

PROGRESS REPORT ON TAXONOMY

This document presents a permanently updated status of the implementation of the taxonomy. The taxonomy is essentially the taxonomy of the Foundational Model of Anatomy (FMA). Any unit is initially created in the partonomy of the domain of anatomy and is therefore candidate to be incorporated in the taxonomy. This is performed by defining its taxonomic ancestor as another unit and to specify the link to it. This process is repeated for the ancestor until the top of the taxonomy is reached.

This report is the chapter 33 of the Book on Universal Terminology.

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33.1 About the taxonomy

The taxonomy is essentially the taxonomy of the Foundational Model of Anatomy (FMA). On this basis, a minimal number of corrections have been done (much less than 1 percent of entities) and some missing entities have been added. In this way, the FMA is guiding our implementation, which consequently can be considered as FMA compatible.

The language of the FMA is English, even if the FMA gives a few translations in different modern languages or Latin. Therefore, because our \mathbf{T}_{logy} is multilingual by design, it has been necessary to translate the FMA, at minimum in Latin, French and Spanish. To do that, we use the method of the universal formulas, a process described elsewhere. The French and Spanish version of FMA have been relatively trivial to translate; however, the Latin version has needed more attention. The several translations are visible on the taxonomic lists and sublists, when activating the usual language switches on the website of the \mathbf{T}_{logy} .

The FMA was a considerably large effort of several men-years performed in the early years 2000. A relatively complete taxonomy of the domain of human anatomy was then made available on a free public access. The coverage includes the totality of TA98, sometimes extended to a slightly more detailed representation. As a consequence, in more than 99 percents of all situations, it is relatively easy to find the equivalent in FMA of any entity of the \mathbf{T}_{logy} .

Chapter	Level 2	Units	Last
anatomia generalis			
systema skeletale			
systema articulare			
systema musculare	8	990	++
systema digestorium	9	388	
odontostomatologia	4	115	
systema respiratorium			
cavitas thoracis			
systema urinarium			
systemata genitalia			
cavitas abdominopelvica			
glandulae endocrinae			
systema cardiovasculare	6	1868	++
systema lymphoideum			
systema nervosum centrale	5	2525	+
systema nervosum periphericum	4	1944	+
organa sensoria	4	776	+
integumentum commune			

Table 33.1: Description of the chapters.

The links on the chapter titles open the chapters with the list of all their units as partonomic descendents, each unit identifier being itself a link to the unit page itself.

33.2 Taxonomy by chapter

This progress report about the implementation and updates of the taxonomy is oriented by partonomic chapters of the \mathbf{T}_{logy} . Each chapter is divided in a number of subchapters at level 2 in the partonomic hierarchy: this would be our level of documentation. We will report thereafter on all subchapters of the terminology.

Every subchapter is made of a number of units, documented elsewhere about the partonomic lists and sublists. A subchapter will be considered as implemented, validated or updated if and only if all taxonomic links have been specified for most of the units.

The table 33.1 gives the number of units in this chapter, an estimation of the number of attributions of a taxonomic ancestor to any unit of this chapters and the date of termination or last validation of the related taxonomy. The estimation is + for a few units, ++ for more than 10 percent units and less than 90 percents units, and +++ for a nearly complete setting of the taxonomy. A missing estimation means that this chapter is currently undocumented. For more details, refer to the table of the specific chapter below.

33.3 Reports on chapters

An analysis of each chapter of the \mathbf{T}_{logy} is performed, regarding the current processing of the taxonomic links. Each chapter is documented in a specific subsection.

The format of the columns of an individual chapter table is the following: first column: title of the subchapter; second column: number of units in the subchapter; third column: estimation of the number of attributions of a taxonomic ancestor, as above, an empty field means that this value is not yet documented; fourth column: date of termination or last revision.

The taxonomy is independent of the languages.

Subchapter at level 2	Units	level P3	tax	date
pars capitis	118	7	+++	12.22
pars cervicalis	87	3	+++	08.23
pars dorsalis	122	3	+++	12.22
pars thoracica	113	3	+++	12.22
pars abdominalis	56	2	+++	12.22
pars pelvica	61	3	+++	08.23
membrum superior	216	5	++	
membrum inferior	213	5	++	

Table 33.2: Taxonomic links of systema musculare

The links on the subchapter titles open the subchapters with the list of all their units as partonomic descendents, each unit identifier being itself a link to the unit page itself, and the unit page has a taxonomic section.

33.3.1 Systema musculare

Global status: Complete, except the membri.

This chapter is documented in table [33.2](#).

Subchapter at level 2	Units	level P3	tax	date
os	80	5		
fauces	17	0		
pharynx	35	3		
oesophagus	20	0		
gaster	36	0		
intestinum tenue	37	2		
intestinum crassum	70	4		
hepar	60	2		
vesica biliaris	21	2		
pancreas	19	0		

Table 33.3: Taxonomic links for systema digestorium

The links on the subchapter titles open the subchapters with the list of all their units as partonomic descendents, each unit identifier being itself a link to the unit page itself.

