
> *My arm hurts.*

> **mi cortu le cidni**
> *I feel pain in my knee, my knee hurts.*

cortu ≈ *x1 feels pain in x2 (organ, part of x1's body)*
cidni ≈ *x1 is a knee of x2*

Colors

Different language use different sets of words to denote colors. Some languages just refer to the color by referencing other "prototype" objects with similar color (or shade, form ...) In Lojban we use all the options:

> **ti xunre**
> *This is red.*

xunre ≈ *x1 is red*

> **ti skari le ka xunre**
> *This is red. This has the color or red things.*

> **ti skari le ka ciblu**
> *This has the color of blood.*

le ciblu ≈ *the blood*

Below are some examples with colors that follow those of English language. Other verbs for colors can be used, they would reflect how people speaking other languages are used to classify things.

> **le tsani cu xunre ca le cerni**
> *The sky is red in the morning.*

le tsani ≈ *the sky*

> **.i le solri cu simlu le ka narju**
> *The sun seems to be orange.*

le solri ≈ *the Sun*
simlu ≈ *x1 looks like x2 (property of x1)*

> **.i le pelxu flora cu se farna le solri**
> *Yellow flowers are oriented towards the Sun.*

se farna ≈ *x1 is oriented towards x2*
farna ≈ *x1 is the direction of x2*

> **.i le pezli be le tricu cu crino**
> *Leaves of trees are green.*

pezli ≈ *x1 is a leaf of x2*
le tricu ≈ *tree*

> **.i mi zvati le korbi be le blanu xamsi**
> *I am at the border of a blue sea.*

zvati ≈ *... is present at ...*
korbi ≈ *x1 is the border of x2*
le xamsi ≈ *sea*

> **.i mi catlu le prenu noi dasni le zirpu taxfu**
> *I look at a person who wears the violet dress.*

dasni ≈ *x1 wears x2 (something)*
xunre ≈ *x1 is red*
narju ≈ *x1 is orange*
pelxu ≈ *x1 is yellow*
crino ≈ *x1 is green*
blanu ≈ *x1 is blue*
zirpu ≈ *x1 is violet*

Other useful verbs:

> **le gusni be le manku pagbu pu na ku carmi**
> *The light illuminating dark areas was not intense.*

> **le gusni be fi le solri pu carmi**
> *The light from the Sun was intense.*

gusni ≈ *x1 is a light illuminating x2 from the light source x3*
carmi ≈ *x1 is intense, bright*
manku ≈ *x1 is dark*

Emotions: «**cmila**» — '*to laugh*'. «**cisma**» — '*to smile*'

> **coi**
> **.i ma nuzba**
> **.i do simlu le ka badri**
> *Hi.*
> *What are the news?*
> *You seem to be sad.*

badri ≈ *x1 is sad about x2*

mi steba le nu le bruna be mi co'a speni le ninmu
I am frustrated that my brother gets married a woman.

steba ≈ *x1 feels frustration about x2*

mi se cfipu
.i xu do na ku gleki le nu le bruna co'a speni
I am confused.
You are not happy that the brother gets married?

se cfipu ≈ *x1 is confused about x2*
gleki ≈ *x1 is happy about x2*

ie
.i le ninmu cu pindi
.i le ninmu na ku ponse le jdini
.i mi na ku kakne le ka ciksi
Yeah.
The woman is poor.
She doesn't have money.
I am not able to explain.

le jdini ≈ *the money*
kakne ≈ *x1 is capable of x2 (property of x1)*

ua
.i la'a do kanpe le nu le ninmu na ku prami le bruna
Ah!
Probably, you expect that the woman doesn't like the brother.

la'a ≈ *interjection: probably, it's likely*
kanpe ≈ *x1 expects x2 (some event)*

> **mi terpa le nu le ninmu ba tarti le xlali**
> **.i ku'i le bruna cu cisma ca ro nu ri tavla le ninmu**
> **.i ri ta'e cmila**
> *I am afraid that she will behave bad.*
> *But the brother smiles every time he talks to her.*
> *And she usually laughs.*

terpa ≈ *x1 fears x2*
cisma ≈ *x1 smiles*
cmila ≈ *x1 laughs*

> **mi kucli le nu le ninmu cu prami le bruna**
> *I wonder whether the girl likes the brother.*

kucli ≈ *x1 is curious of x2*

> **mi na ku kanpe**
> *I don't expect that.*

kanpe ≈ *x1 expects that x2 (event) happens*

> **ko surla**
> *Relax!*

surla ≈ *x1 relaxes by doing x2 (property of x1)*
cinmo ≈ *x1 feels emotion x2 (property of x1)*
nelci ≈ *x1 likes x2*
manci ≈ *x1 feels awe or wonder about x2*
fengu ≈ *x1 is angry about x2*
xajmi ≈ *x1 thinks x2 is funny*
se zdile ≈ *x1 is amused by x2*
zdile ≈ *x1 is amusing*
djica ≈ *x1 desires x2*
pacna ≈ *x1 hopes that x2 is true*

Health

ca glare
It's hot now.

.i ku'i mi ganse le lenku
But I feel cold.

ku'i ≈ *interjection: but, however*

xu do bilma
Are you ill?

bilma
Yes.

xu do bilma fi le vidru
.i .e'u do klama le mikce
Do you have a virus? I suggest you go to a doctor.

le vidru ≈ *the virus*
le mikce ≈ *doctor*

mi bilma le ka cortu le galxe
.i mi sruma le du'u mi bilma fi la .zukam.
My symptoms is that my throat aches.
I assume that I have a cold.

cortu ≈ *x1 has pain in x2 (organ, part of x1's body)*
la .zukam. ≈ *common cold (disease)*

ko kanro
Get well!

kanro ≈ *x1 is healthy*

> **ki'e**
> *Thanks.*

bilma ≈ *x1 is ill or sick with symptoms x2 from disease x3*

Note that the second place of **bilma** describes symptoms like **le ka cortu le galxe** = *to have pain in the throat*

The third place is the name of the disease leading to those symptoms: Obviously, you may fill any place of **bilma**.

Human body

> **le nanmu cu se xadni le clani**
> *The man has a long body. The man is tall.*

se xadni ≈ *x1 has the body x2*
xadni ≈ *x1 is the body of x2*

> **mi pu darxi fi le stedu .e le zunle xance**
> **.i ca ti le degji be le xance cu cortu**
> **.i ku'i le pritu xance na ku cortu**
> *I hit something with the head and the left hand. Now the finger of the hand hurts. But the right hand doesn't hurt.*

darxi ≈ *x1 hits x2 with x3*

Most of words for parts of body have the same place structure as **xadni**:

stedu ≈ *x1 is a head of x2*

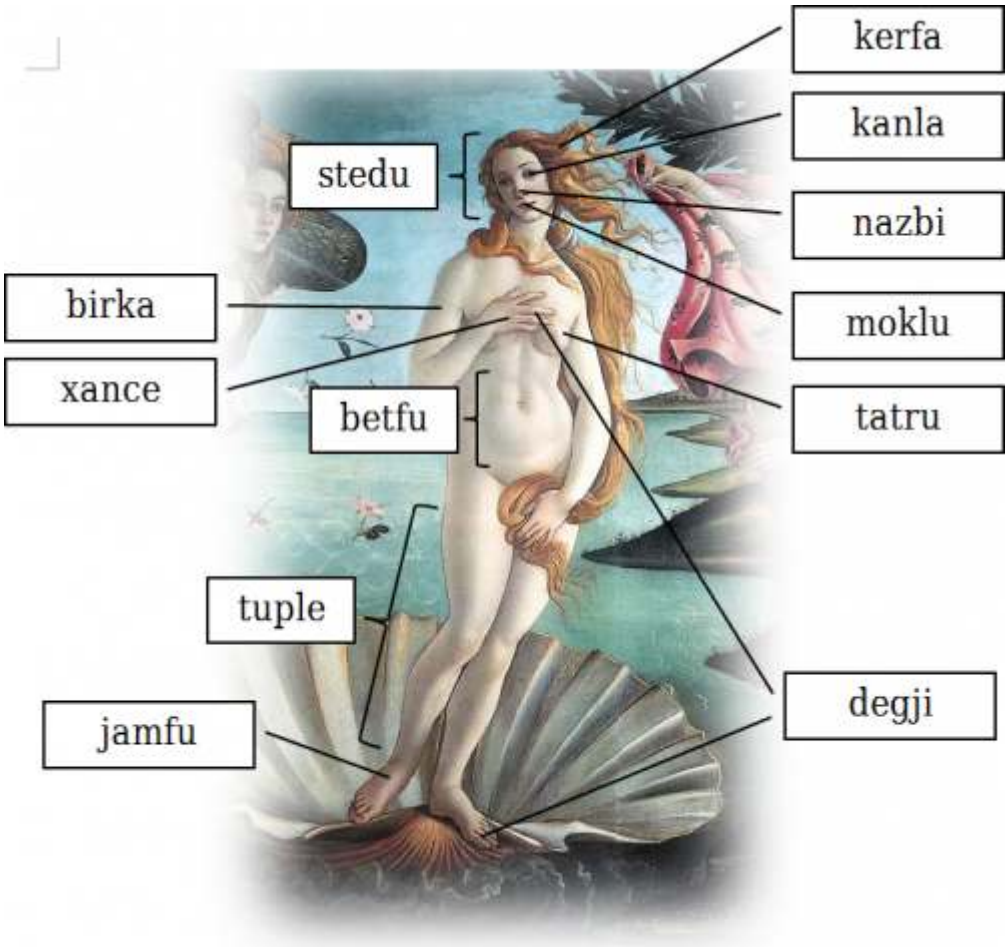
However, some describe smaller parts:

degji ≈ *x1 is a finger/toe on part x2 (hand, foot)*

> **le degji be le xance be le ninmu cu clani**
> *The woman's fingers are long.*
> `Digits of hand of the woman are long`

mi viska le jamfu .i ku'i mi na ku viska le degji be le jamfu
I can see the feet. But I don't see its toes.

janco ≈ *x1 is a joint attaching limbs x2*
ctebi ≈ *x1 is a lip of mouth, orifice x2*
cidni ≈ *x1 is a knee or elbow of limb x2*



Kinship

coi do mi se cmene zo .adam.
.i ti du la .alis.
.i ri speni mi
Hello to you. I am called "Adam".
This is Alice.
She is my wife.

pluka fa le ka penmi do
.i .e'o do klama le nenri be le dinju
Pleasure to meet you.
Please, come into the house.

ki'e
Thanks.

.i .au gau mi do co'a slabu le lanzu be mi
.i le re verba cu panzi mi
.i le tixnu cu se cmene zo .flor.
.i la .karl. cu du le bersa
I'd like you to get to know my family.
The two children are my offspring.
The daughter is called "Flor".
Karl is the son.

la .karl. cu mutce citno
Karl is very young.

ie
Yeah.

.i ji'a mi se tunba re da noi ca na ku zvati le dinju
.i sa'e mi se tunba le pa bruna .e le pa mensi
Also I have two siblings who are now not in the house.
To be precise, I have a brother and a sister.

ue
.i le lanzu be do cu barda
Wow!
Your family is large.

> **je'u pei**
> *Really?*

je'u ≈ *interjection: truly*

The verbs for names of family members have a similar place structure:

speni ≈ *x1 is a husband/wife of x2*

co'a speni means *to get married*:

> **mi co'a speni la .suzan.**
> *I married Susan.*

lanzu ≈ *x1 is a family including x2*
panzi ≈ *x1 is a child of x2*
tixnu ≈ *x1 is a daughter of x2*
bersa ≈ *x1 is a son of x2*
tunba ≈ *x1 is a sibling (brother/sister) of x2*
bruna ≈ *x1 is a brother of x2*
mensi ≈ *x1 is a sister of x2*

Note that **panzi** can be applied to grown-up children of someone

verba ≈ *x1 is a child, immature person of age x2 (event)*
panzi ≈ *x1 is a child, offspring of x2*

verba doesn't necessarily talk of it as of a family member:

> **le bersa be le pendo be mi cu verba le nanca be li ci**
> *The son of my friend is a child of three years old.*

citno ≈ *x1 is young*
laldo ≈ *x1 is old, aged*

Pairs of traditional words (for humans only):

le ninmu ≈ *woman / women*
le nanmu ≈ *male man / male men*
le nixli ≈ *the girls*
le nanla ≈ *the boys*
le remna ≈ *the humans*

Note that **le prenu** means *the people, the persons*. In fairy tales and fantastic stories not only humans (**le remna**) but animals or alien beings from other planets can be persons.

