TYPOLOGY AND UNIVERSALS IN WORD-FORMATION
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Are basic lexical units specified for word class or not? It depends.*

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* (a) on the language; (b) on the meaning of a lexical unit

I. The questions

1. What is word-formation doing for you, and derivation in particular?
2. Is it doing (more or less) the same things (more or less) the same way everywhere?

II. The answers

1. Dividing its labour with syntax, derivation and word-formation in general expresses what wants to be expressed in a speech community and what is not expressed through basic vocabulary.

   Word-formation and syntax are complementary to the lexicon.

To illustrate, here are some random examples of conceptual contrasts taken care of by word-formation and/or syntax (and the lexicon)

	AFFIRMATION →	NEGATION
E	*true*	*false, not true, un-true*
	possible	*im-possible*
	loyal	*dis-loyal*
	colour(-ful)	*colour-less*
	always	*never*
	have	*lack, not have*
	succeed	*fail, not succeed*
	husband, wife	*bachelor, spinster, un-married man/woman*
	with	*with-out*

	numerals		
	CARDINAL	→	ORDINAL FRACTIONAL MULTIPLICATIVE DISTRIBUTIVE COUNTING
G	*vier*		*vier-t-* *vier-tel* *vier-mal* *je vier* (Bavarian) *fiar-e*

(Greenberg 1978, Generalizations about numeral systems)

	COUNTRY N ↔	INHABITANT(S) N =/→	PROVENANCE A
a.	*Japan*	*Japan-ese*	*Japan-ese*
	Egypt	*Egypt-ian*	*Egypt-ian*
	Israel	*Israel-i*	*Israel-i*
	Spain	*Span-iard*	*Span-ish*
	Malta	*Malt-ese*	*Malt-ese*
	Italy	*Ital-ian*	*Ital-ian*
	Portugal	*Portugu-ese*	*Portugu-ese*
b.	*Slovak-ia*	*Slovak*	*Slovak*
	German-y	*German*	*German*
	Kazakh-stan	*Kazakh*	*Kasakh*
	Argentin-a	*Argentine*	*Argentin-ian*
	Turk-ey	*Turk*	*Turk-ish*
	Scot-land	*Scot*	*Scott-ish*
	Den-mark	*Dane*	*Dan-ish*
c.	*Eng-land*	*Engl-ish(-man)*	*Engl-ish*

d.	*Nether-lands*	*Dutch*	*Dutch*
	Greece	*Greek*	*Greek*

"human propensities"

	PROPERTY (A) ↔	ABSTRACT (N) ↔	PERSON (N) ↔	ACTIVITY (V)
E	*coward-ly*	*coward-ice*	*coward*	
G	*feig*	*Feig-heit*	*Feig-ling*	
E	*brave*	*brave-ness*	*hero?*	
G	*mut-ig*	*Mut*	*?*	
	tapfer	*Tapfer-keit*	*Held?*	
E	*mad*	*mad-ness*	*mad-man*	
	fool-ish	*fool-ish-ness*	*fool*	
G	*doof*	*Doof-heit*	*Doof-mann*	
	närr-isch	*Narr-etei*	*Narr*	
E	*simple*	*simpl-icity*	*simple-ton*	
G	*einfält-ig*	*Einfalt*	*Einfalts-pinsel*	
E	*evil*	*evil(-ness)*		
	villain-ous	*villain-y*	*villain*	
G	*böse*	*Bos-heit*	*Böse-wicht*	
	schurk-isch		*Schurke*	

