

Explorations of Semantic Space

The Case of Light Verb Constructions in Persian

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Outline

- Persian LVCs
- Theoretical Issues
 - Productivity, Compositionality, Polysemy and Construction Grammar
- Data and Analysis
 - Individual LVs and Connected Spaces
- Consequences

85% light verb constructions Preverb + LV

hærf zædæn	word hit	talk
xun ændaxtæn	blood throw	cause to bleed
kæm ʃodæn	few become	be diminished
qæbul daftæn	assent have	maintain as true
aramef dadæn	calmness give	calm
jæfn gereftæn	party obtain	celebrate
tʃopoq kefidæn	pipe pull	smoke a pipe
qorbæt kefidæn	remoteness pull	long for home

How does meaning emerge?

14 Light Verbs

kærdæn [*do*]

zædæn [*hit*]

dadæn [*give*]

daftæn [*have*]

amædæn [*come*]

bordæn [*take*]

ændaxtæn [*throw*]

ʃodæn [*become*]

xordæn [*eat*]

gereftæn [*get*]

kefidæn [*pull*]

aværdæn [*bring*]

ræftæn [*go*]

oftadæn [*fall*]

LVs form myriads of LVCs.

Compositionality

The process by which the meaning of an expression is derived from the meaningful elements within it.

gætʃ gereftæn
benzin zædæn
ʃæmʃir xordæn

plaster OBTAIN
gasoline HIT
sword EAT

set in plaster
pump with gas
be wounded by a sword

Where does the meaning come from if it is not a simple function of its constituents?

Productivity

The mechanism that uses systematicity to coin new words.

email zædæn	email HIT	email
telefon zædæn	phone HIT	call (on the phone)
losion zædæn	lotion HIT	apply lotion
hepatit gereftæn	hepatitis OBTAIN	catch hepatitis
tayp kærdæn	type DO	type (computer)
gaf dadæn	“gaffe” GIVE	reveal
mesaj dadæn	message GIVE	send a message
batmitzva gereftæn	btmtzva OBTAIN	throw a bat mitzvah

What patterns do new forms adhere to ?

Polysemy

Instances where a word has several systematically related meanings.

ja ændaxtæn	place THROW	set into place, install
jelo ændaxtæn	front THROW	set forward
serke ændaxtæn	vinegar THROW	set vinegar
t eft ændaxtæn	lock THROW	bolt a door
ʃi e ændaxtæn	glass THROW	install a window
fær ændaxtæn	rug THROW	spread or unfold a rug
tir ændaxtæn	shot THROW	shoot a bullet
nur ændaxtæn	light THROW	shine light on

Where do the meanings come from?

Construction Grammar

Assumptions:

- 1-** Cline of grammatical phenomena from totally general to totally idiosyncratic.
- 2-** Everything has a common format. No clear distinction between “lexicon” and “grammatical rules”.
- 3-** Pieces of syntax connected to meaning in a conventionalized and partially idiosyncratic way are captured by “constructions”.