These words can be used for describing genetically determined sex (both in animals and humans) as opposed to gender:

le fetsi ≈ *the female*
le nakni ≈ *male*

These word describe parental (not necessarily genetic) relations:

mamta ≈ *x1 is a mother of x2, x1 acts maternally*
patfu ≈ *x1 is a father of x2*
rirni ≈ *x1 is a parent of x2, x1 raises x2*

In the shop

> **ue**
> **do pu te vecnu le laldo karce**
> *Wow!*
> *You bought an old car.*

> **ie**
> **.i ku'i mi na ku pu pleji le so'i jdini**
> *Yeah.*
> *But I didn't pay much money.*

> **ma pu jdima le karce**
> *What was the price of the car?*

> **mi pu pleji le rupnusudu be li pa ki'o le kagni le karce**
> *I paid a thousand dollars to the company for the car.*

> **mi pu vecnu le laldo karce pe mi le pendo be mi**
> **.i le pendo pu pleji le rupne'uru be li re ki'o mi le karce**
> *I sold an old car of mine to my friend.*
> *The friend paid 2 000 euro for the car.*

ki'o ≈ *comma between digits so that **pa ki'o** is 1, 000 (one thousand)*
vecnu ≈ *x1 sells x2 to x3*
te vecnu ≈ *x1 buys x2 from x3*
pleji ≈ *x1 pays x2 to x3 for x4*
jdima ≈ *x1 is the price of x2*
jdini ≈ *x1 is money*
rupnusudu ≈ *x1 costs x2 (number) US dollars*
rupne'uru ≈ *x1 costs x2 (number) euro*

Shop, buildings

> **ma stuzi le zdani be do**
> *What is the location of your home?*

> **le korbi be le cmana**
> **.i mi se zdani le nurma**
> **.i le zdani be mi cu barda dinju gi'e se sledi'u ci da .e le vimdi'u .e le lumdi'u**
> *The edge of the mountain.*
> *I live in the country.*
> *My home is a big house and has three rooms plus a toilet plus a bathroom.*

> **je'e**
> **.i ku'i mi pu jbena le tcadu .i je ca ti mi se zdani le jarbu be la .paris.**
> **.i mi xabju ne'a le zarci**
> *I see.*
> *But I was born in the city, and now I live in the suburbs of Paris.*
> *I live near a shop.*

stuzi ≈ *x1 is a place*
dinju ≈ *x1 is a building, house*
zdani ≈ *x1 is a home of x2*
se zdani ≈ *x1 lives in x2, x1 inhabits x2*
tcadu ≈ *x1 is a city or town*
jarbu ≈ *x1 is a suburban are of city/town x2*
nurma ≈ *x1 is a rural area, x1 is in the country*
kumfa ≈ *x1 is a room*
vikmi kumfa ≈ *x1 is a toilet*
zarci ≈ *x1 is a shop*

Lesson 5. Modal terms, «**da**», their relative position

How do modal terms refer to the relation?

 Some modal terms like those that describe time (tense) connect the current relation with the one in the noun after them:

> **mi cadzu ca le nu le cipni cu vofli**
> *I walk when the birds fly.*

cadzu ≈ *... walks*
le cipni ≈ *the bird/birds*
vofli ≈ *... flies*

> **mi pu cadzu fa'a le rirxe**
> *I walked towards the river.*

> **mi pu cadzu se ka'a le rirxe**
> *I walked to the river.*

se ka'a ≈ *coming to ...*
fa'a ≈ *directly towards ...*

Modal terms don't remove ordered places (**fa**, **fe**, **fi**, **fo**, **fu**) from the relation:

> **mi klama se ka'a le rirxe le dinju**
> **mi klama fe le rirxe .e le dinju**
> *I go to a river, to a house.*

Here, the first example uses **se ka'a** to connect **le rirxe** and then the second place of **klama** follows being filled with **le dinju**. It's the same as just filling the second place of **klama** two times, that is connecting them with **.e** — *and*.

However, **se ka'a** is nice when applied to other verbs like **cadzu** in a previous example.

> **le prenu pu cadzu tai le nu ri bevri su'o da poi tilju**
> *The person walked as if he was carrying something heavy.*

bevri ≈ *x1 carries x2*
tai ≈ *modal term: like ..., resembling ...*

The dictionary explains such tricky cases where the relation defined by the term might pose difficulty. In practice, the relation is often clear from the examples provided.

Using «**ne**» + term. «**se mau**» — '*more than ...*'

> **mi ne se mau do cu melbi**
> *I am prettier than you.*

se mau ≈ *term from **se zmadu**: more than; the relation itself describes the comparison*

This example is similar to

> **mi zmadu do le ka melbi**
> *I exceed you in prettiness.*

In other words, the main relation **melbi** is similar to the third place of **zmadu**, which specifies the comparison criteria. Two more examples:

> **mi prami do ne se mau la .doris.**
> *I love you more than Doris.*

> **mi ne se mau la .doris. cu prami do**
> *I love you more than Doris does.*
> *I love you more than Doris loves you.*
> `I (more than Doris) love you.`

More examples:

> **mi nelci le'e pesxu ne se mau le'e ladru**
> *I like jam more than milk.*

pesxu ≈ *... is jam*

> **le'e pesxu cu zmadu le'e ladru le ka mi nelci**
> *I like jam more than milk.*
> `Jam exceeds milk in how much I like it.`

And now an interesting sentence:

> *Bob likes Betty more than Mary.*

It can mean two different things in English!

1. Bob likes Betty and he likes Mary less.
2. Bob likes Betty but Mary likes Betty too, though not as much as Bob does!

Do we compare Betty with Mary in how Bob likes them?

Or instead we compare Bob with Mary in how they like Betty?

English is ambiguous in this regard.

However, **se mau** always compares the noun after it with the first place of the relation we know what we get:

> **la .bob. ne se mau la .maris. cu nelci la .betis.**
> **la .bob. cu nelci la .betis. se mau la .maris.**
> *Bob (compared to Mary) likes Betty more. Mary likes Betty less.*

> **la betis cu se nelci la bob se mau la maris**
> *Betty is loved by Bob more than Mary. Bob likes Mary less.*

Comparisons: '*equal*', '*the same*'

> **mi dunli le mensi be mi le ka mitre .i ku'i mi na ku du le mensi**
> *I am as big as my sister. But I'm not her.*
> `I equal the sister of me in meters. But i am not identical to the sister.`

dunli ≈ *x1 (any type) is equal to x2 (any type) in x3 (property of x1 and x2 with **kau**)*
mitre ≈ *x1 is x2 meters long*
du ≈ *x1 (any type) is identical to x2 (any type)*

dunli compares two places for a single property, while **du** compares for identity. My sister and I are the same height, but we are not the same person. Clark Kent and Superman have different admirers, but they are the same person.

The same goes for another two verbs:

> **mi frica do le ka nelci ma kau**
> *We differ from each other in what we like.*
> `I differ from you in liking what.`

> **le drata be mi cu kakne le ka sidju**
> *Someone other than me is able to help.*

frica ≈ *x1 (any type) differs from x2 (any type) in x3 (property of x1 and x2 with **kau**)*
drata ≈ *x1 (any type) is not the same as x2 (any type)*

The concept of '*only*'

> **mi .e no le pendo be mi cu nelci le'e badna**
> *I and none of my friends like bananas.*
> *Among my friends I'm the only one who likes bananas.*

The concept of *not only* is similarly expressed:

> **mi .e le su'o pendo be mi cu nelci le'e badna**
> *It's not just me who likes bananas among my friends.*
> *I and some of my friends like bananas.*

‘*Most*’, ‘*many*’ and ‘*too much*’

Words like *most* and *many* are also numbers in Lojban:

ro	*each*
so'a	*almost all*
so'e	*most*
so'i	*many, a lot of*
so'o	*several*
so'u	*few*
no	*zero, none*
su'e	*at most*
su'o	*at least*
za'u	*more than …*
du'e	*too many*

Some examples:

> **su'e re no le prenu ba klama**
> *No more than 20 of the people will come.*

> **su'o pa le prenu cu prami do**
> *At least one person loves you.*

‘*never*’ — «**no roi**», ‘*always*’ — «**ro roi**»

Terms specifying the number of times:

- **no roi** = *never*
- **pa roi** = *once*
- **re roi** = *twice*
- **ci roi** = *thrice*

…

- **so'i roi** = *many times*
- **so'u roi** = *a few times*
- **du'e roi** = *too many times*
- **ro roi** = *always*

> **mi du'e roi klama le zarci**
> *I go to the market too often.*

zarci ≈ *x1 is a market*

> **mi pu re roi klama le zarci**
> *I went to the market twice.*

Without **pu** the construct **re roi** may mean that once I went to the market but the second time I will be there only in the future. These time-related particles can be used with a noun after them:

> **mi klama ti pa roi le jeftu**
> *I come here once a week.*

‘*for the first time*’ — «**pa re'u**», ‘*for the last time*’ — «**ro re'u**»

- **pa re'u** = *for the first time*
- **re re'u** = *for the second time*

…

- **za'u re'u** = *again*

 ro re'u = *for the last time*

The time-related particle **re'u** works like **roi** but tells the number of the iteration for which this event happens.

Compare:

> **mi pa roi klama le muzga**
> *I visited the museum once.*

> **mi pa re'u klama le muzga**
> *I visited the museum for the first time.*

> **mi za'u roi klama le muzga**
> *I visited the museum more times.*

> **mi za'u re'u klama le muzga**
> *I visited the museum again.*

> **mi za'u pa roi klama le muzga**
> *I visited the museum more than once.*

> **mi za'u pa re'u klama le muzga**
> *I visited the museum not for the first time (maybe for the second/third etc.))*

vitke ≈ *to visit (somebody or something)*

Note the difference between:

za'u re'u ≈ *again, not for the first time*
re re'u ≈ *for the second time (same here, no context is needed, and even the exact number of times is given)*

Modal particles: their location within a relation

> **le nu tcidu kei ca cu nandu**
> *Reading is now difficult.*

> **ca ku le nu tcidu cu nandu**
> *Now reading is difficult.*

Bare terms without arguments after them can be moved around the sentence by adding **ku** after them.

ku prevents the following nouns from attaching to such terms. Compare:

> **ca le nu tcidu cu nandu**
> *When reading it's difficult.*

Here are several places where modal particles can go.

 modal term modifies the relation to the right of it:

> **ca ku mi citka**
> *Now I eat.*

— the term is labelled with a word **ku** as being completed.

> **ca le cabdei mi citka**

> *Today I eat.*

— the term with a noun after it as its argument.

> **mi ca citka**

> *I now eat.*

— modal particle before the main relation construct and without a noun.

 Modal term is applied to the whole relation:

> **mi citka ca**

> *I eat now.*

— modal term at the end of the relation.

Joining statements with modals

> **mi pinxe le jisra ca le nu do co'i klama le zdani**
> *I am drinking the juice when you come home.*

> **mi pinxe le jisra .i ca bo do co'i klama le zdani**
> *I am drinking the juice, and at the same time you come home.*

The two examples mean the same. The second option is mostly used when any of the original relations sound bulky.

Another use is to move modal terms out of scope of other modal terms:

> **mi na ku te vecnu ki'u le nu kargu**
> *It's not true that I buy because it's expensive.*

So one might suppose that I only buy things if they are expensive. But no, I don't act thay way.

Here, **na ku** negates that *I buy things because they are expensive.* **na ku** is applied to the whole relation, thus it "covers" **ki'u**.

> **mi na ku te vecnu .i ki'u bo kargu**
> *I don't buy. It's because it's expensive.*

Here, I don't buy things. Why? Because they are expensive. Maybe I prefer only cheap things.

Here, **ki'u** is placed to another sentence. Thus, **na ku** doesn't scope over it.

Both examples could be translated as *I don't buy because it's expensive.* However, they mean different things.

A special rule is for using **.i ba bo** and **.i pu bo**. Compare:

> **mi cadzu pu le nu mi citka**
> *I walk before I eat.*

> **mi cadzu .i ba bo mi citka**
> *I walk, and then I eat.*

.i ba bo means *afterwards, then.* The sentence after **.i ba bo** refers to something that took place later than what took place in the relation before.

pu is changed into **ba**, and vice versa. This special rule for Lojban was made by analogy of natural languages. So you just have to remember this special behavior of these two words.

Existing things, '*there are ...*'

There are actually three words in **da** series: **da**, **de**, **di**. We use them if you need to refer to different objects in one discourse:

> **ci le mlatu cu citka re le finpe**
> *There are three cats, there are two fishes for each cat, and each cat eats two fishes.*

If you need more such words in one discourse add a suffix **xi** to them and then any number (which we can call an index). Thus,

- **da xi pa** is the same as simple **da**,
- **da xi re** is the same as **de**,
- **da xi ci** is the same as **di**
- **da xi vo** is the fourth "something" and so on ...

Topic and comment. «**zo'u**»

Sometimes it is useful to show the topic of a relation and then say a comment about it:

> **le'e finpe zo'u mi nelci le'e salmone**
> *As for fish I like salmon.*

salmone ≈ *... is a salmon*
zo'u ≈ *ends the topic and starts the comment of the relation*

zo'u is more useful when a pronoun like **da** is defined in the topic and then used in the comment:

su'o da zo'u mi viska da
There is a thing such that I see it.

ro da poi gerku zo'u mi nelci da
For each thing that is a dog: I like it.
I like all dogs.

da de zo'u da viska de
*There is **da** and **de** such that **da** sees **de**.*

The two pronouns **da** and **de** tell us that there are two things which stand in the relationship that one sees the other. It might be the case that the supposed two things are really just a single thing that loves itself: nothing in the sentence rules out that interpretation, which is why the colloquial translation does not say *Somebody sees somebody else.* The things referred to by different pronouns of **da** series may be different or the same.