33.3.2 Systema digestorium

Global status: Under development.

This chapter is documented in table [33.3](#).

Subchapter at level 2	Units	level P3	tax	date
dentes	43	0		
corona dentis	22	0		
radix dentis	34	0		
periodontium	11	0		

Table 33.4: Taxonomic links for odontostomatologia

The links on the subchapter titles open the subchapters with the list of all their units as partonomic descendents, each unit identifier being itself a link to the unit page itself.

33.3.3 Odontostomatologia

Global status: Under development.

This chapter is documented in table [33.4](#).

Subchapter at level 2	Units	level P3	tax	date
cor	186	8	++	06.23
systema arteriosum	637	7	+	?
systema arteriosum cerebrospinale	314	7	+	?
systema venosum	517	7	+	?
systema venosum cerebrospinale	175	10	+	?
vasa lymphatica	38	0	+	?

Table 33.5: Taxonomic links for systema cardiovasculare

The links on the subchapter titles open the subchapters with the list of all their units as partonomic descendents, each unit identifier being itself a link to the unit page itself.

33.3.4 Systema cardiovasculare

Global status: Partial English pages.

This chapter is documented in table [33.5](#).

Subchapter at level 2	Units	level P3	tax	date
meninges	116	3	+	?
encephalon	1698	8	+	?
spinal cord	231	8	+	?
tracts of central nervous system	447	9	+	?
ventricular system	68	3	+++	07.23

Table 33.6: Taxonomic links for systema nervosum centrale

The links on the subchapter titles open the subchapters with the list of all their units as partonomic descendents, each unit identifier being itself a link to the unit page itself.

33.3.5 Systema nervosum centrale

Global status: All languages

This chapter is documented in table [33.6](#).

Subchapter at level 2	Units	level P3	tax	date
cranial nerves	190	9	+	?
spinal nerves	420	4	+	?
plexus of somatic nerves	281	5	+	?
autonomic subdivision	190	5	+	?

Table 33.7: Taxonomic links for systema nervosum periphericum

The links on the subchapter titles open the subchapters with the list of all their units as partonomic descendents, each unit identifier being itself a link to the unit page itself.

33.3.6 Systema nervosum periphericum

Global status: All languages

This chapter is documented in table [33.7](#).

Subchapter at level 2	Units	level P3	tax	date
organum olfactorium	15	0	+	?
organum visuale	382	6	+	?
organum vestibulocochleare	460	3	+	?
organum gustatorum	15	0	+	?

Table 33.8: Taxonomic links for organa sensoria

The links on the subchapter titles open the subchapters with the list of all their units as partonomic descendents, each unit identifier being itself a link to the unit page itself.

33.3.7 Organa sensoria

Global status: All languages

This chapter is documented in table [33.8](#).

Branch T1	units	level T2
organum	968	9
pars principalis organi	1428	4
systema organorum	16	0
divisio systematis organi	44	2
cellula	266	4
pars principalis cellulae	47	0
portio texti	204	4
pars principalis texti	23	0
complexus anatomicus	1857	14
res incorporea	905	4
relatio anatomica	106	4
nomen rei anatomicae	1176	36
res representationis	244	

Table 33.9: Description of all T1 lists making a partition of the taxonomy.

33.4 Reports on branches

An analysis of the taxonomy by its hierarchical structure is also performed. The top levels of the taxonomy are considered and the main branches are selected, making a total partition at level T1 of the whole taxonomy. Each branch is subdivided in subbranches at level T2, the levels t3 and T4 are possible. This division into taxonomic lists and sublists is not necessary natural and obeys to pragmatic criteria in order to facilitate the access to any specific part in a not too large file.

The figure [33.1](#) represents all 13 divisions at level T1. One can see all the top level elements up to the T1 level.

The T1 lists of the taxonomy makes a total partition of the taxonomy into 13 parts. Each list is possibly subdivided into sublists at level T2, T3 or T4. Each T1 list is documented in the table [33.9](#). The table provides direct links to all T1 lists. For each list is given the current number of entities of the list and the number of sublists at level T2.