ZÆDÆN: HIT

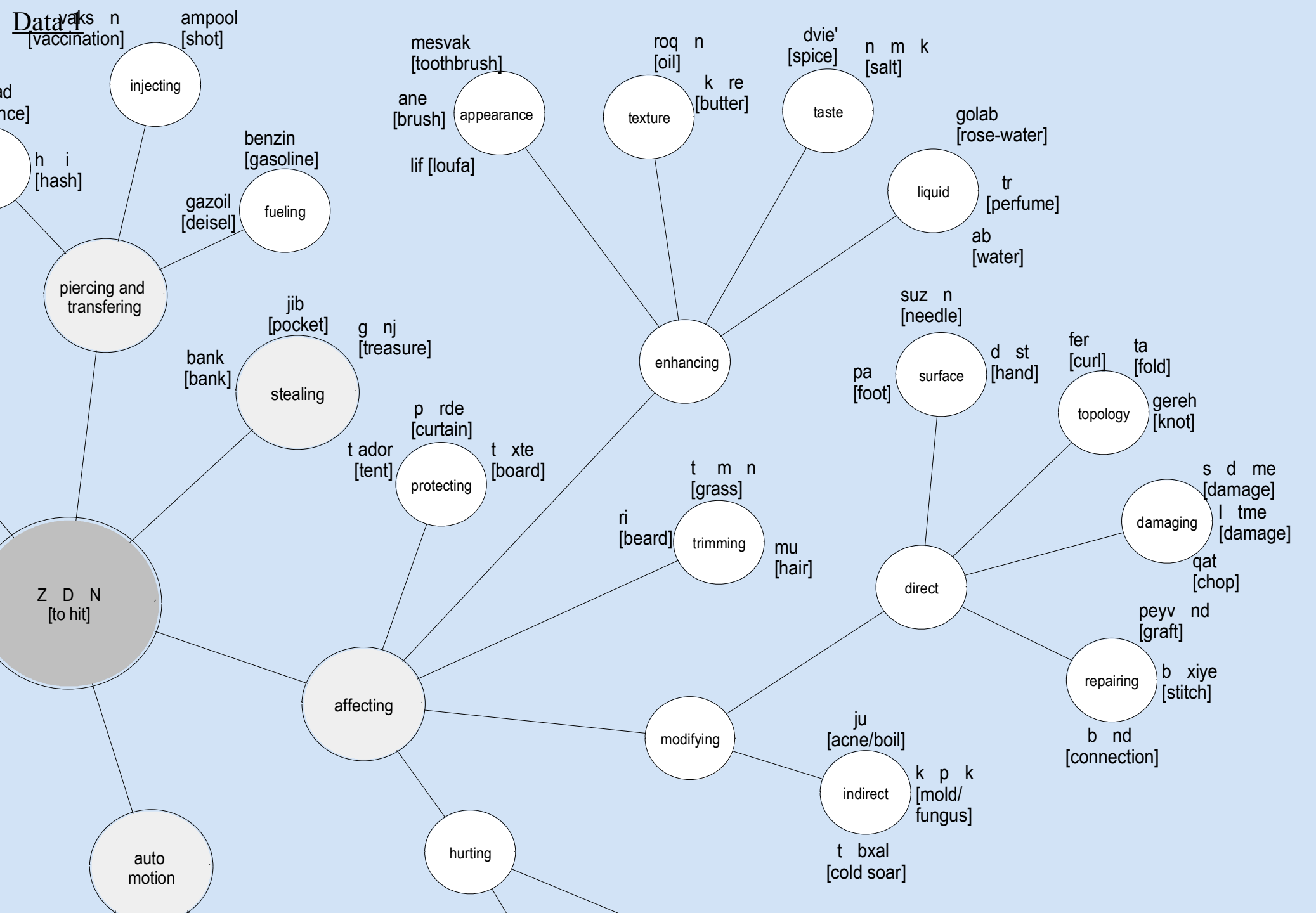
ta zædæn	fold HIT	fold
kise zædæn	sac HIT	rub with exfoliating glove
ræng zædæn	paint HIT	paint (apply or spray)
tæxte zædæn	board HIT	hang a board up
felfel zædæn	pepper HIT	add pepper
tʃæmæn zædæn	grass HIT	mow the grass
zæng zædæn	rust HIT	rust
hoqqe zædæn	trick HIT	slight, trick
tʃomaq zædæn	club HIT	beat with a club
tolombe zædæn	pump HIT	pump
zanu zædæn	knee HIT	kneel
jæræqe zædæn	spark HIT	spark
jaz zædæn	jazz HIT	play jazz music