It is perfectly okay for these pronouns to appear more than once in the same sentence:

da zo'u da prami da
*There is **da** such that **da** loves **da**.There is someone who loves himself/herself.*

It is not necessary for a pronoun to be the direct noun of the relation:

da zo'u le gerku pe da cu viska mi
*There is **da** such that the dog of them sees me. Somebody's dog sees me.*

‘*any*’ and ‘*some*’ in examples

The words *any* and *some* and their derivatives have many meanings in English. We should be careful to translate that intended meaning:

Translating as **da**:

 some: something unspecified:

da pu klama .i je ko smadi le du'u da me ma kau
Somebody came. Guess who it was.

> **mi pu tirna da .i je mi fliba le ka jimpe le du'u da mo kau**
> *I heard something, but I fail to understand what it was.*

 some in questions turns into *anything*, *anybody*, in Lojban it's still **da**:

> **xu su'o da pu klama**
> *Did anybody come?*

 some when using commands, request, suggestions:

> **.e'u mi'o pilno su'o da poi drata**
> *Let's try other things.*

> **.e'u mi'o troci bu'u su'o da poi drata**
> *Let's try somewhere else.*

 any can be used in inner relations:

> **mi rivbi le ka jdice da**
> *I avoided taking any decision.*

like in relations inside modal terms:

> **ba le nu do zgana da kei ko klama**
> *After you notice anything, come!*

 Scope: *any* is used in English when negating while Lojban uses **na ku** but then still **da**:

> **mi na ku viska su'o da poi prenu**
> *I don't see anybody.*

 any is used when making no distinction among members we talk about:

.au nai mi tavla su'o da poi na ku slabu mi
I don't want to talk to just anybody.

 Scope: negation has to be used in an appropriate relation like here:

mi jinvi le du'u na ku da jimpe
I don't think that anybody understands.

This can be rephrased as:

mi jinvi le du'u no da jimpe
I think that nobody understands.

 every is turned into *any* in comparisons and translated as **ro da**:

do zmadu ro da le ka se canlu
You are taller than anybody.
`You exceed everybody in size.`

 any is used when providing choice and translated as **ro da**:

ro da poi do nelci zo'u .e'a do citka da
You may eat anything you like.
`For everything that you like I allow you to eat it.`

 anyone, somewhere:

.e'u mi'o troci bu'u su'o da poi drata
Let's try somewhere else.

Here, **su'o da poi drata** actually means *any other thing or things, place or places*. The number of such places is not specified although any such place might fit.

What if we want to say *any place but only one place*?

> **.e'u mi'o troci bu'u pa da poi drata**
> *Let's try at another place.*

Translating *any* as **le'e** in generic statements:

> **le'e gerku cu se tuple le vo da**
> *Any dog has four legs. Dogs have four legs.*

Using **le**. We use **le** when we describe specific objects, places, events:

> **le drata zo'u .e'u mi'o pilno ri**
> *The other thing, let's use it.*

> **le drata stuzi zo'u .e'u mi'o troci bu'u ri**
> *The other place, let's try there.*

Resume: which constructs does scope affect?

Scope is created only by:

- borders of relation,
- modals terms and modal particles of main relation construct,
- nouns starting with numbers (like **pa le prenu** — *one of the persons*),

da, **de**, **di** if used without a prenex and without an explicit number in front are meant to mean **su'o da**, **su'o de**, **su'o di** and thus also create scope.

Thus the relative order of such constructs changes the meaning:

> **pa le prenu ca ku zvati**
> *There is one person who is now present.*

> **ca ku pa le prenu ca zvati**
> *Now there is one person.*

Scope isn't relevant for verbs and nouns starting with **le** (like **le prenu** or **le re prenu**). Both these sentences mean the same:

> **le prenu ca ku zvati le zdani**
> **ca ku le prenu cu zvati le zdani**
> **ca ku fe le zdani fa le prenu cu zvati**
> *People are now present.*

Modal term scopes from where it's used to the right of the relation until the relation and all its inner relations (if present) end.

Here, **ki'u le nu kargu** is under the scope of **na ku**:

> **na ku mi te vecnu ki'u le nu kargu**
> *It's not true that: I buy because it's expensive.*

But here, **ki'u le ne kargu** is not under the scope of **na ku**. **ki'u** is applied to the whole previous sentence including **na ku**:

> **mi na ku te vecnu .i ki'u bo kargu**
> *I don't buy. It's because it's expensive.*

Lesson 6. Modal terms: time and space

> **mi citka le cirla**

Possible translations:

> *I eat cheese.*
> *I ate cheese.*
> *I always eat cheese.*
> *In a moment, I will have just finished eating cheese.*

Tenses in Lojban are optional, we don't have to think all the time what tense to use.

Context often resolves what is correct. We add tenses when we feel we need them.

Lojban tenses treat time and space the same. Saying that *I worked a long time ago* is not grammatically different than saying *I work far away to the north*. English treats words like *earlier*, past tense ending *-ed* and space words like *in* or *near* in three different schemes, while in Lojban they follow the same principle.

Points in time and place

Modal particle without a noun after it describes the event as relative to *here* and *now*:

> **mi pinxe ba**
> **mi ba pinxe**
> *I will drink.*

> **mi pinxe bu'u**
> **mi bu'u pinxe**
> *I drink at this place.*

Modal term with a noun after it describes the event as relative to the event in that noun:

> **mi pinxe ba le nu mi cadzu**
> *I drink after I walk.*

Events relative to other events in time

In English we use the so called "sequence of tenses":

> **la .alis. pu cusku le se du'u ri pu penmi la .doris. la'u le djedi be li ci**
> *Alice told that she had seen Doris three days before.*

Here, the event *had seen Doris* happens before the event *Alice said*. However, in

> **la .alis. pu cusku le se du'u ri ca kansa la .doris.**
> *Alice told that she was with Doris.*

the two events (*told* and *was with Doris*) happen at the same time.

Thus in English

 the tense of the main relation is understood relative to whoever utters this relation.
 the tense of the relation inside the main relation is also understood relative to whoever utters this relation.

And in Lojban

 only the tense of the main relation is relative to whoever utters the relation.

- the other tenses are relative to each other. This is why, in **la .alis. pu cusku le se du'u ri pu penmi la .doris. la'u le djedi be li ci** the second **pu** is relative to the first **pu**. In **la .alis. pu cusku le se du'u ri ca kansa la .doris.**, we use **ca** (*at the same time*) which is relative to the outer relation (**pu cusku** — *said*).

However, we can use the modal term **nau** (*at the time or place of the speaker*), which will give the same effect as how English works:

Here is an example in English style:

> **la .alis. pu cusku le se du'u ri nau pu kansa la .doris.**
> *Alis said that she was with Doris.*

Distance in time and space

fau ≈ *modal term: at the same time, place or situation as ...*
ca ≈ *modal term: at ... (some time), at the same time as ...; "present tense"*
bu'u ≈ *modal term: at ... (some place); here (at this place)*
zi ≈ *just (short time ago) or soon (in a short time)*
vi ≈ *near ...*
za ≈ *a while ago or in a while, in an unspecified time*
va ≈ *not far from ...*
zu ≈ *long time ago or in a long time*
vu ≈ *far away from ...; far away*

This is how we can use tense combinations specifying how far we ago into the past or future:

- **pu zu** means *a long time ago*
- **pu za** means *a while ago*
- **pu zi** means *just*
- **ba zi** means *soon*
- **ba za** means *in a while*
- **ba zu** means *in a long time*

Notice the vowel order **i**, **a** and **u**. This order appears again and again in Lojban, and might be worth to memorize. *Short* and *long* in are always context dependent, relative and subjective. Two hundred years is a short time for a species to evolve, but a long time to wait for the bus.

zi, **za** and **zu** modify the tense particle like **pu** and **ba** that is said before it:

- **pu zu** is *a long time ago*. **pu** shows that we begin in the past, **zu** then that it is a long time backwards.
- **zu pu** is *far away in time there is a point after some event*. **zu** shows that we begin at some point far away in time from now, **pu** then, that we move backwards from that point.

Thus **pu zu** is always in the past. **zu pu** could be in the future.

Spatial distance is marked in a similar way by **vi**, **va** and **vu** for short, unspecified (medium) and long distance in space.

To specify distance in time or space we use the modal term **la'u** with an argument specifying the distance:

> **ba ku la'u le djedi be li ci mi zvati ti**
> *In three days I will be here.*

The space equivalent of **ca** is **bu'u**. And **fau** is more vague than two of them, it can mean time, space or situation.

> **ba za vu ku mi gunka**
> *Some time in the future, I will work a place long away.*

gunka ≈ *to work*

> **mi bu'u pu zu gunka**
> *I used to work here a long time ago.*
> `I here-past-long-time-distance work`

> **pu zu vu ku zasti fa le ninmu .e le nanmu**
> *Long ago and far away lived a woman and a man.*

The last sentence is how fairy tales often begin.

Duration in time and space

ze'i ≈ *modal term: for a short time*
ve'i ≈ *modal term: over a small space*
ze'a ≈ *modal term: for some time*
ve'a ≈ *modal term: over some space*
ze'u ≈ *modal term: for a long time*
ve'u ≈ *modal term: over the long space*

Again it's easy to remember given the pattern **i**, **a**, **u**.

> **mi ze'u bajra**
> *I run for a long time.*

la .bob. ze'u pinxe le birje
Bob drinks beer for a long time.

mi ba zi ze'a xabju la .djakartas.
Pretty soon I'm going to live in Jakarta for a while.

le jenmi pe la .romas. ba ze'u gunta la .kart.xadact.
The army of Romans will be attacking Carthage for a long time.

This does not mean that Romans are not attacking Carthage these days. In Lojban, if we say that something is true at a particular time, it doesn't mean that it is not true at any other time. You can say **pu ba ze'u** so that we know that this activity was in future when viewed from some point in past but in past when viewed from today.

le xamsi
sea/ocean

le ve'u xamsi
ocean

le cmana
mountain/hill

le ve'u cmana
hill

do ve'u klama le dotco gugde ze'u
You spend a long time traveling a long space to Germany.

ti ve'u gerku
That's a big dog. This is a dog covering a large space.

«**pu'o**» — ‘*to be about*’, «**ba'o**» — ‘*no longer*’, «**za'o**» — ‘*still*’, «**xa'o**» — ‘*already*’

Here are several sets of modal terms that can help us add finer meanings when necessary.

With the *event contours* and unlike **pu**, **ca** and **ba** we view each event as having shape with certain stages:

pu'o ≈ *modal term: to be about to do something (the event has not yet happened)*
ba'o ≈ *modal term: to be no longer doing something, to have done something (the event has ended)*

Examples:

mi ba tavla le mikce
I will speak to the doctor (and I might be speaking now too).

mi pu pu'o tavla le mikce
I was about to speak to the doctor (I was not speaking at that time, the event hadn't started by that time).

le sanmi ca pu'o bredi
The meal is not ready yet.

mi pu ba'o tavla le mikce
I had spoken to the doctor.

mi ba ba'o tavla le mikce
I will have spoken to the doctor.

.a'o mi ba zi ba'o gunka
I hope soon I will have done the work.

za'o ≈ *modal term: still. The event is in process beyond its natural end*
xa'o ≈ *unofficial modal term: already, too early. The event already started and it is too early*

Examples:

> **ri'a ma do za'o zvati vi**
> *Why are you still here?*

> **la .kevin. xa'o zvati vi**
> *Kevin is already here.*

Stages of event

> **mi co'a tavla**
> *I started talking.*

> **ra ca'o ciska**
> *She keeps writing.*

> **ra pu co'u vasxu**
> *He stopped breathing (sudden unpredictable change).*

vasxu ≈ *x1 breathes x2*

> **mi pu mo'u citka le plise**
> *I've eaten the apple up.*

> **la .maks. pu mo'u zbasu ti voi dinju**
> *Max has built this house.*

> **ra pu de'a vasxu**
> *She ceased to breath (but may breath again later).*

> **mi pu di'a citka le plise**
> *I resumed eating apples.*

co'a ≈ *modal term: the event starts (the border of the event)*
ca'o ≈ *modal term: to be doing something (the event is in progress)*
co'u ≈ *modal term: the event stops*
mo'u ≈ *modal term: the event ends (the border of the event)*
de'a ≈ *the event pauses (the event can be expected to continue)*
di'a ≈ *the event resumes*

> **mi de'a ze'i jundi**
> *BRB (I'll be right back).*

> **mi di'a jundi**
> *I am back (being attentive).*

jundi ≈ *x1 pays attention to x2*

These two expressions are common in text chats for saying that you stop paying attention or away, and then back online:

One could of course also say just **de'a** or **di'a** and hope the point gets across.

