

## Visualization of Grammaticalization

In an effort to make my (attempts) at historical conlanging more efficient, I have created network diagrams of common pathways of grammaticalization. I found it surprising just how interconnected these pathways were. My expectation going in was that there would be many separate pathways with a common pathway looking somewhat like: *word* → *grammaticalized affix/particle* → *shift in meaning*. I think the diagrams speak for themselves.

All data in these network diagrams is directly from World Lexicon of Grammaticalization by Bernd Heine and Tania Kuteva, which is freely available at: [https://www.researchgate.net/publication/271017271\\_World\\_Lexicon\\_of\\_grammaticalization](https://www.researchgate.net/publication/271017271_World_Lexicon_of_grammaticalization). Please see that fantastic document for explanations of terms and ample examples.

The only addition I have made, was to classify some changes as strictly ***nominal*** or strictly ***verbal***. I am not a linguist, so these designations shouldn't be taken seriously. It was only done to simplify the overall network, which was not amenable to pleasant visualization (i.e., it was super messy). The data, summarized at the end of this PDF, was visualized in Cytoscape.

I hope this helps others, and if there are better examples of these, or more data that could be included, please let me know.

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Data included:

<b>source</b>	<b>turns into</b>	<b>target</b>	<b>category</b>
a-possessive	turns into	partitive	nominal
ability	turns into	permissive	verbal
ability	turns into	possibility	verbal
ablative	turns into	a-possessive	nominal
ablative	turns into	agent	nominal
ablative	turns into	comparative	nominal
ablative	turns into	material	nominal
ablative	turns into	partitive	nominal
ablative	turns into	past (near)	verbal
ablative	turns into	since (temporal)	
all	turns into	plural	nominal
all	turns into	superlative	nominal
allative	turns into	complementizer	
allative	turns into	dative	nominal
allative	turns into	infinitive	verbal
allative	turns into	patient	nominal
allative	turns into	purpose	nominal
allative	turns into	temporal	nominal
allative	turns into	until (temporal)	
alone	turns into	only	
already	turns into	perfective	verbal
also	turns into	np-and	
anticausative	turns into	passive	verbal
area	turns into	locative	nominal
arrive	turns into	ability	verbal
arrive	turns into	allative	verbal
arrive	turns into	succeed	verbal
arrive	turns into	until (temporal)	verbal
back	turns into	after	
back	turns into	behind	nominal
back	turns into	cause	
back	turns into	earlier	
back	turns into	then	
back	turns into	up (spatial)	

bad	turns into	intensifier	
beat	turns into	pro-verb	verbal
begin	turns into	first (numeral)	verbal
begin	turns into	first (temporal)	verbal
begin	turns into	inceptive	verbal
behind (spatial)	turns into	after	
belly	turns into	in (spatial)	
belly	turns into	in (temporal)	
benefactive	turns into	a-possessive	
benefactive	turns into	dative	
benefactive	turns into	purpose	
body	turns into	intensive-refl	
body	turns into	middle	verbal
body	turns into	reciprocal	verbal
body	turns into	reflexive	verbal
bottom	turns into	down	
boundary	turns into	until	
bowels	turns into	in (spatial)	
branch	turns into	classifier	
breast	turns into	front	
buttocks	turns into	behind	
buttocks	turns into	down	
center	turns into	between	
center	turns into	in (spatial)	
change-of-state	turns into	copula	verbal
change-of-state	turns into	future	verbal
child	turns into	classifier	
child	turns into	diminutive	
child	turns into	partitive	
children	turns into	plural	
circle	turns into	around (spatial)	
come	turns into	consecutive	
come	turns into	continuous	verbal
come	turns into	hortative	verbal
come	turns into	venitive	verbal

come from	turns into	ablative (locative) (temporal)	verbal
come from	turns into	near past	verbal
come to	turns into	benefactive	verbal
come to	turns into	change-of-state	verbal
come to	turns into	future	verbal
come to	turns into	proximative	verbal
come to	turns into	purpose	verbal
comitative	turns into	agent	
comitative	turns into	continuous	verbal
comitative	turns into	exist	verbal
comitative	turns into	h-possessive	verbal
comitative	turns into	instrument	
comitative	turns into	manner	
comitative	turns into	np-and	
comitative	turns into	passive	verbal
comitative	turns into	s-and	
comitative	turns into	temporal	
comparative (+ negation)	turns into	no longer	
complementizer	turns into	purpose	
comrade	turns into	comitative	
comrade	turns into	reciprocal	verbal
conditional	turns into	concessive	verbal
continuous	turns into	habitual	verbal
continuous	turns into	present	verbal
copula	turns into	avertive	verbal
copula	turns into	conditional	verbal
copula	turns into	consecutive	verbal
copula	turns into	focus	verbal
copula	turns into	future	verbal
copula	turns into	obligation	verbal
cross	turns into	across	verbal
dative	turns into	a-possessive	
dative	turns into	b-possessive	verbal
dative	turns into	comparative	
dative	turns into	h-possessive	verbal