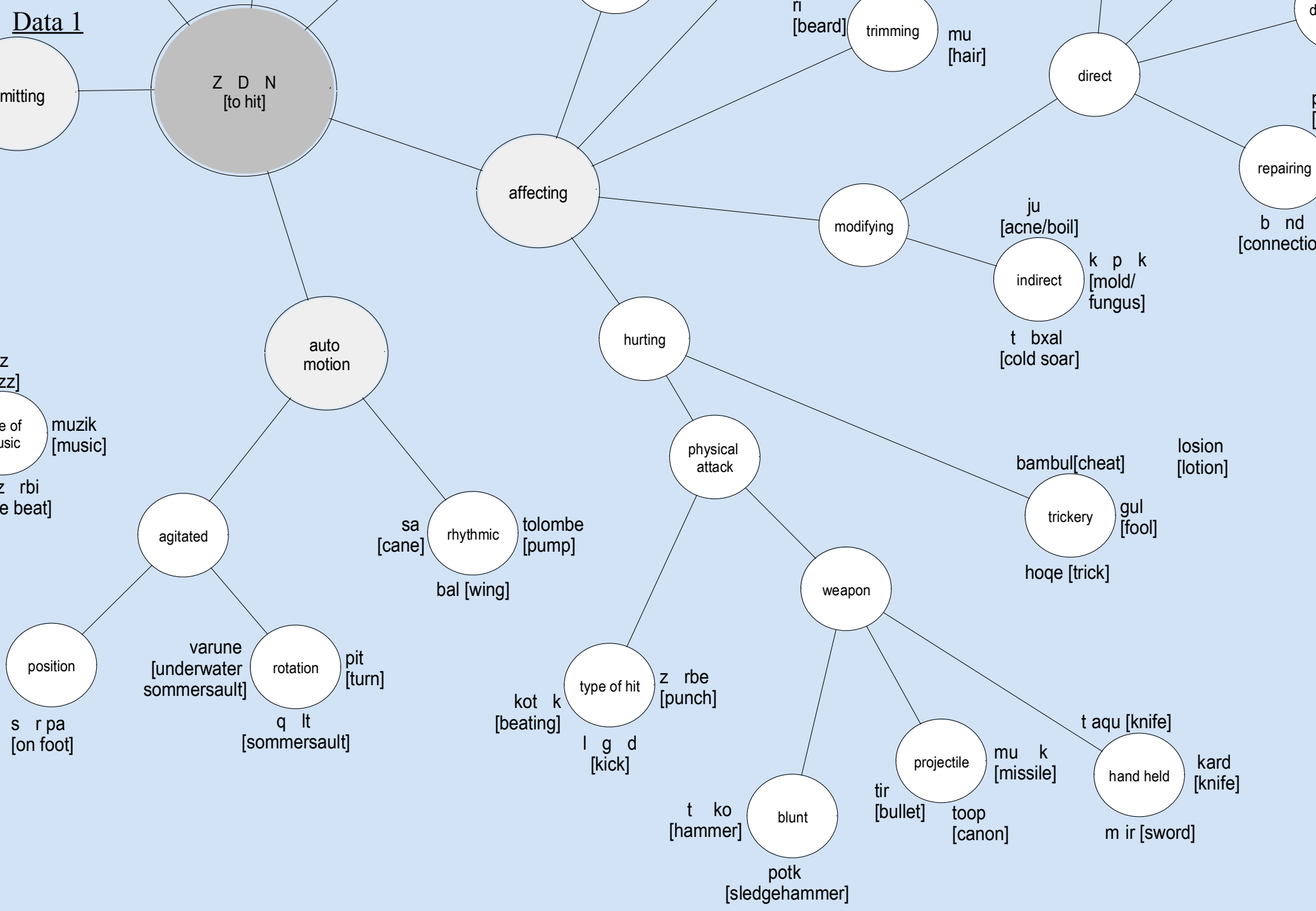
Island: cluster of LVCs which express similar verbal notions, based on the same LV and a specific type of PV.