Continuous and progressive events

ru'i ≈ *modal term: the event is continuous*

> **.i mi pu ru'i citka le plise**
> *I was eating apples one and on without stop.*

Note the difference:

- **ru'i** says that the event is continuous and never pauses.
- **ca'o** says that the event progresses. It may sometimes pause and then resume its progress.

Place contours

Event contours can be used to refer to space if we prefix them with **fe'e**:

> **le rokci cu fe'e ro roi zvati**
> *The stones are everywhere.*

‘*to the left*’, ‘*to the right*’

> **le prenu cu sanli le dertu bu'u le pritu be mi**
> *The person stands on the ground to the right of me.*

> **le gerku cu vreta le ckana bu'u le zunle be le verba**
> *The dog is lying on the bed to the left of a child.*

> **ko jgari le panbi poi zunle**
> *Take the pen on the left.*

> **le mlatu cu plipe bu'u le crane be do**
> *A cat jumps in front of you.*

> **ko catlu le dinju poi crane**
> *Look at the house in the front.*

> **le verba cu zutse le stizu bu'u le trixe be mi**
> *The child sits on the chair behind me.*

> **le prenu cu sanli ki mi bu'u le pritu be le tricu bei mi**
> *The person stands to the right of a tree from my viewpoint.*

> **le dinju cu zunle le rokci ti**
> *The house is to the left of the rock if viewed from here.*

zunle ≈ *x1 is to the left of x2 as viewed from x3*
pritu ≈ *x1 is to the right of x2 as viewed from x3*
crane ≈ *x1 is in front of x2 (x1 is between x2 and whoever watches) as viewed from x3*
trixe ≈ *x1 is behind x2 as viewed from x3*
sanli ≈ *x1 stands on x2*
zutse ≈ *x1 sits on x2*
vreta ≈ *x1 lies on x2*
le dertu ≈ *the ground, the dirt*
le ckana ≈ *the bed*
le stizu ≈ *the chair*

Practice: position

ma nabmi	*What's the problem?*
ma'a nitcu tu'a le cukta pe la .alis.	*We need Alice's book.*
.i la .alis. ca zvati ma	*Where is Alice?*
la .alis. ca na ku zvati le bu'u tcadu **.i mi pu mrilu le srana be le cukta fi la .alis.** **.i ri ca ca'o vofli la .paris.** **.i ku'i mi pu zi te benji le se mrilu be la .alis.** **.i ri curmi le nu mi'a pilno le cukta** **.i .e'o do bevri ri mi**	Alice is now not in the city. I mailed about the book to her. Alice is now flying to Paris. But I just received a mail from her. She allows us to use the book. Please, bring it to me.
.i bu'u ma mi ka'e cpacu le cukta	Where can I get the book?
le purdi .i .e'o do klama le bartu	In the garden. Please, go outside.
mi ca zvati ne'a le vorme .i ei mi ca klama ma	I am near the door. Now where should I go?
ko klama le zunle be le tricu .i ba ku do viska le pa jubme	Go to the left of the tree. Then you will see a table.
mi zgana no jubme	I notice no tables.
ko carna gi'e muvdu le pritu .i le jubme cu crane le cmalu dinju .i le cukta cu cpana le jubme .i ji'a ko jgari le penbi .e le pelji .i le za'u dacti cu cpana si'a le jubme .i ba ku ko bevri le ci dacti le zdani gi'e punji fi le kumfa pe mi	Turn and move to the right. The table is in front of a small building. The book is on top of the table. Also, take a pencil and a paper. They are similarly on top of the table. Then bring the three things home and put them to my room.
vi'o	Will do.

Practice: vehicles

mi jo'u le pendo be mi pu ca'o litru le barda rirxe bu'u le bloti	*I and my friends were traveling on a big river in a boat.*
.i ba bo mi'a klama le vinji tcana	*Then we went to an airport.*
.i xu do se marce le karce	*Did you take a car?*
.i na ku se marce **.i mi'a pu klama fu le trene** **.i ze'a le cacra mi'a zvati bu'u le carce**	*No.* *We went by train.* *For one hour we were in a wagon.*

marce ≈ *x1 is a vehicle carrying x2*
se marce ≈ *x1 is a passenger of x2*

karce ≈ *x1 is a car carrying x2*
bloti ≈ *x1 is a boat carrying x2*
vinji ≈ *x1 is an aircraft carrying x2*
trene ≈ *x1 is a train of cars x2*

Lesson 7. Letters, referring to relations, dates

Names of letters in Lojban

Each letter has a name in Lojban.

The following table represents the basic Lojban alphabet and how to pronounce letters (below each letter):

'	**a**	b	c	d	**e**
.y'y.	**.a bu**	**by.**	**cy.**	**dy.**	**.ebu**
f	g	**i**	j	k	l
fy.	**gy.**	**.i bu**	**jy.**	**ky.**	**ly.**
m	n	**o**	p	r	s
my.	**ny.**	**.o bu**	**py.**	**ry.**	**sy.**
t	**u**	v	x	**y**	z
ty.	**.u bu**	**vy.**	**xy.**	**.y bu**	**zy.**

As you can see

- to get the name for a vowel, we add the word **bu**
- to get the name for a consonant, we add **y.** to the consonant
- the word for ' (apostrophe) is **.y'y**.

We can spell word using these names. For example, CNN will be **cy. ny. ny.**

Letters instead of '*he*' and '*she*'

A string of one or more letter names works as a pronoun. And we can use them for another method of referring to nouns and names earlier used in speech.

> **la .alis. pu klama le nurma .i le nurma cu melbi la .alis.**
> **la .alis. pu klama le nurma .i ri melbi la .alis.**
> **la .alis. pu klama le nurma .i ny. melbi la .alis.**
> **la .alis. pu klama le nurma .i ny. melbi .a bu**
> *Alice went to the country. The rural area is beautiful to Alice.*
> *Alice went to the country. It is beautiful to her.*

All the Lojban variants mean the same.

As the first letter in **.alis.** is **a** (we ignore the dot) and the first letter in **nurma** is **n** we can use letter words to refer to those nouns correspondingly:

- **.a bu** refers to **la .alis.**
- **ny.** refers to **le nurma**

This method might be more convenient than English *he* or *she* or event Lojban **ri** or **ra**. This method allows us to make the speech more concise but at the same time precise not forcing us to repeat possible long names or nouns over and over again.

But notice that it can happen that we'd like to refer back to, say, **le nurma**, but then before we can do so, another noun or name that starts with **n** appeared in the meantime, so that **ny.** can no longer refer to the rural area. The quickest way out is to repeat the entire noun or name, i.e. say **le nurma**:

> **bu'u le nurma la .alis. pu penmi la .nik. i ri se zdani bu'u le nurma**
> *In the country Alice met Nick. He has his home in the country.*

zdani ≈ *... is a home to ...*
se zdani ≈ *... has a home ..., ... lives in ...*

If a name consists of several cmevla you can use the first letters of them to refer to that name. The same is for compound verbs:

> **la .djan.smit. cu citka le glare stasu .i dy.sy. nelci fy.sy.**
> *John Smith is eating the hot soup. He likes it.*

glare ≈ *... is hot*

dy.sy. is a single pronoun. Same for **fy.sy.**, of course.

If you need to put several pronouns one after another separate them with the word **boi**:

> **mi klama la .paris. la .moskov.**
> *I go to Paris from Moscow.*

> **mi klama py. boi my.**
> *I go to P from M.*

The sentence **mi klama py. my.** would mean *I go to PM* which wouldn't mean what is needed here.

> **la .tom.silver. pu zvati .i je'u ty. sy. boi .ui pu sidju mi**
> *Tom Silver was present. And actually TS (yay!) helped me.*

If you put an interjection after such letters separate them with **boi**. Without **boi** interjections will refer to the last letter.

'*we*' — different ways of saying that

In Lojban, there are several pronouns close in meaning to *we*.

mi'o ≈ *you and I*
mi'a ≈ *we without you*
ma'a ≈ *you and I and another one/others*

So when speaking you'd have to be a bit more careful which meaning of *we* you need.

And finally:

mi ≈ *I or the speakers*

mi can also mean *we*! Lojban makes no distinction between singular and plural by default. So if several people are speaking all together, **mi** (which refers to the one or more speakers) is perfectly correct for *we*. In practice, you'll usually get **mi** used like that when one person is presuming to speak (or more often, to write) on behalf of others.

Some examples:

> **mi prami do**
> *I love you.*

mi'a ba penmi do
We'll meet you.

ma'a remna
We are all human.

mi djica le nu do cliva
We want you to go away.

cliva ≈ *x1 leaves*

«**ri**» instead of '*he*' and '*she*'

Earlier we learned of the pronoun **ri**:

ri ≈ *pronoun: refers to the previous noun or pronoun that just finished (skipping stable pronouns like **mi**, **do**, words for we)*

mi catlu le nanmu .i ri melbi
I look at a man. He is handsome.

melbi ≈ *x1 is beautiful / pretty / handsome to someone x2*

ri refers to the previous completed noun used in text or someone's speech:

la .alis. cu sipna bu'u le sledi'u pe la .alis.
Alice sleeps in Alice's room.
`Alice sleeps-in the of-Alice room.`

la .alis. cu sipna bu'u le kumfa pe ri
Alice sleeps in her room.
`Alice sleeps in the room of [previous noun].`

sledi'u ≈ *x1 is a room for purpose x2 (proposition)*

The **ri** is equivalent to repeating the last noun or name, which is **la .alis.** here.

One aspect to notice is that **ri** does not repeat **le kumfa pe ri** (which is also a noun), because **ri** is a part of that noun and therefore that noun is not "previous", not finished yet when **ri** appears. This prevents **ri** from making it recursively refer to itself.

Another example:

> **le du'u le prenu cu melbi cu se djuno ri**
> *That the person is pretty is known to herself.*

The **ri** refers to **le prenu** (and not **le du'u le prenu cu melbi** although both nouns are complete: **le prenu** starts last, after the start of **le du'u le prenu cu melbi**.

Relation inside **sei** forms a parallel text. **ri** skips nouns inside **sei**-relations:

> **mi viska la .lukas. sei la .doris. pu cusku .i ri jibni la .micel.**
> *I see Lucas, — Doris said. He is near Michelle.*

In this example **ri** cannot refer to **la .doris.** We simply skip the whole **sei la .doris. pu cusku** relation when deciding what **ri** should refer to.

Pronouns that are stable across the dialogue or story are ignored by **ri**. We just repeat them directly:

> **mi lumci mi**
> *I wash myself.*
> `I wash me`

lumci ≈ *x1 washes x2*

> **mi prami mi**
> *I love myself.*
> `I love me.`

However,

- the pronouns **ti**, **ta**, **tu** are picked up by **ri**, because you might have changed what you are pointing at, so repeating **tu** may not be effective.
- likewise, **ri** itself (or rather its antecedent) can be repeated by a later **ri**; in fact, a string of **ri** words with no other intervening nouns always repeat the same noun:

> **la .alis. cu catlu le nanmu .i ri melbi .i ri co'a zgana .a bu**
> *Alice notices a man. He is handsome. He notices Alice.*

zgana ≈ *to observe*
co'a zgana ≈ *to start observing, to notice*

Here the second **ri** has as antecedent the first **ri**, which has as antecedent **le nanmu**. All three refer to the same thing: the man.

Only you decide what, where and when to use in speech: the method with **le**+verb words, the method with letter names or with **ri**.

«**go'i**» for the previous relation

> **la .alis. cu klama le barja .i la .alis. cu viska le nanmu**
> **la .alis. cu klama le barja .i le go'i cu viska le nanmu**
> *Alice comes to the bar. She sees a man.*

le go'i refers to the first place of the previous relation.

go'i presents yet another way of referring back to a noun that we need.

- **le se go'i** refers to the second place of the previous relation
- **le te go'i** to the third etc.:

Examples:

> **.i la .alis. cu zgana le nanmu .i ri melbi**
> **.i la .alis. cu zgana le nanmu .i le se go'i cu melbi**
> *Alice watches a man. He is handsome.*

Here, **le se go'i** refers to the second place (x2) of the preceding relation, which is **le nanmu**.

Another example:

> *Bill saw Nick. He hit him.*

English doesn't bother with precision here — *he* just means *some male person mentioned somewhere near in the text or deduced from context.* Did Bill hit Bob, or did Bob hit Bill? We don't know. In Lojban we can say:

> **la .bil. pu viska la .nik. .i le se go'i cu darxi le go'i**
> *Bill saw Nick. Nick hit Bill.*

Although, in most cases **ri** or letter words can be used:

> **la .bil. cu viska la .nik. i ri darxi la .bil.**
> **la .bil. cu viska la .nik. i ny. darxi by.**
> *Bill saw Nick. Nick hit Bill.*

go'i itself is a verb, and it thus has a place structure:

> **mi tatpi .i do ji'a go'i**
> *I'm tired. And you too.*

When we say **do go'i**, we repeat the previous relation but replace its first place with **do**. In other words, **do ji'a go'i** here is the same as saying **do ji'a tatpi**.