dative	turns into	patient	
definite	turns into	superlative	
demonstrative	turns into	complementizer	
demonstrative	turns into	conjunction	
demonstrative	turns into	copula	verbal
demonstrative	turns into	definite	
demonstrative	turns into	focus	
demonstrative	turns into	third person pronoun	
demonstrative	turns into	relative	
demonstrative	turns into	subordinator	
deontic	turns into	epistemic	verbal
deontic	turns into	future	verbal
descend	turns into	down	verbal
do	turns into	causative	verbal
do	turns into	continuous	verbal
do	turns into	emphasis	verbal
do	turns into	obligation	verbal
do	turns into	pro-verb	verbal
dual	turns into	np-and	
ear	turns into	locative	
earth	turns into	down	
eat	turns into	passive	verbal
edge	turns into	locative	
environs	turns into	around (spatial)	
exceed	turns into	comparative	verbal
exceed	turns into	relative	verbal
exist	turns into	continuous	verbal
exist	turns into	h-possessive	verbal
eye	turns into	before	
eye	turns into	front	
face	turns into	front	
face	turns into	up	
fail	turns into	avertive	verbal
fall	turns into	down	verbal
fall	turns into	passive	verbal
father	turns into	male	

field	turns into	out	
finish	turns into	after	verbal
finish	turns into	already	verbal
finish	turns into	completive	verbal
finish	turns into	consecutive	verbal
finish	turns into	perfective	verbal
finish	turns into	perfective	verbal
first (temporal)	turns into	before	
flank	turns into	side (spatial)	
follow	turns into	according to	verbal
follow	turns into	behind	verbal
follow	turns into	comitative	verbal
foot	turns into	down	
footprint	turns into	behind	
forehead	turns into	front	
front	turns into	before	
front	turns into	later	
future	turns into	epistemic	verbal
get	turns into	ability	verbal
get	turns into	change-of-state	verbal
get	turns into	h-possessive	verbal
get	turns into	obligation	verbal
get	turns into	passive	verbal
get	turns into	past	verbal
get	turns into	permissive	verbal
get	turns into	possibility	verbal
get	turns into	succeed	verbal
give	turns into	benefactive	verbal
give	turns into	causative	verbal
give	turns into	concern	verbal
give	turns into	dative	verbal
give	turns into	purpose	verbal
go	turns into	andative	verbal
go	turns into	change-of-state	verbal
go	turns into	consecutive	verbal



go	turns into	continuous	verbal
go	turns into	distal demonstrative	verbal
go	turns into	habitual	verbal
go	turns into	hortative	verbal
go to	turns into	allative	verbal
go to	turns into	future	verbal
go to	turns into	purpose	verbal
h-possessive	turns into	exist	verbal
h-possessive	turns into	future	verbal
h-possessive	turns into	obligation	verbal
h-possessive	turns into	perfect	verbal
hand	turns into	agent	
hand	turns into	five	
hand	turns into	h-possessive	verbal
hand	turns into	locative	
head	turns into	front	
head	turns into	intensive-refl	
head	turns into	middle	verbal
head	turns into	reflexive	verbal
head	turns into	up	
heart	turns into	in (spatial)	
here	turns into	cause	verbal
here	turns into	demonstrative	
here	turns into	pers-pron	
here	turns into	relative	
home	turns into	a-possessive	
home	turns into	locative	
hour	turns into	temporal	
house	turns into	locative	
how? (w-question)	turns into	comparative	
how? (w-question)	turns into	simile	
in (spatial)	turns into	continuous	verbal
in (spatial)	turns into	in (temporal)	
in (spatial)	turns into	temporal	
indefinite	turns into	common	

instrument	turns into	ergative	
instrument	turns into	manner	
intensive-refl	turns into	even	
intensive-refl	turns into	reflexive	
intention	turns into	future	verbal
interior	turns into	in (spatial)	
interior	turns into	temporal	
iterative	turns into	habitual	verbal
iterative	turns into	still	verbal
keep	turns into	continuous	verbal
keep	turns into	h-possessive	verbal
know	turns into	ability	verbal
know	turns into	habitual	verbal
lack	turns into	negation	verbal
leave	turns into	ablative	verbal
leave	turns into	completive	verbal
leave	turns into	egressive	verbal
leave	turns into	hortative	verbal
leave	turns into	negation	verbal
leave	turns into	permissive	verbal
lie	turns into	continuous	verbal
limit	turns into	until	
lip	turns into	locative	verbal
live	turns into	continuous	verbal
live	turns into	exist	verbal
live	turns into	habitual	verbal
live	turns into	locative copula	verbal
liver	turns into	locative	
locative	turns into	a-possessive	
locative	turns into	agent	
locative	turns into	cause	
locative	turns into	comparative	
locative	turns into	concern	
locative	turns into	continuous	verbal
locative	turns into	exist	verbal