E	*thrift-y*	*thrift*		
	miser-ly	*miser-li-ness*	*miser*	
	sting-y	*sting-i-ness*		*sting*
G	*geiz-ig*	*Geiz*	*Geiz-hals/-kragen*	*geiz-en*
	spar-sam	*Spar-sam-keit*	*Spar-er*	*spar-en*
	knausr-ig	*Knausr-ig-keit*	*Knauser*	*knauser-n*

semantic roles of verbal arguments and circumstances and V-to-N derivation

ACTION V	AGENT N	PATIENT N	RECIPIENT N	INSTR N	PLACE N
cook	*cook*	*cook-ie, cake*		*cook-er*	*kitchen*
forge	*smith*	*metal*			*smith-y/forge*
make gloves	*glov-er*	*glove*			
tailor	*tailor*	*clothes*			
parachute	*parachut-ist*			*parachute*	
compose	*poet*	*poet-ry*			
compose	*compos-er*	*music*			
give	*giv-er*	*gif-t*			
employ	*employ-er*	*employ-ee*			
teach, learn	*teach-er*	*lesson*	*pupil*		*school*
	schol-ar		*schol-ar*		
chair	*chair*	*meeting*			*chair*
steal	*thief*	*goods*	*victim*		
rob	*robb-er*	*goods*	*victim*		

in colour: basic vocabulary

	STATE 1	STATE 2	CHANGE-OF-STATE 1>2 (INCHO/CESSATIVE)	CAUSE CHANGE-OF-STATE 1>2 (CAUSATIVE)
E	*a-live*	*dead, gone*	*die*	*kill*
G	*leben(-d-ig)*	*tot, hin*	*sterben, ab-leben*	*töt-en, um-bringen*
			ein-gehen, ver-enden	*er-morden, er-/tot-schlagen*
T	*sağ*	*öl-ü*	*öl-mek*	*öl–dür-mek*
E	*young*	*old*	*grow old, age*	*old-en, age, season*
G	*jung*	*alt*	*alt-ern, ält(-er) werden*	*alt-ern, alt-ern lassen*
E	*fresh*	*rott-en*	*rot*	*?*
	raw	*cook-ed*	*cook*	*cook*
	empty	*full*	*fill*	*fill*
	full	*empty*	*empty*	*empty*

2. (This is a harder question, and has not been answered unanimously.)

   It depends, namely (i) on the basic vocabulary, (ii) on the expressive needs. To the extent that languages don't (much) vary (i) in what is expressed through basic vocabulary and (ii) in the expressive needs they have to cater for, the workload and modus operandi of derivation and word-formation could be expected to be (roughly) the same, too.

   But **are** (i) basic vocabulary and (ii) expressive needs (roughly) the same across languages?

Universalists would like to answer: YES

(a) Iconicity: What is conceptually simple will be formally simple, and what is conceptually more complex will be derived from what is conceptualy simpler (or will generally require more expressive effort, word-formational or syntactic).

(b) Economy: What is more common/frequent will be expressed through simpler form, i.e., through basic vocabulary rather than through derivation.

Examples like those above with "→" could be cited in support.

Particularists will be adamant: NO

What is expressed through basic vocabulary and what through derivation unpredictably varies from language to language, from conceptual contrast to conceptual contrast, and indeed from lexical unit to lexical unit involved in one and the same contrast.

Examples from above with "↔" look like they render this pessimistic stance inevitable.

But only if you're an iconic universalist: economic universalists don't surrender so easily. They will argue as follows.

For example:

INTRANSITIVE → TRANSITIVE	TRANSITIVE → INTRANSITIVE
freeze, dry ...	split, break ...

There is universal, not just language-particular, predictability of transitivising or detransitivising direction of derivation, but not for verbal vocabulary in its entirety: different semantic subsets of verbs behave differently, but in each language alike.

Universally, "**automatic**" verbs (e.g., 'freeze', 'dry', 'sink', 'go out', 'melt' – which often designate spontaneous events and do not often require the involvement of an agent) tend to be basically inchoative/intransitive, with causatives/transitive derived from them; "**costly**" verbs (e.g., 'split', 'break', 'close', 'open', 'gather' – which do not often designate spontaneous events and often require the involvement of an agent) tend to be basically causative/transitive, with inchoatives/intransitives derived from them.

Universally, automatic-verb meanings tend to occur more frequently as inchoatives/intransitives than costly-verb meanings do; costly-verb meanings tend to occur more frequently as causatives/transitives than automatic-verb meanings do.