Time of day

> — **ma tcika ti**
> *What's the time?*

> — **li cacra bu pa pa**
> *Eleven hours*

tcika ≈ *x1 (hours, minutes, seconds) is the time of event x2*

In Lojban times are always the times of something. So we ask what the time is of **ti**, meaning *this event/thing*, or, in other words *now*.

li, a prefix for numbers, is used for timestamps too.

- **cacra bu** is a prefix signalling that the number of hours follows. 24-hour time is used almost always in Lojban.
- **mentu bu** is a prefix signalling that the number of minutes follows.
- **snidu bu** is a prefix signalling that the number of seconds follows.

> **li cacra bu pa pa mentu bu pa no**
> *11:10 (Ten minutes past eleven)*

> **li cacra bu pa pa mentu bu pa no snidu bu pa ci**
> *11 hours, 10 minutes and 13 seconds.*

> **li cacra bu pa no mentu bu mu no**
> *10:50, ten to eleven*

If we want to give the time of an event, rather than just tell the time, the second place is filled:

> **li cacra bu pa no tcika le nu mi klama**
> *Ten o'clock is the time that I come.*

By using the term **de'i** we can get a more naturally sounding sentence:

> **mi klama de'i li cacra bu pa no**
> *I am coming at 10 o'clock.*

de'i ≈ *at ... (time), on ... (date)*

And one useful example:

> **ca tcika le nu .ei sipna**
> *It's time to sleep.*

Dates

> **— ma detri ti**
> *What's the date today?*

> **— li mastu bu ze djedi bu pa**
> *It's July, 1.*

detri ≈ *x1 (year, month, day) is the date/time of event x2*

Another option:

> **— ma ca detri**
> *— What is the date now?*

 nanca bu is a prefix signalling that the year follows.
 masti bu is a prefix signalling that the month follows.
 jefydei bu is a prefix signalling that the day of week follows.
 djedi bu is a prefix signalling that the day follows.

Prefixes with numbers after them can be used in any order (let's use digits to show numbers):

> **li djedi bu 2 ca detri**
> *It's the second day of the month now.*

> **li masti bu 4 djedi bu 1 ca detri**
> *It's April, the first now.*

> **li djedi bu 5 masti bu 7 nanca bu 2005 detri le nu mi jbena**
> *The fifth of July (seventh month), year 2005 is when I was born.*

jbena ≈ *x1 is born*

We can also use **de'i**:

> **mi ba klama de'i li masti bu pano**
> *I will come in October.*

Particles in Lojban can be written without spaces in between like in this **pano**, which is the same as **pa no**.

For days of week usually Monday is the first day:

mi gunka de'i li jefydei bu pa
I work on Monday.

mi gunka ca ro se detri be li jefydei bu re
I work every Tuesday.

xu do pu zvati la .paris. de'i li jefydei bu ci
Were you in Paris on Wednesday?

Specifying time intervals

mi nanca li re re
I am 22 years old.

nanca ≈ *x1 is of duration of x2 (number) years*

nanca specifies the duration, and in order too say *two years long* you fill the second place with a number prefixed with **li**.

le verba cu masti li re
The child is two months old.

masti ≈ *x1 is x2 months long*

le nu carvi cu djedi li ci
It's raining for three days.

djedi ≈ *x1 (event) is x2 (number) full days long*

Lesson 8. Terms and math

'*Possibly can*', '*have been*' and '*haven't yet been*'

> **le'e cipni ka'e vofli**
> *Birds can fly.*

> **le pendo be mi ca'a xendo prenu**
> *My friend shows himself as a friendly person.*

> **le pendo be mi ka'e litru bu'u ro da**
> *A friend of mine can travel in any place.*

> **mi ca'a zvati la .madrid.**
> *I am in Madrid.*

> **mi pu'i zvati la .madrid.**
> *I have been to Madrid.*

> **mi nu'o zvati la .madrid.**
> *I have never been to Madrid.*

ka'e ≈ *term of potential: possibly can*
ca'a ≈ *term of potential: actually is*
pu'i ≈ *term of potential: has already happened*
nu'o ≈ *term of potential: hasn't ever happened*

This series of so called terms of potential describes possible situations.

Note that **ka'e** means that an event can happen whereas, for example,

> **le'e cipni cu kakne le ka vofli**
> *Birds are capable of flying.*

describes abilities dependent on actions of participants.

‘*Plus*’ and ‘*minus*’

li mu du li re su'i ci
Five equals two plus three.

li that we saw earlier is similar to **le** but it starts a mathematical expression (or just a number or a timestamp).

Note that **li re su'i ci** (*2+3*) is one single expression considered as one noun.

du is a verb and means *to be equal to*.

- **su'i** means *plus*.
- **vu'u** means *minus*.
- **pi'i** means *times* and is used for multiplication
- **fe'i** means *divided by* and is used for division.

pi is a decimal separator so **no pi mu** means *0.5*, **ci ze pi pa so** means *37.19*.

In some notations 0.35 can be written as .35 and in Lojban we can also drop zero saying **pi mu**.

Here are some other examples.

li pare fe'i ci du li vo
12 : 3 = 4.

li re pi'i re du li vo
two times two is four

li pano vu'u mu pi'i re du li no
10 — 5 · 2 = 0.

Notice that you put **li** only once before the equation and once after it. Thus *12 : 3* is considered one number. Indeed, *4* is the same as *12 : 3*. They are both numbers.

For asking for a number we use **ma**:

li ci su'i vo du ma
3 + 4 = ?

li ze
7

'First', 'second', 'last'

Ordinal numbers such as *first, second, third* are used to put things in order. In Lojban they are formed with a number plus **moi** immediately after it:

pa moi ≈ *x1 is first among x2 (set)*
re moi ≈ *x1 is second among x2 (set)*
ci moi ≈ *x1 is third among x2 (set)*

...

ro moi ≈ *x1 is last among x2 (set)*

It is also possible to use verbs instead of numbers:

me mi moi ≈ *x1 is mine*
me do moi ≈ *x1 is yours*

In this case we had to convert pronouns to verbs using **me**.

> **le prenu cu pa moi le'i se prami be mi**
> *He is my first love.*

> **tu ro moi le'i ratcu pe mi**
> *That is my last rat.*

> **le cerni tarci cu ro moi le'i tarci poi cumki fa le nu viska ke'a pu le nu co'a donri**
> *The morning star is the last star that's visible before the dawning of the day.*

> **tu me mi moi**
> *That's mine.*

> **tu me mi moi le'i stizu**
> **tu me mi moi stizu**
> (using a compound verb, tanru for conciseness)

> *That's my place.*

> **.i ti voi stizu cu me mi moi le'i pa ci stizu poi jibni le jubme**
> *This place is mine among the 13 places near the table.*

Cardinal numbers are placed before ordinal numbers in a string and separated by **boi**:

> **le ci boi pa moi be le'i kabri pe le ckafi**
> *the first three cups of coffee*

Without **boi** it would turn into **ci pa moi** — *thirty-first.*

«**gau**» — make them do it

The term **gau** marks the agent of event:

> **le canko cu kalri**
> *The window is open.*

> **le canko gau do kalri**
> *You open the window.*
> `The window driven-by you is open`

gau ≈ *modal term: caused by ... (agent), driven by ... (someone, some object)*
kalri ≈ *x1 is open*

Thus, such verbs as *to open something*, *to move something* can be rephrased as *to make something open, to make something move* and therefore we don't need to learn extra verbs for every such meaning. Instead we add the term **gau** all the time.

There is also another method that retains the same order of words as in English:

> **le canko gau ko kalri**
> **ko jai gau kalri fai le canko**
> *Open the window!*

Here we transform the verb **kalri** — *to be open* into a verb

jai gau kalri ≈ *to open something*

The first place of **kalri** can be shown by using a place tag **fai**.

Some more variations:

> **le pa karce cu muvdu**
> *The car moves.*

> **ko jai gau muvdu fai le karce**
> **le karce gau ko muvdu**
> *Move the car! Make the car move!*

> **le karce cu muvdu ti**
> **fa le karce cu muvdu fe ti**
> *The car moves here.*

> **ko jai gau muvdu fai le karce fe ti**
> *Move the car here!*

muvdu — *moves to some place* is transformed into a new verb **jai gau muvdu** — *to move something or someone to some place.*

muvdu ≈ *x1 moves to x2 from x3 via x4*
jai gau muvdu fai le karce ≈ *x1 moves the car to x2 from x3 via x4*

> **la .alis. cu klama**
> *Alice comes.*

> **la .alis. gau ko klama**
> *Make Alice come!*

‘*Why*?’ — «**ri'a**», «**ni'i**», «**mu'i**», «**ki'u**»

> **- ri'a ma carvi**
> *- Why is it raining?*

> **- le nu le dilnu ca klaku**
> *- Because the clouds are crying.*

ri'a ≈ *modal term: because of ... (some event)*
ri'a ma ≈ *why?*
klaku ≈ *x1 cries*

Unlike **gau** the term **ri'a** expects not an agent, but an event like *the clouds are crying*:

> **le dilnu cu klaku ri'a le nu le dargu cu cilmo**
> *Skies are crying resulting in the road being wet.*

Therefore is the reverse word compared to *because*:

> **le dilnu cu klaku .i se ri'a bo le dargu cu cilmo**
> *Skies are crying. Therefore the road is wet.*

Another type of *why* is **ni'i**:

> **- ni'i ma nicte**
> **- le nu le solri na ku te gusni**
> *- Why is it night?*
> *- Because the sun is not shining.*

> **le solri na ku te gusni .i se ni'i bo nicte**
> *The sun is not shining. Therefore, it's night.*

ni'i ≈ *modal term: logically because of ...*
se ni'i ≈ *modal term: with the logical consequence that ..., logically therefore*

Here we can't use **ri'a** as we are talking not about a result but about logical implication. The fact that it is night just logically follows from the sun not shining.

> **mi darxi la .kevin. mu'i le nu ky. lacpu le kerfa be mi**
> *I hit Kevin because he pulled my hair.*

mu'i ≈ *term: because (of motive ...)*

In this example, what we have is not two events which are physically connected, like clouds and rain, but three events:

1. Kevin pulls my hair.
2. I decide, as a result of this, to hit Kevin.
3. I hit Kevin.

English misses out the second event and says *Sally hit Joey because he pulled her hair.* However, this is not only vague but, some would say, psychologically dangerous. People do not generally react to stimuli automatically, but as a result of motivation, and confusing complex responses with simple physical causation may lead us to believe that we have no control over our emotions or even our actions. Thus, it is often useful to say not just physical reactions (**ri'a**) but emphasize responses which have a cognitive/emotional element (**mu'i**).

> **le ctuca pu posydu'a le jemna la .ben. ki'u le nu by. pu zabna gunka**
> *The teacher gave the gem as a present to Ben because he worked nice.*

le ctuca ≈ *the teacher*
le jemna ≈ *the gem*
zabna ≈ *x1 is cool, nice*
gunka ≈ *x1 works*
ki'u ≈ *modal term: because (due to explanation ...)*

The difference between motivation and justification is not always clear, but we can say that justification involves some rule or standard while motivation does not require it. Compare:

> **le ctuca pu posydu'a le jemna la .ben. ki'u le nu by. pu zabna gunka**
> *The teacher gave the gem as a present to Ben motivated by his work nice.*

This says only that Ben's hard work motivated the teacher to give him the gem whereas with **ki'u** we might imply that it is the custom for teachers to give gems as a reward for good work.

Note: Don't get **ki'u** mixed up with **ku'i** which means *but, however.*

ki'u appeals to more general considerations than **mu'i**, but it still deals with human standards, not logical laws. Only a very naive student would believe that if a student is given a gem, it must logically imply that that student has worked nice.

In the case **ni'i ma nicte**, however, the fact that the Sun isn't shining it is night logically entails that the Sun isn't shining. Here we can confidently use **ni'i**.

‘*So … that*’

The expression *so … that* is expressed in Lojban by splitting the sentence into two:

> **mi tai galtu plipe .i ja'e bo mi farlu**
> *I jumped so high that I fell down.*

ja'e ≈ *modal term: with the result of …*
tai ≈ *modal term: in the manner of …*

Other examples:

> **mi tai zukte**
> *I act this way*

> **mi tai fengu**
> *I am so angry.*

fengu ≈ *x1 is angry at x2 (clause) for action x3 (property of x2)*

‘*If … then*’

> **ba ku fau le nu do cizra kei mi prami do**
> *If you are strange then I'll love you.*

fau ≈ *modal term: with the event of …, under circumstances …, concurrently with …*

fau is much like **ca** (*when*) or **bu'u** (*at (some place)*).

In many cases we can replace **fau** with **ca** getting almost the same meaning (sometimes more precise):

> **mi ba prami do ca le nu do cizra**
> *I'll love you when you are strange.*

We can replace **le** with **ro lo** in such terms getting a new meaning:

> **mi ba prami do ca ro lo nu do cizra**
> *I'll love you whenever you are strange.*

«**fau**» and «**da'i**». '*What if ...*'

> **da'i mi turni**
> *I could be a governor.*

> **da'i nai mi turni**
> *I am a governor.*

 The interjection **da'i** marks the relation in which it is put as describing an imaginary event.
 The opposite interjection **da'i nai** marks the relation as describing an actual, real event.

