Steps for using:

1. Select a data set from the very top left hand corner (only the Russian & Murrinhpatha paradigms are in there at the moment)

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2. A layout should appear showing two buttons at the top

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					3rd Dimension	Number SG	PL.				
		drag and drop o features or lex	ne or more emes here			Case NOM	ACC	GEN	DAT	INS) [LO
						Lexeme					
						məl'ćik	zavod	del	djadj	kost'	stra
						čudovišč	myś				

3. Click and drag any of "Number" "Case" or "Lexeme" headings over to either of the grey areas on the table or onto the "3rd Dimension" area. The mouse needs to be over the target area when you release the mouse.

UPDATE: You can now add up to 2 features of the paradigm to the same dimension of the table, with the option of leaving the 3rd dimension blank (show the whole paradigm in a single table).



4. Repeat with the other two headings until all the areas are filled. The data should appear:

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					In	veme: mal'čik				Lexeme mal'čik		Number SG	PL)		
				5	SG	PL						Case				
			NO	M 1	mal'čik	mal'čik-i						NOM	ACC	GEN	DAT	INS LOC
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			GEN	N 1	mal'čik-a	mal'čik-ov						malíčik	zavod	del	diadi	kost' stran
			DAI	1	mal čik-u	mal čik-am							zavou			KUSE
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	Le	xeme: zavod			Lexeme: del		I	.exeme: djadj	1 Г			exeme: kosť	1 (I	exeme: stran
	Le SG	xeme: zavod PL		SG	Lexeme: del		SG	Lexeme: djadj PL] [SG	exeme: kost'			SG	exeme: stran
NOM	Le SG zavod	xeme: zavod PL zavod-y	NOM	SG del-o	Lexeme: del PL del-a		SG djadj-a	Lexeme: djadj PL djad-i		NOM	L SG kost:	exeme: kost' PL kost-i		OM	I SG stran-a	exeme: stran PL stran-i
NOM	Le SG zavod zavod	xeme: zavod PL zavod-y zavod-y	NOM ACC	SG del-o del-o	Lexeme: del PL del-a	NOM ACC	I SG djadj-a djadj-u	exeme: djadj PL djad-i djad-ej		NOM ACC	Li SG kost' kost'	exeme: kost' PL kost-i kost-i	NA	OM CC	I SG stran-a stran-u	exeme: stran PL stran-i stran-i
NOM ACC GEN DAT	Le SG zavod zavod-a zavod-a	xeme: zavod PL zavod-y zavod-y zavod-ov	NOM ACC GEN DAT	SG del-o del-a del-a	Lexeme: del PL del-a del-a	NOM ACC GEN DAT	I SG djadj-a djadj-u djad-i djad-i	exeme: djadj PL djad-i djad-ej djad-ej		NOM ACC GEN DAT	La SG kost' kost-i kost-i	exeme: kost' PL kost-i kost-i kost-ej	N A G	OM CC EN	I SG stran-a stran-u stran-u	exeme: stran PL stran-i stran-i stran app
NOM ACC GEN DAT NVS	Le SG zavod zavod-a zavod-a zavod-m	PL zavod-y zavod-y zavod-ov zavod-am zavod-ami	NOM ACC GEN DAT INS	SG del-o del-a del-u	Lexeme: del PL del-a del-a del-am del-am	NOM ACC GEN DAT NS	I SG djadj-a djadj-u djad-i djad-e djad-e	PL djad-i djad-ej djad-ej djad-ej djad-ej		NOM ACC GEN DAT INS	L SG kost' kost-i kost-i kost-i kost-i	exeme: kost' PL kost-i kost-i kost-ej kostj-am kostj-ami	N A G D	OM CC EN AT	I SG stran-a stran-u stran-i stran-oi	exeme: stran PL stran-i stran-i stran-am stran-am
NOM ACC GEN DAT INS LOC	Le SG zavod zavod-a zavod-a zavod-u zavod-u zavod-e	reme: zavod PL zavod-y zavod-y zavod-am zavod-am zavod-am	NOM ACC GEN DAT INS LOC	SG del-o del-a del-u del-u del-u	Lexeme: del PL del-a del-a del-am del-am del-am	NOM ACC GEN DAT INS LOC	I SG djadj-a djadj-u djad-i djad-e djad-e djad-e	PL djad-i djad-ej djad-ej djadj-am djadj-am		NOM ACC GEN DAT INS LOC	L SG kost' kost-i kost-i kost-i kost-i	exeme: kost' PL kost-i kost-i kostj-am kostj-am kostj-am	N A G D T	OM CC EN AT VS OC	I SG stran-a stran-u stran-i stran-oi	PL stran-i stran-i stran stran-stran stran-ami stran-ami