Economy dictates that what is rarer be formally non-basic (causatives/transitives with automatic verbs, decausatives/intransitives with costly verbs), and that what is more frequent be basic (inchoatives/intransitives with automatic verbs, causatives/transitives with costly verbs).

(Haspelmath 2008, Comrie 2006 etc.)

adjective → abstract noun		abstract noun → adjective	
OPPOSITE → DIMENSION		DIMENSION → OPPOSITE	
long	*leng-th*	*beauty*	*beauti-ful*
deep	*dep-th*		
high	*heigh-t*		
thick	*thick-ness*		

"A curious iconicity paradox" (according to Croft & Cruse 2004: 175).
Abstract nouns are conceptually simpler than adjectives: nouns designate the scale on which adjectives designate opposites; thus *length* 'extension from one end to the other (of the longest side of an object)', *long* 'noteworthy in terms of length'.
And yet, abstract nouns are formally more complex than corresponding adjectives, in English and other languages. Only *beauty* (basic) – *beautiful* (derived) is well-behaved.

But (Haspelmath 2008): Morphological complexity does not mirror cognitive complexity to begin with; it mirrors rarity of use; basicness mirrors frequency of use. Adjectives are significantly more frequent than the corresponding abstract nouns (thus, *long* occurs 392 times and *length* 85 times per million words, etc., *beautiful* 87 times and *beauty* 44 times); *beauty* – *beautiful* is an isolated exception in English.

Typologists: YES and NO, it depends.

There is (often/sometimes) variation across languages in what is basic and what is derived; but it is (often/sometimes) not random. Each language will have preferences that are consistent across the language.

In order to take the answering of question No. 2 perhaps a little further, my focus here will be on possible typological patterns in derivational relationships between nouns and verbs.

- Are nouns derived from verbs? Verbs from nouns?
- Which nouns from which verbs and which verbs from which nouns?
- Both nouns and verbs from something not strictly verbal or nominal?
- How do languages differ in these respects?

III. Lexical word class specification as a typological parameter: Four types

A. Languages **without** a lexical distinction of VERB and NOUN

Basic **lexical** units – the elementary units that grammar (morphology and syntax) operates with – are **grammatically** fully flexible and can **equally** be used as V and N (and A and ...) in morphosyntactic constructions, with no semantic or formal **asymmetries** between the V and N (etc.) uses suggesting that one is less basic than the other – assuming that a **morphosyntactic** distinction of predicating and referring (and modifying and ...) parts of speech is universal.

Such units are sometimes referred to as “(pre-categorial) roots”.

Languages claimed/hinted to be of this type, none uncontroversially, include:

- Austroasiatic: Munda: Kharia, Mundari
- Austronesian: Malayo-Polynesian: Polynesian: Maori, Tongan; Philippine: Tagalog; Malayan: Riau Indonesian
- Salishan
- Wakashan
- Iroquoian???
- isolate of Chile/Argentina: Mapudungun
- Northwest Caucasian: Adyghe?
- Semitic? (assuming “roots” as basic lexical units, unspecified for word class, and with no asymmetries between V and N uses)

B. Languages where basic lexical units ("stems" or "words") are specified as either VERB or NOUN (etc.),
and where VERBs can be productively derived from NOUNS and NOUNS can be productively derived from VERBS, with a range of appropriate de-nominal as well as de-verbal derivational categories.
There are thus no major inequalities or asymmetries between V-to-N and N-to-V deriving.

An N derived from a V will **inherit** properties from its source.
N's and V's realising unspecified roots, as in type A, rather than being derived from one another, would not show such asymmetric word-class and perhaps other inheritances.

Languages of this type:
numerous, including English and German

C. Languages where basic lexical units ("stems" or "words") are specified as either VERB or NOUN (etc.),
and where most of these basic units are VERBs rather than NOUNs;
but **derivational morphology** (or other means of derivation) productively derives further N's from V's if need be, but not V's from N's.