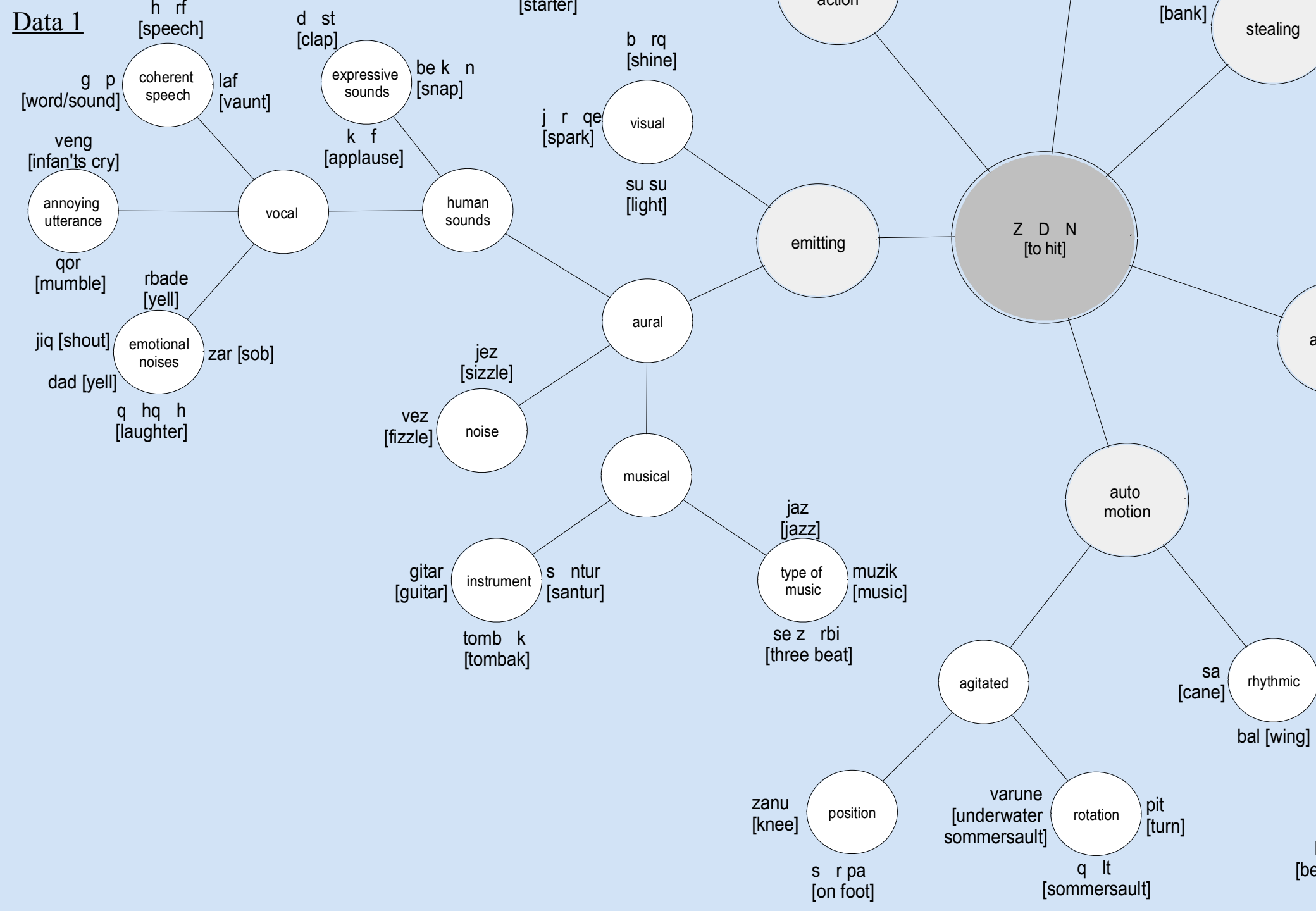
Meaning: emit a bright visible stimulus.

jæræqe zædæn	spark HIT	spark
tʃeʃmæk zædæn	wink HIT	blink (as in a light)
zæbane zædæn	flame HIT	flare up (as in a fire)

PV: bright shimmer, or flash.







Findings 1:

- Semantic space is organized into **islands**
- Islands represented by **constructions**
- Constructions:
 - specific LV
 - PV with specific functional/perceptual, social, psychological attributes.
Real-world knowledge.
 - specific meaning

Alternations

Occurrence of a specific PV with different LVs results in different but related meanings.

ab gereftæn	water GEREFTÆN	juice
ab keʃidæn	water KEʃIDÆN	rinse
ab ræftæn	water RÆFTÆN	shrink
ab ʃodæn	water ʃODÆN	melt, dissolve
ab dadæn	water DADÆN	irrigate
ab oftadæn	water OFTADÆN	become watery

How does the meaning change with different LVs?