Constructs with **da'i** are usually translated to English with so called auxiliary verbs such as *can/could, will/would, may/might, should* and *must*. Relations marked with **da'i** in English are said to be in *subjunctive mood*.

Omitting **da'i** or **da'i nai** makes the sentence clear only from context which is usually quite transparent. That's why **da'i** or **da'i nai** is not obligatory. We use it for clarity when needed.

Relations with **da'i** may include the term with **fau**:

> **da'i mi gleki fau le nu mi ponse le rupnusudu be li pa ki'o ki'o**
> *I would/could be happy if I had one million dollars.*

fau ≈ *with the event of ...*
rupnusudu ≈ *x1 costs x2 (number) US dollars*
pa ki'o ki'o ≈ *1 million*

> **mo da'i fau le nu mi cusku lu ie nai li'u**
> *What if I say "no"?*

Here the event inside **fau** is equally imagined together with **mi gleki**. And here is the reverse example:

da'i nai mi gleki fau le nu mi ponse le rupnusudu be li pa ki'o ki'o
Having one million dollars I am happy.

In many circumstances the word **fau** can be safely replaced with just **ca** (*at the same time as ...*):

da'i nai mi gleki ca le nu do klama
I'm happy when you come.

Other prepositions can be used when necessary:

da'i mi denpa ze'a le nu do limna
I would wait while you took a swim.

denpa ≈ *x1 waits for x2 (event)...*
ze'a ≈ *through some time, for a while, during ...*
limna ≈ *x1 swims*

Probabilities

Suppose you come home and hear someone scratching. You can say one of the following sentences:

fau su'o da tu mlatu
fau da tu mlatu
This might be/possibly is a cat. It is possible that this is a cat.
(You keep several animals at home. So it might be your cat scratching but you are not sure.)

fau ro da tu mlatu
this must be/certainly is the cat.
(You have a cat and such noise can be produced by only one object, that cat.)

fau so'e da tu mlatu
This should be/probably is the cat.
(If you have a dog then it can also produce such sounds but your dog usually doesn't do that so the cat is more likely.)

fau so'u da tu mlatu
It is not probable that this is the cat.

fau no da tu mlatu
This can't be the cat. This mustn't be the cat. It is impossible that this is the cat.

Notice that we omitted **da'i** for brevity. But if we want to be explicitly clear about the events being imaginary **da'i** in these examples is to be put inside the **fau** relation:

1. **fau da'i da** denotes that the event in this relation *is possible, may/can possibly happen.*
2. **fau da'i ro da** — the event *would necessarily happen.*
3. **fau da'i so'e da** — the event *is probable, will probably happen, is likely to happen.*
4. **fau da'i so'o da** — the event *is remotely probable, could/might happen.*
5. **fau da'i so'u da** — the event *is not likely, probably doesn't happen.*
6. **fau da'i no da** — the event *is not possible.*

The difference between these is in the number of imaginary situations we take into account. We don't describe those situations, we just mark them as **da** (*something*) letting the context (or our listeners) decide what those situations are.

Possibility implied in places of relations

Some verbs have **da'i** implied in some of their places when you don't use **da'i** explicitly:

mi pacna le nu do ba pluka sipna
I hope you will have a pleasant sleep.

pacna ≈ *x1 hopes for x2 (possible event) with likelihood x3 (number, by default **li so'a** i.e. close to 1)*

mi kanpe le nu do klama
I expect you to come.

mi kanpe le nu do ba jinga kei li so'e
You'll probably win.
`I expect with a high probability that you will win.`

> **mi kanpe le nu mi cortu fau ro lo nu su'o lo rokci cu farlu le tuple be mi**
> *I know for a fact that if a rock lands on my foot, it will hurt.*

kanpe ≈ *x1 expects x2 (possible event) with expected likelihood x3 (a number from 0 till 1, the default value is* ***li so'a****, i.e. near 1)*

Unlike **pacna** the verb **kanpe** doesn't necessarily imply hope or wish. It can describe impartial expectation, subjective evaluation of the probability of a situation.

> **cumki fa le nu do jinga**
> *It is possible that you win.*

> **- xu ba carvi**
> **- cumki**
> *- Will it rain?*
> *- Maybe.*

cumki ≈ *x1 (possible event) is possible, x1 may, might occur, x1 is a maybe.*

> **- xu ba carvi**
> **- lakne**
> *- Will it rain?*
> *- Probably.*

lakne ≈ *x1 (possible event) is probable, likely*

> **mi djica le nu do jinga**
> *I want you to win.*

> **mi djica le nu mi klama la .paris.**
> *I would rather visit Paris. I want to visit Paris.*

djica ≈ *x1 wants x2 (possible event)*

mi te mukti le ka klama la .paris.
I will visit Paris. I motivated to visit Paris.

mi te mukti klama la .paris.
I'm visiting Paris intentionally.

te mukti ≈ *x1 is motivated to bring about goal x2 (possible event) by motive x3 (event)*

mi kakne le ka limna
I am able to swim.

mi pu kakne le ka gunka
I could work. I was able to work.

kakne ≈ *x1 can, is able to do x2 (property of x1)*

x2 describes a possible event.

mi te javni le ka gunka
I should work.

te javni ≈ *x1 should/ought to do x2 (property of x1) under rule x3 (proposition)*

x2 describes a possible event.

do na ku te javni le ka tcidu
You don't have to read.

na ku te javni ≈ *x1 doesn't have to, needn't to do x2 (property of x1) under rule x3 (proposition)*

x2 describes a possible event.

mi nitcu le nu mi sipna
I need to sleep.

nitcu ≈ *x1 needs x2 (possible event)*

mi bilga le ka gunka
I must work. I am obliged to work.

bilga ≈ *x1 must, is obliged to do x2 (property of x1)*

mi curmi le nu do citka ti
I allow you to eat this.

curmi ≈ *x1 allows/permits x2 (possible event)*

mi tolcru le nu do nerkla
I forbid you to enter.

tolcru ≈ *x1 forbids/prohibits x2 (possible event)*

xu do stidi le ka sipna kei mi
Do you suggest that I sleep?

stidi ≈ *x1 inspires x2 (possible action) in actor x3*

mi senpi le du'u ra kakne le ka limna
I doubt that he can swim.

senpi ≈ *x1 doubts that x2 (proposition) is true*

> **mi se xanri le nu mi pavyseljirna**
> *I imagine myself being a unicorn. I could be a unicorn.*

> **se xanri**
> *x1 imagines x2 (possible event)*

> **xanri**
> *x1 (possible event) is imagined by x2*

Lesson 9. Logical conjunctions

Basic logical conjunctions in Lojban are based on 4 primitive ones: **.a**, **.e**, **.o**, **.u**. Here we'll cover them in detail.

Logical conjunctions for nouns

Here are the conjunctions combining two words: *this* and *that*.

 ti .a ta = *this and/or that*

> **mi ba vitke le mamta .a le tamne**
> *I'll visit the mother or the cousin.*

Note that **.a** can also be translated as *at least one of the two values* and thus leaves open the possibility that I will get round to visiting both of them at some point.

 ti .e ta = *this and that*

> **mi ralte le pa gerku .e le re mlatu**
> *I've got a dog and two cats.*
> `I keep one dog and two cat.`

 ti .o ta = *either this and that, or none*

> **mi ba vitke le mamta .o le tamne**
> *I will visit either both the mother and the cousin, or none of them*

 ti .u ta = *this, and perhaps that, this whether or not that*

> **mi ba vitke le mamta .u le tamne**
> *I'll visit the mother whether or not I'll visit the cousin.*

.u just emphasizes that the second value does not affect the truth of the sentence.

Placing **nai** after a conjunction negates what is to the right of it. Placing **na** before a conjunction negates what is to the left of it:

 ti .e nai ta = *this and not that*

> **mi nelci la .bob. e nai la .alis.**
> *I like Bob but not Alice.*
> `I like Bob and not Alice`

We can also say **ti .e nai ku'i ta** (*this but not that*) adding a flavor of contrast for the second noun.

 ti na .e ta = *not this but that*

> **mi nelci la .alis. na .e la .bob.**
> *I don't like Alice but I do like Bob.*
> `I like Alice not and Bob`

This may sound a bit weird for English speakers (`I like Alice not`...) so you might prefer to swap the nouns and use **.e nai** instead: **mi nelci la .bob. e nai la .alis.** or even **mi nelci la .bob. i mi na ku nelci la .alis.** will mean the same.

 ti na .e nai ta = *neither this nor that (none)*

> **mi nelci la .alis. na .e nai la .bob.**
> *I don't like neither Alice nor Bob*

Negating with other primitive conjunctions might not look intuitively usable, you can just learn them from examples:

 ti .a nai ta = *this if that, for this the exclusive condition to happen is that*

> **mi ba vitke le mamta .a nai le tamne**
> *I will visit the mother but for that to happen I need to visit the cousin.*

Thus **ti .a nai ta** means that **ta** is necessary (but may not be the only condition) for **ti** to be applied.

 ti .o nai ta = *either this or that*

> **mi ba vitke le mamta .o nai le tamne**
> *I'll visit either the mother or the cousin.*

If I want to say that that I will visit either the mother or the cousin but not both, I need **.o nai** (*either/or*). It's unlike **.a** (*and/or*) where I can visit both of them.

- **ti na .u ta** = doesn't influence *(not this, but perhaps that)*
- **ti na .u nai ta** = doesn't influence *(not this, but perhaps that)*
- **ti se .u ta** = *perhaps this, and that*
- **ti se .u nai ta** = *perhaps this but not that*

se is used only for **.u** because in other cases it leads to no effect in meaning.

These are used for connecting nouns. For connecting parts of compound verbs we use similar conjunctions: **ja**, **je**, **jo**, **ju**. So instead of the dot (pause) we use **j** here.

Logical conjunctions for sentences

> **mi ralte le pa gerku .e le re mlatu**
> *I've got a dog and two cats.*
> `I keep one dog and two cat.`

This is actually a contracted way of saying:

> **mi ralte le pa gerku .i je mi ralte le re mlatu**
> *It is true that I have a dog. It is true that I have two cats.*

.i je joins two sentences with a logical *and*, showing that two sentences are part of one thought and that both sentences are true.

Here are examples for other conjunctions for sentences:

> **la .rome'os. cu prami la .djuliet. i je la .djuliet. cu prami la .rome'os.**
> *Romeo loves Juliet and Juliet loves Romeo*

means that both statements are true, i.e. Romeo and Juliet love each other.

The same is applicable to other conjunctions:

> **la .rome'os. cu prami la .djuliet. i ja la .djuliet. cu prami la .rome'os.**
> *Romeo loves Juliet and/or Juliet loves Romeo*

means that one of them loves the other, and perhaps both of them do.

> **la .rome'os. cu prami la .djuliet. i jo nai la .djuliet. cu prami la .rome'os.**
> *Either Romeo loves Juliet or Juliet loves Romeo.*

Here either Romeo loves Juliet (but Juliet doesn't love him), or Juliet loves Romeo (but he doesn't love her).

> **la .rome'os. cu prami la .djuliet. i ja nai la .djuliet. cu prami la .rome'os.**
> *For Romeo to love Juliet it's necessary that Juliet loves Romeo.*

means that if Juliet loves Romeo, he definitely loves her, but he may love her anyway (the only outcome which is impossible is that Juliet loves Romeo but he doesn't love her).

> **la .rome'os. cu prami la .djuliet. i jo la .djuliet. cu prami la .rome'os.**
> *Either Romeo loves Juliet and Juliet loves Romeo, or none of the two events happens.*

means that if Juliet loves Romeo, he loves her, and if she doesn't love him, he doesn't love her.

> **la .rome'os. cu prami la .djuliet. i ju la .djuliet. cu prami la .rome'os.**
> *Romeo loves Juliet whether or not Juliet loves Romeo.*

Notice how we Lojbanize the name "Romeo": combination "eo" is impossible in Lojban so we used "e'o" and added a consonant in the end for his name.

Note that **da** refers to the same entity when several sentences are connected to each other using conjunctions or with tense particles with **bo** (like **ba bo**). So if I say **da klama le barja .i je da cizra** you can assume I'm referring to the same person in both sentences.

Logical conjunctions for compound verbs

> **le melbi xunre cukta**
> *beautifully red books*

> **le melbi je xunre cukta**
> *beautiful and red books*

Other conjunctions also make sense:

> **mi nelci ro tu voi xajmi ja melbi prenu**
> *I likes all of funny or handsome (or both) persons.*

> **mi nelci ro tu voi xajmi jo nai melbi prenu**
> *I likes all of either funny or beautiful persons.*

this might be explained if, for example, I find the qualities of humor and good looks incompatible, i.e. a mixture of the two would be just too much.