Languages which have been assumed/hinted to be of this type include:

- South Caucasian: Georgian
- Northeast Caucasian: Archi, Tsez
- Ugric: Hungarian
- older Germanic
- early Indo-European (with the reconstructed roots of the proto-language usually having a verbal flavour)
- Semitic? (on the assumption that "roots" are basically verbs)

D. Languages which equally distinguish VERB and NOUN as lexical classes, with where most of these basic units are NOUNs rather than VERBs; derivational morphology or other means of derivation (such as light verb or complex predicate constructions, Funktionsverbgefüge) productively derive V's from N's, but not N's from V's.

Languages claimed/hinted to exemplify this type:

- Northwest Australian languages which have only a very few verbs, essentially those sometimes referred to as "light" verbs:
  BE, HAVE, DO/MAKE/SAY, COME/GO, SIT/STAND/LIE, GIVE/TAKE, ...
  but are able to derive further verbal expressions, often from expressives/ ideophones (e.g. 'to swim' = to make SPLASH), or otherwise from nouns
  [Verbs from expressives also in German(ic): *plätschern*, *jauchzen*, *ächzen*, ...]
- Trans-New Guinea languages of New Guinea: Madang: Kalam
- Japanese?

My aims here:

- To suggest that classifying **entire languages** along these lines is too general. In particular, a distinction between root-languages (A) and basic word-class-specifying languages (B/C/D) is a gradient one. It is **particular lexical units** that are either specified or un(der)specified for particular word classes, and a language can have basic lexical units of both kinds, unspecified and specified.

- To explore the idea of a "verby"/noun-deriving vs. "nouny"/verb-deriving typology, also diachrony, and to suggest that, while classifying **entire** languages as either noun-deriving or verb-deriving is too general, there appear to be **asymmetries** between co-existing directions of derivation.

  (Not gone into here: The verby/nouny language typology has sometimes come with associated typological traits, like that of OV languages having relatively smaller and VO languages larger vocabularies of basic verbs. Different, though probably related parameter: N/V ratio in texts. Also cf. the "noun bias" in acquisition: universal or language-particular?)

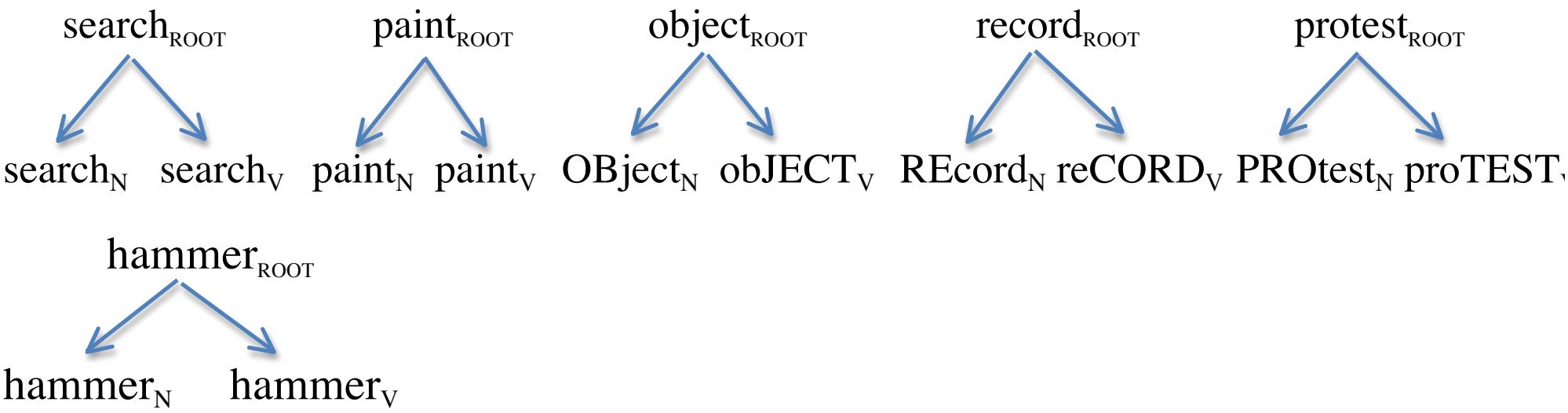
Accordingly, I suggest that contemporary German and English are best characterised like this, as having stems (uniquely specified for word-class) as well as roots (underspecified):