NOM ACC GEN DAT INS LOC	Le SG zavod zavod- zavod-u zavod-u zavod-om zavod-om	PL zavod-y zavod-y zavod-ov zavod-ami zavod-ami zavod-ami	NOM ACC GEN DAT INS LOC	SG del-o del-a del-u del-a del-u	Lexeme: del PL del-a del-a del-ami del-ami	NOM ACC GEN DAT INS LOC	I SG djadj-a djadj-u djad-i djad-e djad-e djad-e	exeme: djadj PL djad-i djad-ej djad-ej djadj-ami djadj-ami djadj-ax		NOM ACC GEN DAT INS LOC	Li SG kosti kost-i kost-i kost-ju kost-i	exeme: kosť PL kost-i kost-i kost-ej kostj-am kostj-ami	N A G C D F L L	OM CC EN AT VS OC	I SG stran-a stran-u stran-i stran-oj stran-oj	exeme: stran PL stran-i stran- stran-am stran-ami stran-ami
NOM ACC GEN DAT INS LOC	Le SG zavod zavod-u zavod-u zavod-on zavod-on zavod-e Le	xeme: zavod PL zavod-y zavod-y zavod-av zavod-ami zavod-ami zavod-ami xavod-ax	NOM ACC GEN DAT INS LOC	SG del-o del-a del-u del-u del-a	Lexeme: del del-a del-a del-ami del-ami del-ax Lexeme: myš'	NOM ACC GEN DAT NS LOC	I SG djadj-a djad-i djad-i djad-ej djad-e	externe: djadj PL djad-i djad-ej djad-ej djadj-ami djadj-ami djadj-ax		NOM ACC GEN DAT INS LOC	L SG kost' kost-i kost-i kost-ju kost-i	exeme: kosť PL kost-i kost-i kost-ej kostj-ami kostj-ax	N A G U L	OM CC EN AT VS OC	I SG stran-a stran-u stran-e stran-e stran-oj stran-oj	exeme: stran PL stran-i stran-i stran-ami stran-ami stran-ax
NOM ACC GEN DAT INS LOC	Le SG zavod zavod-a zavod-u zavod-u zavod-u zavod-e zavod-e zavod-e zavod-g za	xeme: zavod PL zavod-y zavod-y zavod-an zavod-ani zavod-ani zavod-ax xeme: čudovišč PL	NOM ACC GEN DAT INS LOC	SG SG SG SG SG	Lexeme: del PL del-a del-ami del-ami del-ami del-ami pL Lexeme: myš'	NOM ACC GEN DAT NS LOC	I SG djadj-a djadj-u djad-u djad-e djad-e djad-e	exeme: djadj PL djad-i djad-ej djad-ej djadj-ami djadj-ami djadj-ax		NOM ACC GEN DAT INS LOC	Li SG kost' kost-i kost-i kost-i kost-i	exeme: kost PL kost-i kost-i kost-am kostj-am kostj-ax		OM CC EN AT VS OC	I SG stran-a stran-u stran-i stran-o stran-oj stran-oj	exeme: stran PL stran-i stran-i stran- stran-ami stran-ami stran-ax
NOM ACC GEN DAT INS LOC	Le SG zavod zavod-a zavod-a zavod-a zavod-a zavod-e zavod-e E SG čudovišč-e	xeme: zavod PL zavod-y zavod-y zavod-av zavod-an zavod-an zavod-ax xeme: čudovišč PL čudovišč-a	NOM ACC GEN DAT INS LOC	SG del-o del-o del-u del-u del-e SG myš	Lexeme: del PL del-a del-a del-ami del-ami del-ax Lexeme: myš PL myš-i	NOM ACC GEN DAT NS LOC	I SG djadj-a djadj-u djad-i djad-e djad-e djad-e	exeme: djadj PL djad-i djad-ej djad-ej djad-ei djad-am djadj-ax		NOM ACC GEN DAT INS LOC	L SG kost' kost-i kost-i kost-ju kost-i	exeme: kost' PL kost-i kost-i kost-am kostj-am kostj-ax	N A G D D T T L	OM CC EN AT VS OC	I SG stran-a stran-u stran-i stran-o stran-oj stran-oj	exeme: stran PL stran-i stran-i stran-am stran-am stran-ami stran-ax