> **mi nelci ro tu voi xajmi ju melbi nanmu**
> *I likes all of funny (whether or not beautiful) persons.*

And once again we shouldn't forget the difference between connecting nouns and connecting parts of compound verbs:

> **mi ba vitke le pa pendo .e le pa speni**
> *I will visit a friend and a spouse.*

> **mi ba vitke le pa pendo je speni**
> *I will visit a friend-and-spouse*

The last Lojban sentence means that the friend is also a spouse.

Logical conjunctions for relation tails

> **pu ku mi uantida la .soker. gi'e klama le zdani gi'e citka le badna**
> *I played soccer, went home, ate the banana.*

uantida ≈ *a non-official verb: x1 plays the game, participates in the game x2*

gi'e connects several relations into one with some nouns shared. Look at this: It expands into **pu ku mi kelci la .soker. i je pu ku mi klama le zdani** ... which would be lengthier.

With **gi'e** we keep the head of the relation constant, and specify nouns after each of the verb (**kelci la .soker.**, **klama le zdani** ...)

Thus when using **gi'e** we have several relations in the tail joined together but having a common head.

gi'e has the same final vowel as in **je** and thus means *and*.

Other conjunctions for joining relation tails:

- **gi'a** for *and/or*
- **gi'o nai** for *either ... or*
- **gi'u** for *whether or not* etc.

So they have the same ending as conjunctions of **.a** series.

Terms in sentences with several tails

Note that tenses as terms and tenses attached to the main relation of the relation make a difference when applied to sentences that contains several attached relations:

- term in the head of the sentence is applied to all its tails:

> **mi ba'o cu citka le badna gi'e pinxe**
> *I no longer eat the banana and no longer drink.*

Here, **ba'o** is applied to **citka le badna gi'e pinxe**.

- tense word that is a part of the verb is applied to that relation only:

> **mi ba'o citka le badna gi'e pinxe**
> *I no longer eat the banana, I do drink.*

Here, **ba'o** is applied to **citka le badna** only.

Choice questions

Another type of English *or* can be found in questions:

> **— xu do pinxe le tcati .o nai le ckafi?**
> **— pinxe**
> *— Will you drink tea or coffee?*
> *— Yes.*

That's a weird but a perfectly reasonable answer: *Yes, I will drink tea or coffee.*

Why this happens is because *or* has several meanings in English:

1. *A or B* can mean *either A, or B but not both.* We use **.onai** here.
2. *A or B* can mean *A or B or both.* We use **.a** here.
3. *A or B?* can be a question meaning *select from A and B, which of them do you choose?* We use **ji** here.

Thus in the last case we use a separate question conjunction **ji**:

> **— do pinxe le tcati ji le ckafi?**
> — *Will you drink tea or coffee?*

Possible answers:

> **le tcati .e le ckafi**
> *Tea and coffee.*

> **le tcati**
> *Tea.*

> **le ckafi**
> *Coffee.*

It is also possible to use conjunctions when replying:

> **.e**
> — *Both* (the first and the second item is chosen)

> **.e nai**
> — *The first one (tea)* (the first but not the second one is chosen)

> **na .e**
> — *The second one (coffee)* (not the first but the second one is chosen)

na .e nai
—
Neither
(not the first and not the second one is chosen)

You can ask questions in the same way about the other kinds of conjunctions we have looked at. The interrogative conjunction for relation tails is **gi'i**, for compound verbs — **je'i**, for sentences — **.i je'i**.

Indirect questions are achieved by using **ji kau**:

Consider the waiter asks a visitor

- le'e dembi ji le'e rismi
- The beans or the rice?

Once the visitor answers, the waiter knows whether the visitor wants to eat lamb or beef:

ba le nu le vitke cu spusku kei le bevri cu djuno le du'u le vitke cu djica le nu ri citka le'e dembi ji kau le'e rismi
After the visitor replies, the waiter knows whether the visitor wants to eat the beans or the rice.

Forethought conjunctions

ge do gi mi
both you and I

ge nai do gi mi
Not you but I

ge do gi nai mi
You but not I

> **go nai do gi mi**
> *Either you or I*

Forethought conjunction **ge** means *and* but it's placed before the first noun. **gi** separates the two nouns. The series is parallel to other conjunctions. It is **ga**, **ge**, **go**, **gu** and also **ga nai**, **ge nai**, **go nai** etc. The separator **gi** is the same for all of them.

Using such conjunctions is a matter of convenience:

> **mi citka ge nai le badna gi le plise**
> *I eat not the banana but the apple.*

Here, like in English *not* is stated before the first noun.

ge and words in this series can still be used for connecting relations too:

> **ge mi dansu gi mi zgipli le pipno**
> *I both dance and play the piano.*

zgipli ≈ *x1 plays musical instrument x2*
le pipno ≈ *piano*

> **.i ga nai pu zi carvi gi ca cilmo**
> *If it has been raining recently, it's wet now.*

Lesson 10. Structuring text

«**ju'a**» and assertions

> **le prenu cu cizra .i ji'a je la .alis. cu jinvi le du'u go'i**
> *The person is strange. And Alice thinks that too.*

> **la .alis. cu jinvi le du'u le prenu cu cizra**
> *Alice has an opinion that the person is strange.*

By default the main relation of sentence asserts some information. Relations inside places or relations that are relative relations may not be asserted. In the last example that the man is strange is not asserted by the speaker. It's only Alice's opinion.

The interjection **ju'a** makes the relation asserted by the speaker. The first sentence can be thus rephrased as:

> **la .alis. cu jinvi le du'u ju'a le prenu cu cizra**
> *Alice has an opinion that the person is strange, and it is so.*

English often fails to translate this powerful **ju'a** concisely, thus the English translation doesn't follow the word order of the Lojban original.

One more example:

> **mi nelci le nu do dansu**
> *I like when you dance.*

> **mi nelci le nu ju'a do dansu**
> *I like that you dance.*

In the second case the speaker asserts *You dance.*

«**pe'a**» for metaphors, «**za'e**» for nonce words, «**ba'e**» for emphasis

> **le ninmu cu tarci pe'a .i va'i ri misno**
> *The woman is a "star". I other words, she is famous.*

pe'a ≈ *interjection: marks a construct as metaphorically used.*
tarci ≈ *x1 is a star*

tarci denotes real stars, objects in the sky. The interjection **pe'a** transforms it into a metaphorical meaning.

> **.i ba ku mi pu viska le cizra stuzi poi le fagri cu nenri .i mi pu klama za'e le fagrystu**
> *And then I saw a strange place with a fire inside. I came to that (how to say) "fire-place".*

za'e ≈ *left interjection: marks the following construct as used not in its usual meaning*

Left interjections like their name suggests are put before a construct modified (whereas other interjections are put after it).

The left interjection **za'e** shows that the following construct, **le fagrystu** in this case, is made up or used not in its standard meaning, i.e. there wouldn't be need to look up in the dictionary or ask the speaker specifically about the meaning of this word since the word is used to further describe the story.

> **ba'e la .alis. e nai la .kevin. pu darxi mi**
> *Alice, not Kevin hit me!*

> **mi djuno le du'u ma kau pu darxi ba'e mi .i ku'i mi na ku djuno le du'u ma kau pu darxi do**
> *I know who hit me. But I don't know who hit you.*

ba'e ≈ *left interjection: puts an emphasis on the following construct*

To emphasize a word we would use stress in spoken English, and underlining, italics or capital letters in written English.

In Lojban we use the left interjection **ba'e**.

Paragraphs and separating sentences

ni'o works exactly like **.i** but starts a new paragraph. Paragraphs are usually associated with new topics.

It is normal to use in speech only **.i** to separate sentence but you might want to use **ni'o** especially in a written text to structure it.

ni'o	
.i le pa nintadni cu klama le ctuca bu'u le galtu bu'u le darno cmana	A newbie visited the master far high in the mountains.
.i sei le nintadni cu cusku doi le ctuca noi certu tavla fo la .lojban. ku'o do skicu .e'o fi mi fe le nu fi ma kau fa la .lojban. cu frica le'e drata bangu	The newbie said: "Master, you speak fluent Lojban. Please, tell me what is the difference between Lojban and other languages."
.i le ctuca cu friti tu'a le kabri be lei jinto djacu le nintadni gi'e ba bo cusku	The master offered him a cup of spring water and then said:
lu .i ca ti ko catlu le djacu gi'e skicu ri li'u	Now look at the water and describe it.
.i ku'i sei le nintadni cu cusku mi mo'u pinxe ri i je mi na ku kakne le ka catlu	The newbie said: "But I drank it up. I can't look at it."
.i ki'u ma do na ku kakne sei le ctuca cu cusku	Why can't you?, the master said.
.i sei le nintadni cu cusku le djacu ca pagbu le xadni be mi	The newbie said: "Now it's a part of my body."
ni'o	
.i su'o da poi prenu zo'u le mudri co'a pagbu le zdani be da	A piece of wood becomes a part of someone's house.
.i su'o de poi prenu zo'u su'o lo bangu poi se tadni cu co'a pagbu le menli be de	A language learnt becomes a part of someone's mind.
.i su'o di zo'u le dirgo be le djacu co'a pagbu da poi zmadu fi le ka banli	A drop of water becomes a part of something greater.

dirgo ≈ *x1 is a drop of material x2 ...*

«**to**» … «**toi**» for parenthetical remarks

Comments that we place inside parentheses in English text are formed using the word **to** instead of the left parenthesis and **toi** instead of the right parenthesis:

> **ti poi to vi'o nai do mi na ku djica tu'a su'o lo drata toi plise cu fusra**
> *This (no, I don't want another one!) apple is rotten.*

djica ≈ *to desire*
drata ≈ *… is different from …*
plise ≈ *x1 is an apple*
fusra ≈ *x1 rots or decays with agent x2*

Such parenthetical remarks can go anywhere interjections can — meaning pretty much anywhere in a Lojban sentence. With parentheses, just like with quotes, you need to know where the parenthesis starts, and where it ends.

Fixing errors in speech

When screwing a sentence up, knowing how to correct yourself is a good idea. You can use two words to delete your previous words:

si ≈ *deletion: deletes last word only*
sa ≈ *deletion: deletes back until next cmavo spoken*

The function of them is obvious: they delete words as if they have never been spoken. They do not work inside certain quotes (all quotes except **lu…li'u**), though, as that would leave it impossible to quote these words. Several **si** in a row deletes several words.

When you make a mistake while speaking (factual or grammatical) in English you don't normally bother to correct it even if you realize you made a mistake in the first place. That's because English is fairly reposydu'ant (for this very reason!). In English if we catch ourselves making an error, we stumble out a correction that will do the trick, without going into details like how many words should be cancelled: context usually helps us. So if I say

> *I'm learning the English word, … er, Lojban word.*

context and common sense dictate that *Lojban word* is meant to replace *English word*. But what if it was meant to replace *I'm learning the English word*? We wouldn't normally care, in natural languages.

But Lojban allows you to be more precise about what words you are correcting.

si erases the immediately preceding word. If you want to erase two words in a row, you say **si si** after them. So the correction above would be in Lojban

> **.i mi tadni le glico valsi si si lojbo valsi**
> *I'm learning the English word, ... er, Lojban word.*

valsi ≈ *x1 is a word with the meaning x2 in language x3*

The problem with **si** is, you have to count words. This can get tedious, and you shouldn't have to keep a transcript of your words when you want to correct yourself.

The other correction word Lojban offers is somewhat more helpful: **sa** takes the word following it, which starts the relation to serve as the correction. It then goes back in the sentence, looking for the last time you used a relation starting with the same word or another word of the same class (selma'o). Once it finds the last such relation, it replaces all text from that relation up to **sa** with the relation following **sa**. For example:

> **.i mi tadni le sa .i mi tadni le lojbo valsi**
> *I'm learning the ... er, I'm learning the Lojban word.*

The correction following **sa** is a sentence; you know that, because the first word after **sa** is the sentence marker, **.i**. So the sentence following **sa** replaces the current sentence up to and including **sa**. Or consider:

> **.i mi mrilu fi do de'i li jefydei bu pa sa de'i li jefydei bu re**
> *I mailed to you on Monday, ... er, on Tuesday.*
> *On Monday I mailed it to you, ... er, actually, it was Tuesday.*

The correction is **de'i li jefydei bu re** — *on Tuesday*. So what it replaces is everything from the last relation beginning with **de'i**: **de'i li jefydei bu pa** — *on Monday*.

Dealing with misunderstanding

> **— .i mi pu zi te vecnu le flokati**
> **— .i le flokati ki'a**
> *— I just bought a flokati.*
> *— Flokati, huh?*

ki'a ≈ *interjection inquiry: confusion about something said. Huh? Whaat?? (confusion), pardon?*

When you don't understand what someone has just said — whether because you don't get what they were referring to, or you don't know the word, or the grammar confused you — you can repeat the word or relation you didn't get, and add **ki'a** as a plaintive request for clarification (so it's even better than *Huh?*, because you can point out exactly what made you say *Huh?*)

Here is a dialogue.