- many lexemes/stems are lexically categorised as either VERB (e.g., German *bau-en*, *werf-en*) or NOUN (e.g., German *Fisch*, *Kamm*), with meaning as a relatively good predictor of basic word class (Ding-Wörter vs. Tun-Wörter, with basic specification as NOUN disfavoured for non-thing designations);
- there are rules of deriving V's from N's (*fisch-en*, *kämm-en*) as well as N's from V's (*Bau*, *Wurf*);
- there are also lexemes/roots which are **not** lexically categorised as VERB or NOUN, with derivation not uniquely-directional, and again with meaning as a predictor (non-thing designations; e.g., *hass-en/Hass*, *dampf-en/Dampf*, *grüß-en/Gruß, lärm-en/Lärm*).*

- Diachronically, the NOUN vocabulary has increased through the re-analysis of non-basic VERB-derived N's as basic. Reverse re-analyses of NOUN-derived V's as basic are negligible.

* Which claim is not such a big deal, really.
Remember Lexical Morphology/Phonology (Kiparsky 1982, 1983 etc.)?

Level 1



Level 1: $stand_V \rightarrow stand_N$ $cook_V \rightarrow cook_N$ $reTURN_V \rightarrow reTURN_N$

Level 2: $COMment_N \rightarrow COMment_V$ $CONtact_N \rightarrow CONtact_V$
$DIScipline_N \rightarrow DIScipline_V$ $PROtest_N \rightarrow PROtest_V$

And Distributed Morphology has a story about this, too: it is told in terms of "root"- vs. "word"-based derivation, which may be co-existing in a single language, such as English and Hebrew (Marantz 2007, Arad 2003 etc.)

Darby 2014: 83ff, on psycholinguistic evidence (priming), wants to distinguish two kinds of non-directed N-V relationships, in addition to N derived from V, V derived from N:

- N and V derived from acategorial root: e.g., *hammer*
- N and V realising underspecified base in different syntactic environments: e.g., *coach*

IV. Derivation is directional – but how to establish direction?

[skip most of this here]

"Derivation" means: There is a Lexeme A (the BASE) which is basic (or motivating), and a lexeme A' (the DERIVATIVE) which is derived from (or motivated by) A.

"Derivation" is inherently asymmetric, however this one-way dependency of one lexeme on another is implemented in a descriptive framework and however it will turn out to be dealt with in the human brain as lexemes are stored and accessed, produced and processed.

Question: Is the relation between derivationally related lexemes still to be seen as asymmetric when it cannot be unambiguously determined as being either one way or the other? In such instances does the direction go both ways and is derivation "mutual"?

> Cf. the English nouns *travel* and *journey*, designating acts, and the corresponding verbs *travel* and *journey*, designating activities: mutually derived or non-directional relationship?

What is involved in derivation are lexemes.

A LEXEME is a lexical/stored unit – a unit which grammar (phonology, syntax, lexeme formation) operates on – with:

- sense(s); [polysemy]
- form(s); [allomorphy]
- categorial specification(s),
  which, together with form(s) and meaning(s),
  are to enable the rules/constraints of grammar
  to use and spell out all wordforms realising the lexeme:
  - lexeme (=word) class and perhaps subclass,
  - inflectional idiosyncrasies,
  - phonological idiosyncrasies.

Possibly, some/all such lexical units are represented in the mental lexicon in different forms:

- underspecified as to sense, form, categorial specification ("**roots**");
- fully specified ("**stems**"/"**words**").