locative	turns into	h-possessive	verbal
locative	turns into	pers-pron	
locative	turns into	subordinator	
locative	turns into	temporal	
locative copula	turns into	continuous	verbal
locative copula	turns into	equative copula	verbal
locative copula	turns into	exist	verbal
locative copula	turns into	h-possessive	verbal
locative copula	turns into	locative	verbal
love	turns into	avertive	verbal
love	turns into	future	verbal
love	turns into	intention	verbal
love	turns into	proximative	verbal
man	turns into	classifier	
man	turns into	exclamation	
man	turns into	indefinite pronoun	
man	turns into	male	
man	turns into	third person pronoun	
manner	turns into	simile	
matter	turns into	cause	
matter	turns into	complementizer	
matter	turns into	purpose	
mirative	turns into	evidential (inferential)	verbal
mother	turns into	female	
mouth	turns into	front	
near	turns into	after	
near	turns into	avertive (proximative)	verbal
near	turns into	proximative	verbal
neck	turns into	locative	
need	turns into	obligation	verbal
negation	turns into	s-question	verbal
negation (exist)	turns into	negation	verbal
now (temporal)	turns into	still	
obligation	turns into	future	verbal
obligation	turns into	probability	verbal

one	turns into	alone	
one	turns into	indefinite	
one	turns into	indefinite pronoun	
one	turns into	only	
one	turns into	other	
one	turns into	same	
one	turns into	singulative	
one	turns into	some	
one	turns into	together	
or	turns into	s-question	
owe	turns into	obligation	verbal
owner	turns into	intensive-refl	
pass	turns into	after	verbal
pass	turns into	comparative	verbal
pass	turns into	past	verbal
pass	turns into	path	verbal
people	turns into	plural	
perfect	turns into	past	verbal
perfect	turns into	perfective	verbal
perfective	turns into	past	verbal
plural person pronoun	turns into	singular (honorific)	
third person pronoun	turns into	agreement	verbal
third person pronoun	turns into	copula	verbal
third person plural pronoun	turns into	impersonal	verbal
third person plural pronoun	turns into	passive	verbal
third person plural pronoun	turns into	plural	
person	turns into	indefinite pronoun	
person	turns into	first person plural pronoun	
piece	turns into	classifier	
place	turns into	cause	
place	turns into	instead	
place	turns into	locative	
property	turns into	a-possessive	
purpose	turns into	cause	
purpose	turns into	infinitive	verbal

put	turns into	completive	verbal
reflexive	turns into	anticausative	verbal
reflexive	turns into	middle	verbal
reflexive	turns into	passive	verbal
reflexive	turns into	reciprocal	verbal
relative	turns into	complementizer	
remain	turns into	durative	verbal
remain	turns into	habitual	verbal
resemble	turns into	comparative	verbal
resemble	turns into	complementizer	verbal
resemble	turns into	simile	verbal
return	turns into	iterative	verbal
s-question	turns into	conditional	verbal
same	turns into	intensive-refl	
say	turns into	cause	verbal
say	turns into	complementizer	verbal
say	turns into	conditional	verbal
say	turns into	evidential	verbal
say	turns into	purpose	verbal
say	turns into	quotative	verbal
say	turns into	simile	verbal
say	turns into	subordinator	verbal
see	turns into	allative	verbal
see	turns into	passive	verbal
shoulder	turns into	up	
side	turns into	beside	
side	turns into	locative	
side	turns into	near	
simile	turns into	complementizer	
simile	turns into	quotative	
since (temporal)	turns into	cause	
sit	turns into	continuous	verbal
sit	turns into	copula	verbal
sit	turns into	habitual	verbal
sky	turns into	up	
song	turns into	classifier	

stand	turns into	continuous	verbal
stand	turns into	copula	verbal
stop	turns into	prohibitive	verbal
suffer	turns into	passive	verbal
suitable	turns into	ability	verbal
suitable	turns into	obligation	verbal
surround	turns into	around (spatial)	
take	turns into	causative	verbal
take	turns into	comitative	verbal
take	turns into	completive	verbal
take	turns into	future	verbal
take	turns into	h-possessive	verbal
take	turns into	instrument	verbal
take	turns into	patient	verbal
temporal	turns into	adversative	
temporal	turns into	cause	
temporal	turns into	concessive	
temporal	turns into	conditional	verbal
then	turns into	future	verbal
then	turns into	later	
there	turns into	demonstrative	
thing	turns into	a-possessive	
thing	turns into	complementizer	
thing	turns into	indefinite pronoun	
three	turns into	plural	
three	turns into	trial	
throw	turns into	perfect	verbal
time	turns into	temporal	
tomorrow	turns into	future	verbal
tomorrow	turns into	next	
top	turns into	up	
trace	turns into	after	
trace	turns into	behind	
tree	turns into	classifier	
TRUE	turns into	intensifier	
turn	turns into	iterative	verbal

two	turns into	dual	
two	turns into	np-and	
until	turns into	comparative (equative)	
up	turns into	additive	
up	turns into	comparative	
up	turns into	concern	
use	turns into	habitual	verbal
venitive	turns into	future	verbal
vp-and	turns into	subordinator	
w-question	turns into	complementizer	
w-question	turns into	indefinite pronoun	
w-question	turns into	relative	
want (past)	turns into	aversive	verbal
want (past)	turns into	future	verbal
want (past)	turns into	proximative	verbal
woman	turns into	classifier	
woman	turns into	female	
yesterday	turns into	past	verbal