> **— mi nelci le kalci**
> **— ki'a ?**
> *— I like shit.*
> *— Whaat???*

Note: Since **zo** quotes any word following it — any word — it turns out that **zo ki'a** doesn't mean *zo? Huh?* at all, but *The word **ki'a***. To ask *zo? Huh?*, you'll have to resort to **zo zo ki'a**.

Reverse «**mi**» and «**do**» using «**ra'o**»

> **- mi prami do**
> **- go'i ra'o**
> *- I love you.*
> *- I love you too.*

ra'o ≈ *interjection: updates meaning from the viewpoint of the current speaker*

If someone says **mi prami do** and you reply **go'i ra'o**, that reverses the pronouns **mi** and **do** so that they apply from your point of view. So every pronoun gets re-evaluated.

Compare:

> **- mi prami do**
> **- go'i**
> *- I love you.*
> *- You do.*

A simple **go'i** still makes **mi** refer to who used it and **do** refer to the listener of who said it.

Lesson 11. Trickier topics

Four meanings of '*you*' in English

We've already seen two personal pronouns, **mi** and **do**, meaning *I* (or *me*) and *you*. However, *you* in English can mean four different things:

In English *you* has several meanings that are translated to Lojban in certain ways:

 you as *the one person I'm talking to*:

> **le pa do**
> *you one*

We know that **le re prenu** means *the two people*. It's also possible to put numbers after **le** and before pronouns.

 you as *all of the people I'm talking to*:

> **ro do**
> *each of you, all of you* (or Southern U.S. *y'all*)

You can also use numbers with **ko**:

> **ro ko klama ti**
> *All of you, get over here.*

 you as *a number of people I'm talking to*:

> **le re do**
> *you two*

For example, once can start e-mails to their parents with **coi le re do**.

Notice that **re do** means *two of you* and **re le ci do** means *two of you three*.

 you as *the person or people I'm talking to plus some other person or people*:

do'o ≈ *pronoun: you and someone else*

 you as *anyone* (e.g. *Money can't buy you love.*):

It's normally expressed by

ro da ≈ *all **da***

or

ro lo prenu ≈ *all persons*

But often you can just miss it out altogether (or place **zo'e** in that place).

More about short relative clauses

Short relative clauses with a pronoun after them can be put just after **le**:

> **le pe mi gerku**
> **le gerku pe mi**
> *My dog*

pe in such cases can even be omitted:

> **le mi gerku**
> **le gerku pe mi**
> *My dog*

Thus, "**le** + noun + verb" is equivalent to "**le** + verb + **pe** + noun".

A few rules:

- if you want to use a noun converted from a verb (for example, with **le**) or a name then it's advisable to use **pe** and put it after the noun: **le gerku pe la .alis.** (*the Alice's dog*).
- it's okay to omit **pe** only if you use pronouns without numbers in front of them: **le do gerku** (*my dog*) but not **le pa do gerku** (= **le pa do cu gerku** = *you one is a dog*).

It's much safer to use **pe** explicitly and put it after the noun to which it is attached: **le gerku pe la .alis.** and **le gerku pe mi** are most intuitive constructs.

Quoting text in different languages

zoi is a quotation mark for quoting non-Lojban text. Its syntax is **zoi X. text .X**, where X is a Lojban word (called the delimiting word) which is separated from the quoted text by pauses, and which is not found in the written text or spoken phoneme stream inside that quotation. It is common, but not required, to use the name of some letter, which corresponds to the Lojban name of the language being quoted:

> **zoi gy. John is a man .gy. cu glico jufra**
> *"John is a man" is an English sentence.*

where **gy.** stands for **glico**. Other popular choices of delimiting words are **.kuot.**, a Lojban name which sounds like the English word_quote_, and the word_zoi_ itself. Another possibility is a Lojban word suggesting the topic of the quotation.

Lojban strictly avoids any confusion between things and the names of things:

> **zo .bob. cmene la .bob.**
> `The-word "Bob" is-the-name-of the-one-named Bob.`

zo .bob. is the word, whereas **la .bob.** is the thing named by the word. The short qualifier words **la'e** and **lu'e** placed before terms convert back and forth between references and their referents:

> **zo .bob. cmene la'e zo .bob.**
> *The-word "Bob" is-the-name-of the-referent-of the-word "Bob".*

> **lu'e la .bob. cmene la .bob.**
> *A-symbol-for Bob is-the-name-of Bob.*

Last two examples mean the same. But this is different:

> **la .bob. cu cmene la .bob.**
> *Bob is the name of Bob.*

and says that Bob is both the name and the thing named, an unlikely situation. People are not names.

la'o serves to mark non-Lojban names, for example the Linnaean binomial names (such as "Homo sapiens"), which are the internationally standardized names for species of animals and plants.

Internationally known names which can more easily be recognized by spelling rather than pronunciation, such as *Goethe*, can also appear in Lojban text with **la'o**:

> **la'o dy. Goethe .dy. cu me la'o ly. Homo sapiens .ly.**
> *Goethe is a Homo sapiens.*

Using **la'o** for all names rather than adapting them to Lojban, however, can make for a cumbersome text.

Everything expressed in text should also be expressed in speech and vice versa. Therefore, there cannot be any punctuation which is not pronounced. This means that Lojban has a wide range of words to quote other words. All Lojban convert a text into a noun.

lu ... **li'u** quote only text that is grammatically correct. To quote any Lojban text we use **lo'u** ... **le'u** quote instead.

> —
> **xu lo'u je le'u lojbo sumsmi**
> —
> **na ku sumsmi**
> *— Is "je" a term?*
> *— No.*

> **ma xe fanva zoi gy.What's up?.gy. la .lojban.**
> *How to translate "What's up?" to Lojban?*

Enriching vocabulary. New words using tenses

Many English words correspond to word combinations in Lojban:

le ve'i cmana ≈ *the hill (literally "mountain/hill covering little space")*
le ve'u xamsi ≈ *the ocean (literally "sea/ocean covering large space")*
le ba'o tricu ≈ *stump of a tree (literally "the no longer tree")*

Internal terms

Using **be** you can attach not only the default places of verbs but even terms:

> **le xatra be de'i li vo cu se mrilu de'i li ze**
> *This letter, dated the 4th, is mailed on the 7th*

xatra ≈ *x1 is a letter*

A date tagged with **de'i** applies only to the **xatra**. Compare:

> **le xatra de'i li vo cu se mrilu de'i li ze**
> *The letter on the 4th is mailed in the 7th*
> (whatever that can mean)

Without **be** the term **de'i li vo** would apply to the whole relation, not to **xatra**. What we want to say is that the former date applies just to the letter, and the latter date applies to the mailing of the letter. This means that the 4th, as a date, applies only to the verb **le xatra**, and not to the entire relation.

Compound verbs in detail

The grouping of terms in Lojban grammar is particularly important when it comes to tanru (compound verbs). The way verbs group together in a tanru determines what that tanru means. For example,

> *the bad music magazine*

has in English two interpretations: a bad magazine about music, or a magazine about bad music. In Lojban, its equivalent

> **le xlali zgike karni**

has only the interpretation *a bad-music magazine*, because the first two verbs (*xlali zgike — bad music*) group together first. So it is important to be able to modify the grouping of verbs, so that we can make sure the tanru means what we actually intend it to mean. For that reason, Lojban has a couple of mechanisms in place for making tanru group together properly.

In English we use brackets to structure the text. Likewise for tanru we use **ke** for the left bracket and **ke'e** for the right bracket.

le xlali ke zgike karni means *the bad music-magazine.*

As you can see we separated **xlali** from the rest of the tanru and made it apply to the whole tanru. There is no need in **ke'e** in the end of the tanru since we already know that it ends here.

> **.i mi pu zi te vecnu le xlali ke zgike karni .i to'e zanru la'o gy.Eurythmics.gy.**
> *I just bought a bad music-magazine. It dissed the Eurythmics.*

That's one way of grouping together verbs in tanru. The other way is to use **bo** in a new role. When **bo** appears between two verbs, it means that those verbs group together more tightly than anything else. So an alternative way of saying *bad {music magazine}* is

le xlali zgike bo karni ≈ *the bad music-magazine*

bo here is similar to the hyphen in English translation. This means that **zgike bo karni** should count as a unit, to which **xlali** (*bad*) applies.

So **bo** makes the connections tighter:

> **la .doris. e la .alis. o nai bo la .bob.**
> *Doris and (either Alice or Bob)*

ke can also be used with connectives (though not with sentences; they have their own kind of bracket, **tu'e ... tu'u**.) So we could also say

> **la .doris. e ke la .alis. o nai la .bob.**

Remember that the right bracket **ke'e** can be left out in most cases without changing the meaning (like in this case).

Forethought conjunction are also used a lot since they can eliminate the need in right brackets:

> **ge la .doris. gi go nai la .alis. gi la .bob.**
> *Doris and either Alice or Bob*

and

> **go nai ge la .doris. gi la .alis. gi la .bob.**
> *Either Doris and Alice, or Bob*

We don't need **bo** or **ke** with forethought conjunctions.

«co» for changing the order in compound verbs

There is another way of restructuring compound verbs.

> **mi fanva se jibri**
> *I'm a professional translator*

jibri ≈ *x1 is a job of x2*

If I wanted to say that I'm a professional translator from English to German, I could use **be** and **bei**:

> **mi fanva be le dotco bei le glico be'o se jibri**
> *I'm a professional translator to German from English.*

dotco ≈ *x1 is German*
glico ≈ *x1 is English*

The fact that it was a compound verb could quickly be lost in speech due to the complicated structure of the sentence. Here, we can use the word **co**:

co — inverts the compound verb, making the rightmost verb word modify the leftmost instead of the other way around. Any previous noun fills the modified, any following noun fills the modifier.

> **mi se jibri co fanva le dotco le glico**

It is the same relation as the previous Lojban one, but much more easy to understand. Notice that any noun before the compound verb fills **se jibri**, while any following it only fills the modifying verb: **fanva**.

The strength by which two verbs are bound together with **co** is very weak — even weaker than normal compound verb grouping without any grouping words. This makes sure that, in a co-construct, the leftmost component is always the verb being modified, and the rightmost component always modifies, even if any of those parts are compound verbs. This makes a co-construct easy to understand:

> **ti pelxu plise co kukte**

is read as **ti (pelxu plise) co kukte**, which is the same as **ti kukte pelxu bo plise**. This also means that a **ke ... ke'e** cannot encompass a **co**.

Another example:

> **mi merko limna co mutce certu**
> *I am a much experienced American swimmer.*

merko ≈ *x1 is American (the USA sense)*

Here is the list of different kind of groupers in compound verbs ranked from the tighest to the most loose:

1. **bo** and **ke ... ke'e**
2. logical connectives for compound verbs like **je**
3. not using grouping words
4. **co**

Explicit termination of nouns

the small word **ku** can be used at the end of a noun to explicitly show its right border. **ku** is analogous to right bracket in math.

> **tu du le badna ku ui**
> **tu du le ui badna**
> *That is the banana (yay!)*

as opposed to:

> **tu du le badna ui**
> *That is the banana (yay that it's a banana and not something else in nature!)*

Conversion from sets to masses

> **le prenu cu pa moi le'i pendo be mi ku noi lu'o ke'a ca smaji**
> *He is the first among my friends who keep silence together.*
> *The person is the first among the set of my friends who are now as a crowd being silent.*

The qualifier word **lu'o** placed before a noun converts it into a mass made of members of that noun. In this case **ke'a** refers to the set of my friends **le'i pendo be mi** and then **lu'o** converts the members of the set into a mass, the crowd of my friends.

Sets and subsets

Some infinitives may imply more than one **ce'u**:

> **le'i prenu cu simxu le ka prami**
> **le'i prenu cu simxu le ka ce'u prami ce'u**
> *The people love each other.*

simxu ≈ *members of the set x1 reciprocally do x2*

The verb **simxu** takes every possible pair from the set specified in place x1 at asserts the relation specified within x2.

If we have three people then it would mean all of them love each other.

> **do ce la .alis. ce mi simxu le ka prami**
> **do ce la .alis. ce mi simxu le ka ce'u prami ce'u**
> *You, Alice and I all love each other.*

ce ≈ *conjunction: turns several nouns/pronouns into a set*

The conjunction **ce** connects nouns and pronouns into a set, thus **do ce la .alis. ce mi** might be a more verbose way of **le'i prenu** from the previous example for the case when we want to name the members of the set.

In total we assert 6 relations:

1. You love Alice.
2. You love me.
3. Alice loves me.
4. Alice loves you.
5. I love Alice.
6. I love you.

Hence, **simxu** is a nice shortcut for expressing mutual relation.

Now consider the example:

> **le'i su'o cmima be le'i prenu cu simxu le ka prami**
> *Some of the people love each other.*

cmima ≈ *x1 is a member of set x2*

In this example we are showing that a subset of the people in question (a subset of **le'i prenu**) has mutual love.

This allows us to convey even trickier ideas:

> **le'i su'o citno cmima be le'i stati prenu cu simxu le ka prami**
> *Some youngsters from those smart people love each other.*
> `Some young members of the set of smart people love each other.`

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Dictionary

Contains phrases with examples of possible usage.