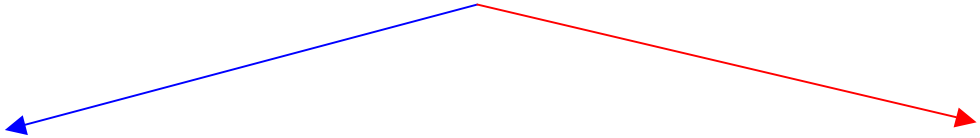
With such underspecified representations, directionality is a matter of categorially specifying them (top picture), not of altering existing specifications (bottom) – hence no one-way dependencies.

Arguably, a single language can do both: derive some stems/words from roots and some stems/words from stems/words.

basic lexical units: /Form, Meaning, Categories/$_{Root}$

f_1: + m_1: + c_1: +

f_2: m_2: c_2:



[Form, Meaning, Categories]$_{Word}$

f_1: + m_1: + c_1: +

f_2: + m_2: + c_2: +

[Form, Meaning, Categories]$_{Word}$

f_1: + m_1: + c_1: +

f_2: + m_2: + c_2: –

basic lexical units:

[Form, Meaning, Categories]$_{Word}$ → [Form, Meaning, Categories]$_{Word}$

f_1: + m_1: + c_1: +

f_2: + m_2: + c_2: +

f_1: + m_1: + c_1: +

f_2: + m_2: + c_2: –

Underspecified for **word (sub) class** – underspecified for **meaning**?

What's in underspecified meanings?

– What's left if you take away what is contributed by word (sub) class categorisation.
(Not easy to conceptualise.)

Are they abstract **Gesamtbedeutungen** or concrete, prototypical **Grundbedeutungen**?

How is the asymmetry between basic and derived manifested?
(and how can direction of derivation be established accordingly in linguistic analysis?)

[skip much of this, other than conceptual complexity, inheritance, morphological regularity, word-class typical semantics]

There are several independent considerations,
and the more they are in agreement, the clearer / the more robust the direction of derivation.

But they need not all be in agreement.

And if there are no manifestations of asymmetry with particular pairs of lexically related items?
Then most probably there is no derivation, but mutually independent specifications of underspecified lexical units.
(Which anticipates my argument of Section VII.)

- SEMANTIC-CONCEPTUAL COMPLEXITY:
  (tends to be) greater of derivatives than of bases

  - e.g., 'to be alive' is a less complex concept than 'not to be alive', its negative opposite

    (but then, 'to be dead' is less complex than 'not to be dead', which raises the further question of which of the two semantically equivalent conceptualisations of the opposition DEAD – ALIVE is more basic than the other),

  - which in turn is a less complex concept than 'to undergo a change of state from being alive to not being alive' (the corresponding cessative/inchoative, involving two states rather than only one),

  - which in turn is a less complex concept than 'to cause a change of someone's state from being alive to not being alive' (the corresponding causative, involving an additional relation and argument).

As it happens, in English, none of the most salient lexemes for these concepts of different complexity is morphologically derived from any of the others: *alive* – *dead* – *die* – *kill*;
dead from *die* is not synchronically transparent;

at any rate, semantic-conceptual complexity is not contradicted by morphological complexity (to be dealt with presently).

In German, the causative verb is morphologically derived,
not from the inchoative verb, but from the stative adjective: *lebend(ig)* – *tot* – *sterben* – *töt-en*,
and a formal-register cessative verb is derived from a state verb: *leben* – *ab-leben*, which makes sense in terms of semantic-conceptual complexity;

otherwise again no contradictions between morphological and semantic-conceptual complexity.

But what about, e.g.,

Engl A's *loose, wide* and V's *loos-en, wid-en*
where (end-)state (A) is morphologically less complex than change-of-state (V), as it ought to be,

in comparison with

A's *brok-en, a-wash* and V's *break, wash,*
where (end-)state (A) is morphologically more complex than (even caused) change-of-state (V)?

It is especially such contradictions between morphological and semantic-conceptual complexity which raise the question of how semantic-conceptual complexity is to be established in the first place.

Well, in semantic-conceptual terms in their own right, obviously.