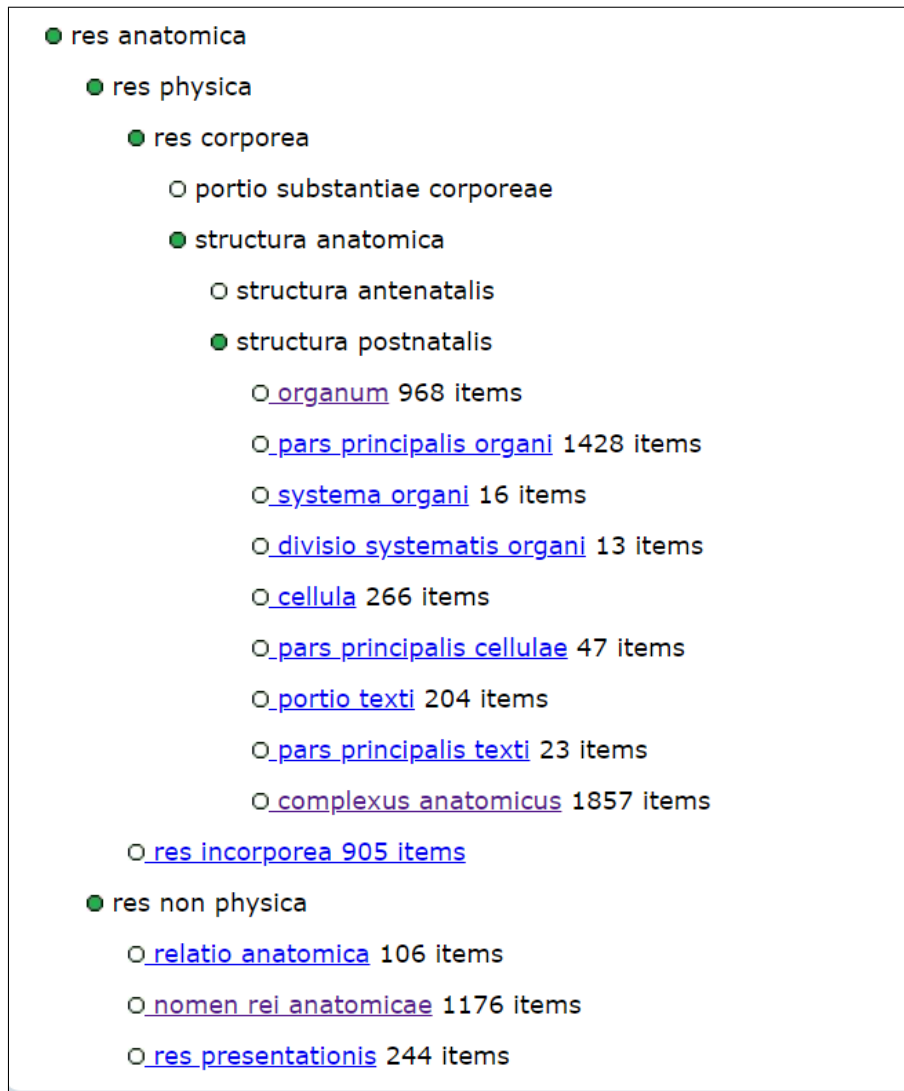


Figure 33.1: The top level tree of the taxonomy with all T1 levels

This tree represents the top levels of the FMA taxonomy, with its Latin name here. The 13 T1 sublists are visible in blue. The figures depends on the current implementation of the FMA taxonomy in the \mathbf{T}_{logy} . They corresponds to January 2022.

Branch T2	units	level T3	tax	date
organum lobulare	5	0		
organum musculus	471	6		
organum cartilago	34	0		
organum ligamentum	317	2		
organum membrana	7	0		
organum arbor nervosum	62	3		
organum fascia	6	0		
organum cum cavitam	70	0		
os	184	5		

Table 33.10: All T2 sublists for organum.

33.4.1 Organum

Global status: partial

This chapter is documented in table [33.10](#).

Branch T2	units	level T3	tax	date
componens organi	199	7		
regio componentis organi	188	6		
segmentum organi	925	6		
zona organi	505	7		

Table 33.11: All T2 sublists for pars principalis organi.

33.4.2 Pars principalis organi

Global status: partial

This chapter is documented in table [33.11](#).

Branch T2	units	level T3	tax	date
comlexus organorum	2	0		
complexus partium organi	52	2		
complexus homogeneus anatomicus	21	0		
complexus texti	4	0		
substantia grisea systematis nervosi centralis	481	6		
regio substantia griseae systematis nervosi centralis	25	0		
regio complexus systematis nervosi centralis	122	0		
substantia alba systematis nervosi centralis	223	12		
nervus ramus	386	5		
segmentum nervi rami	10	0		
ganglion	89	3		
compartimentum anatomicum	42	0		
canalis anatomicus	70	0		
junctura anatomica	342	6		

Table 33.12: All T2 sublists for pars complexus anatomicus.

33.4.3 Complexus anatomicus

Global status: partial

This chapter is documented in table [33.12](#).

Branch T2	units	level T3	tax	date
spatium anatomicum	280	7		
superficies anatomica	458	6		
linea anatomica	162	0		
punctum anatomicum	20	0		

Table 33.13: All T2 sublists for res incorporea.

33.4.4 Res incorporea

Global status: partial

This chapter is documented in table [33.13](#).

33.5 Log of updates

30 Jul 2023 Creation of the file.

33.6 Credentials

This document is part of the section on progress reports accompanying the website on Terminologia Anatomica. It expresses the actual status of implementation about the partonomic lists. Despite it is as exact as possible, close to the reality of the database of the terminology and the surrounding software, approximations, errors and ambiguities are possible and should be considered as independent of their willingness and intents.

Identified comments about the content of the website and its presentation are welcome. An appropriate answer will be given when pertinent.

Authentic URL of this file: <https://ifaa.unifr.ch/Public/TNAEntryPage/help/ProgressUnitPage.pdf>