ZÆDÆN - XORDÆN

HIT- EAT

tʃaɒu zædæn

tʃaɒu xordæn

knife ZÆDÆN

knife XORDÆN

stab with a knife

be stabbed

gul zædæn

gul xordæn

trick ZÆDÆN

trick XORDÆN

trick

be tricked

gereh zædæn

gereh xordæn

knot ZÆDÆN

knot XORDÆN

tie a knot

get tied into a knot

bæxiye zædæn

bæxiye xordæn

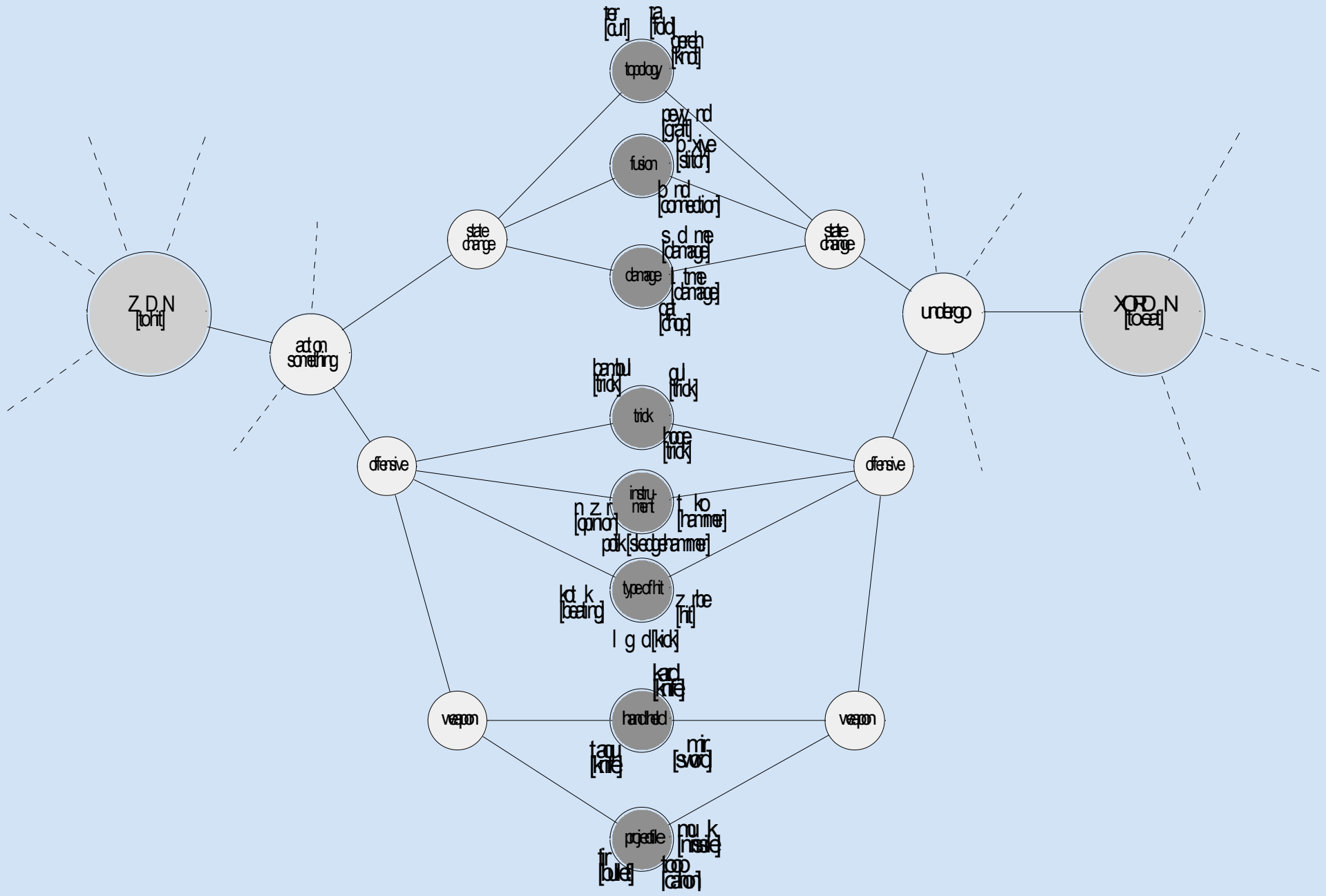
stitch ZÆDÆN

stitch XORDÆN

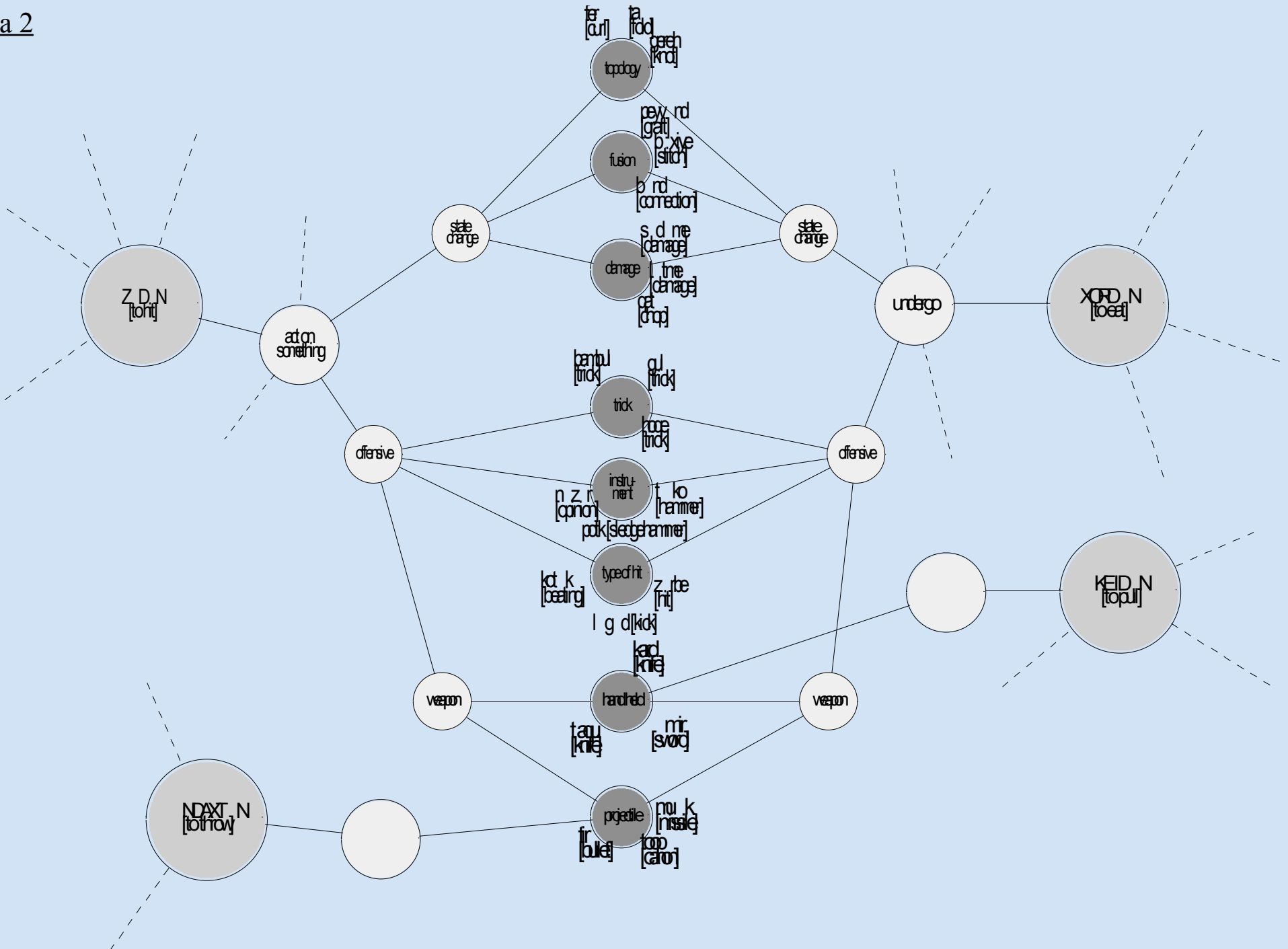
stitch

get stitches

Data 2



Data 2



Findings 2:

- **Islands** can be links in semantic spaces, allowing further generativity.

An LVC with zædæn precludes an LVC with xordæn.

- **Islands** can have several corresponding constructions.

One with zædæn, another with xordæn.

- **Alternations** don't have purely grammatical explanations, can be more nuanced.

Movement, direction, duration.

Conclusions

- **Productivity:** New forms attracted to **islands** depending on specifications, attributes of the PV.
- **Compositionality:** Meaning of an expression is the result of integrating the meanings of the lexical items into the meanings of **constructions**. More dynamic view and flexible view of compositionality.
- **Polysemy:** Avoids massive redundancy in the lexicon. Provides a generative mechanism for many cases where an island has an open class of PV. Eliminates appeal to LV ambiguity.