NOM ACC GEN DAT INS LOC	Le SG zavod zavod-a zavod-u zavod-u zavod-u zavod-e Le SG čudovišč-e čudovišč-e	xeme: zavod PL zavod-y zavod-ov zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-y cudovišć-a čudovišć-a	NOM ACC GEN DAT INS LOC	SG del-o del-a del-u del-a del-om del-a del-om del-om sG SG myš' myš'	Lexeme: del PL del-a del-a del-ami del-ami del-ami del-ami pL Exeme: myš PL myš-i myš-i	NOM ACC GEN DAT NS LOC	I SG djadj-a djadj-u djad-i djad-e djad-e djad-e	exeme: djadj PL djad-i djad-ej djad-ej djad-ej djadj-am djadj-am djadj-ax		NOM ACC GEN DAT NS LOC	L SG kost' kost-i kost-i kost-i kost-i	exeme: kost' PL kost-i kost-i kost-ej kostj-am kostj-am kostj-ax	N A G D D T T L L	OM CC EN AT VS OC	SG stran-a stran-u stran-i stran-oj stran-oj	exeme: stran PL stran-i stran-i stran-am stran-ami stran-ax
NOM ACC GEN DAT INS LOC	Le SG zavod zavod-a za	xeme: zavod PL zavod-y zavod-y zavod-am zavod-am zavod-am zavod-am zavod-am zavod-ax zavod-ax zavod-ax zavod-ax zavod-ist cudovišč-a čudovišč-a	NOM ACC GEN DAT INS LOC	SG del-o del-a del-u del-u del-e SG myš' myš-i	Lexeme: del PL del-a del-a del-ami del-ami del-ami del-ami del-ami pL myš-i myš-ej myš-ej	NOM ACC GEN DAT INS LOC	I SG djadj-a djadj-u djad-y djad-e djad-e djad-e	exeme: djadj PL djad-i djad-ej djad-ej djadj-am djadj-am djadj-ax		NOM ACC GEN DAT INS LOC	SG kost' kost-i kost-i kost-ju kost-i	exeme: kost' PL kost-i kost-i kost-ej kostj-am kostj-am kostj-ax	N A G D D T T L	OM CC EN MT VS OC	I SG stran-a stran-u stran-i stran-i stran-oj stran-oj	exeme: stran PL stran-i stran-i stran stran-ami stran-ami stran-ax
NOM ACC GEN DAT INS LOC NOM ACC GEN DAT	Le SG zavod zavod- zavod-a zavod-a zavod-a zavod-a zavod-a zavod-e zavod-e zavod-e zavod-e zavod-e cudovišč-e čudovišč-e čudovišč-e čudovišč-e čudovišč-e	xeme: zavod PL zavod-y zavod-y zavod-an zavod-an zavod-an zavod-an zavod-ax xeme: čudovišč-a čudovišč-a čudovišč-a	NOM ACC GEN DAT NS LOC NOM ACC GEN DAT	SG del-o del-o del-a del-u del-u del-e SG myš' myš-i myš-i	Lexeme: del PL del-a del-a del-am del-am del-am del-am del-am del-am yt pL myš-i myš-ej myš-ej myš-ej	NOM ACC GEN DAT INS LOC	I SG djadj-a djadj-u djad-i djad-e djad-e djad-e	exeme: djadj PL djad-i djad-ej djad-ej djad-am djadj-am djadj-ax		NOM ACC GEN DAT NS LOC	Li SG kost' kost-i kost-i kost-ju kost-j	exeme: kost' PL kost-i kost-i kost-i kost-am kostj-am kostj-ax	N A G D D T T L	OM CC EN AT SS OC	I SG stran-a stran-u stran-i stran-oj stran-oj	exeme: stran PL stran-i stran-i stran-am stran-am stran-am
NOM ACC GEN DAT INS LOC NOM ACC GEN DAT INS	Le SG zavod zavod-a zavod-u zavod-u zavod-u zavod-s Le SG čudovišč-e čudovišč-a čudovišč-a čudovišč-a čudovišč-a	xeme: zavod PL zavod-y zavod-y zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-am zavod-y zavod-am zavod-am zavod-am zavod-am zavod-am zavod-ax p zavod-ax p zavod-ax p zavod-ax p zavod-ax p zavod-ax c zavod-ax c zavod-ax c zavod-ax c zavod-ax z z z z z z z z z z z z z z z z z z z	NOM ACC GEN DAT INS LOC NOM ACC GEN DAT DAT INS	SG del-o del-a del-a del-a del-a del-a del-a myš myš myš-i myš-i myš-ju	Lexeme: del PL del-a del-a del-ami del-ami del-ami del-ami del-ami del-ami del-ami del-ami del-ami del-ami server PL PL Myš-i myš-ej myš-am myš-am	NOM ACC GEN DAT INS LOC	I SG djadj-a djadj-u djad-i djad-e djad-e djad-e	exeme: djadj PL djad-i djad-ej djad-ej djadj-am djadj-am djadj-ax		NOM ACC GEN DAT NS LOC	L SG kost' kost-i kost-i kost-i kost-i	exeme: kost' PL kost-i kost-i kostj-am kostj-am kostj-ax		OM CC EN WT VS OC	I SG stran-a stran-i stran-i stran-o stran-oj stran-oj	exeme: stran PL stran-i stran-i stran- stran-ami stran-ami stran-ax

5. If you want to see a different arrangement just refresh the webpage and repeat steps 1-4 (eventually I will set up a more sophisticated overwrite function which will let you undo the mapping of a feature to a dimension).

UPDATE: Once data has been filled in, arrows will appear around the edges of the table. You can click the line of an arrow to swap features to different dimensions.





When multiple features are placed on one dimension, it's possible that the data will match one of the features but not have a value for the other. For example, Murrinhpatha, doesn't have separate forms for inclusive number. If the table is set up with cells for a SG-incl-CLASS1-NFUT form, the code creates copies of the incl form for each of the person values, with a striped pattern to show they are not proper forms.

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4									TE	NSE : NFUT
	1	6	7	8	13	19	22	30	31	34
SG-1	nga-0-im	ngu-rr-an	ngu-n-ungam	0-m-am	0-b-am	nga-0-am	nga-ntj-in	ngu-rd-am	ngu-l-am	nga-m-am
SG-1incl	tji-0-im	thu-rr-an	thu-n-ungam	thu-m-am	thu-b-an	tha-0-am	tha-ntj-in	thu-rd-am	thu-l-am	tha-m-am
SG-2	tji-0-im	thu-rr-an	thu-n-ungam	n-0-am	d-0-am	tha-0-am	tha-ntj-in	thu-rd-am	thu-l-am	n-0-am
SG-3	di-0-im	wu-rr-an	0-n-ungam	0-m-am	0-b-am	da-0-am	ka-ntj-in	wu-rd-am	wu-1-am	0-m-am
PC-1	nga-rr-im	ngu-mp-an	ngu-nn-unga	ngu-m-am	ngu-b-am	nga-rr-am	nga-ntj-in	ngu-dd-am	ngu-ll-am	nga-m-am
PC-1incl	tji-0-im	thu-rr-an	thu-n-ungam	thu-m-am	thu-b-an	tha-0-am	tha-ntj-in	thu-rd-am	thu-1-am	tha-m-am
PC-2	ni-rr-im	nu-mp-an	thu-nn-ungar	nu-m-am	nu-b-am	na-rr-am	na-ntj-in	nu-dd-am	nu-ll-am	na-m-am
PC-3	pi-rr-im	pu-mp-an	pu-nn-ungan	pu-m-am	pu-b-am	pa-rr-am	pa-ntj-in	pu-dd-am	pu-ll-am	pa-m-am
PL-1	nga-rr-im	ngu-mp-an	ngu-nn-unga	ngu-m-am	ngu-b-am	nga-rr-am	nga-ntj-in	ngu-dd-am	ngu-ll-am	nga-m-am
PL-lincl	tji-0-im	thu-rr-an	thu-n-ungam	thu-m-am	thu-b-an	tha-0-am	tha-ntj-in	thu-rd-am	thu-l-am	tha-m-am
PL-2	ni-rr-im	nu-mp-an	thu-nn-ungar	nu-m-am	nu-b-am	na-rr-am	na-ntj-in	nu-dd-am	nu-ll-am	na-m-am
PL-3	pi-rr-im	pu-mp-an	pu-nn-ungan	pu-m-am	pu-b-am	pa-rr-am	pa-nti-in	pu-dd-am	pu-ll-am	pa-m-am

If you click on arrows to rearrange the table so the undifferentiated forms are next to each other, the cells will merge:

									TE	ENSE : 1
	1	6	7	8	13	19	22	30	31	34
1-SG	nga-0-im	ngu-rr-an	ngu-n-ungan	0-m-am	0-b-am	nga-0-am	nga-ntj-in	ngu-rd-am	ngu-1-am	nga-m-
1-PC	nga-rr-im	ngu-mp-an	ngu-nn-unga	ngu-m-am	ngu-b-am	nga-rr-am	nga-ntj-in	ngu-dd-am	ngu-11-am	nga-m-
1-PL	nga-rr-im	ngu-mp-an	ngu-nn-unga	ngu-m-am	ngu-b-am	nga-rr-am	nga-ntj-in	ngu-dd-am	ngu-ll-am	nga-m-
1incl-SG										
1incl-PC	tji-0-im	thu-rr-an	thu-n-ungam	thu-m-am	thu-b-an	tha-0-am	tha-ntj-in	thu-rd-am	thu-1-am	tha-m-
1incl-PL					1		1	1	1	1
2-SG	tji-0-im	thu-rr-an	thu-n-ungam	n-0-am	d-0-am	tha-0-am	tha-ntj-in	thu-rd-am	thu-1-am	n-0-am
2-PC	ni-rr-im	nu-mp-an	thu-nn-ungar	nu-m-am	nu-b-am	na-rr-am	na-ntj-in	nu-dd-am	nu-ll-am	na-m-a
2-PL	ni-rr-im	nu-mp-an	thu-nn-ungar	nu-m-am	nu-b-am	na-rr-am	na-ntj-in	nu-dd-am	nu-ll-am	na-m-a
3-SG	di-0-im	wu-rr-an	0-n-ungam	0-m-am	0-b-am	da-0-am	ka-ntj-in	wu-rd-am	wu-1-am	0-m-an
3-PC	pi-rr-im	pu-mp-an	pu-nn-ungan	pu-m-am	pu-b-am	pa-rr-am	pa-ntj-in	pu-dd-am	pu-ll-am	pa-m-a
3-PL	pi-rr-im	pu-mp-an	pu-nn-ungan	pu-m-am	pu-b-am	pa-rr-am	pa-ntj-in	pu-dd-am	pu-ll-am	pa-m-a

6. Once you are happy with the table arrangement, click "Highlight"

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Russian	-	(Arran	ge		Highlight	\supset							
					Le	exeme: mal'čik			Lexeme mal'čik		Number SG	PL		
					SG	PL					Case	ACC	N DAT	INS LOC
			NO	М	mal'čik	mal'čik-i						THE OL		
			AC	С	mal'čik-a	mal'čik-ov					Lexeme			
			GE	N	mal'čik-a	mal'čik-ov						,) (, ,		
			DA	Γ	mal'čik-u	mal'čik-am					mai cik	zavod dei		Kost Stran
			INS		mal'čik-om	mal'čik-ami					čudovišč	myš′		
				<u>u</u>	mal cik-e	mai cik-ax								
	, i	Lexeme: zavod			Lexeme: del			Lexeme: djadj			Lexeme: kost'		I	Lexeme: stran
	SG	PL		SG	PL		SG	PL		SG	PL		SG	PL
NOM	zavod	zavod-y	NOM	del-o	del-a	NOM	djadj-a	djad-i	NOM	kost'	kost-i	NOM	stran-a	stran-i
								-						

7. Use the "colour", "Hide stem" and "ignore" buttons to highlight aspects of the data:

- colour shades the wordforms so that a unique form is left white, and shared forms are given the same colour. You can turn colour off by clicking the button again. 'Shared form' is crudely calculated at this stage by comparing the wordform to a single stem. Ultimately I'd like to set up multiple ways of shading the tables, either linguist guided or using machine learning.
- **Hide stem** hides what the tool is considering as the 'stem', and leaves the affix. At the moment the tool can deal with prefixes, suffixes and initial/final subtraction (indicated by '*' is there a standard notation I should be using?), but nothing more complicated. As with the colour button, press it again to reset.
- The **ignore** button works slightly differently: use the text field to type a string of characters you want the tool to ignore when it's deciding which affixes are the same (e.g. to make 'e' and 'ej' the same colour, type 'j'). The text doesn't change, but the colours do. This is starting to explore the idea of 'sameness'. Eventually, I'll set up a button with two text inputs so that you can tell the tool treat [character string1] as equal to [character string2]. I'll also get the text inputs to accept regular expressions so that you can ignore more than

one string at the same time, or search for complicated strings (skipping characters). To reset the ignore button, just clear the text field.

You can still rearrange the tables using the arrows, but you might need to turn colour off and on again to re-colour the table.



8. Once you're in the Highlight panel you can't go back to the arrangement, but you can just refresh the webpage to start over.