But then, the right decisions are not always self-evident.

- What is a more complex conceptual operation, to assert or to negate?
- What is more complex to conceive of, an end-state of a change-of-state or the change-of-state itself?
- A change-of-state occurring automatically or brought about by an external cause?

Do the answers depend on linguistic structures of the languages concerned (formal asymmetries)?
Are there cultural/cognitive differences between speech communities?

How can such questions be approached empirically?

If speakers of English, when asked about the meanings of lexemes, define them one in terms of the other, but not vice versa, then this would seem to justify the assumption of asymmetric semantic-conceptual relations between them.

Thus, if the meaning of N *buy* is defined by linguistically naive speakers of English as ‘a thing which you buy‘ or ‘an act of buying‘, while they would not define the meaning of V *buy* as ‘to do what is required to perform a buy/purchase or to acquire a buy/a possession‘, then that N would seem to be semantically-conceptually more complex than the corresponding V for these speakers.

And similarly if the meaning of *kill* is defined as ‘to cause to die‘, and that of *die* as ‘to cease to be alive‘, and that of *dead* as ‘not alive‘.

If in the case of N–V pairs such as *travel* and *journey*, their N and V meanings turn out to be interdefined with equal ease (and perhaps with equally little gain: *to* ***travel***/*journey* means ‘to make travels/journeys‘, *travel*/***journey*** means ‘acts of travelling/journeying‘), this would confirm that the direction of derivation, on semantic-conceptual grounds, indeed is two-ways (but still directed).

- FORMAL COMPLEXITY: greater of derivatives than of bases

X is morphologically derived from Y (asymmetrically related to Y)
if X is the result of **any** kind of formal operation performed on Y

- segmental-additive
  (including reduplication: affixation of abstract affixes)
- segmental-subtractive
- segment-modificational
- suprasegmental-modificational
- segment reordering (metathesis: which order is basic?)
- segment replacement – recognisable as directed if there is an asymmetric formal pattern (e.g., replacing vowels are always front/high regardless of PoA of replaced vowels)
- stem replacement (But is suppletion directional? Which stem is basic? determined in analogy with non-suppletive expression of the same semantic relation?: *mara* 'woman' basic – *nisa* woman.PL derived because of *triq* 'road' – *triq-at* road.PL, *bniedem* 'man' – *bnedm-in* man.PL, *tifel* 'boy' – *tfal* boy-PL etc.)

being derived should also subsume

- phonological, semantic, morphosyntactic specification of underspecified representation (i.e., words derived from roots)

generalised:

- being derived means being associated with **any** distinct formal pattern of any kind that is also used for other lexical items to express the same meaning difference (including particular CVCVC patterns)
- being basic means not being limited to any particular dedicated formal pattern, except those constraints holding for the vocabulary as a whole

- e.g., Engl A's *colourful*, *beautiful* are more complex than N's *colour*, *beauty*, insofar as they have a suffix added
(which is probably at odds with other considerations in the case of *beautiful*, designating a property, and *beauty*, designating an abstract quality, with quality conceptually more complex than property and the corresponding word more frequent);

- e.g., German N *Studi*, student jargon for 'student', is more complex than N *Student*, the regular term, insofar as
(i) it has additional segmental substance, contributed by suffix *-i*;
(ii) it has undergone segmental reduction, viz. to a maximal syllable
(formally, the asymmetry consists in /ʃtud/ being predictable from /ʃtu.dɛnt/, but not the other way round);

- e.g., Engl V *house* /haʊz/ is more complex than N *house* /haʊs/ insofar as it has undergone voicing of its final fricative (assuming that the final fricative is lexically voiceless);

- e.g., German weak/transitive verbs (such as *fäll-en* 'to fell', 3SG PRES *fäll-t*, PAST *fäll-t*; *erschreck-en* 'to frighten', 3SG PRES *erschreck-t*, PAST *erschreck-t*-) are formally more complex than corresponding strong/intransitive verbs (*fall-en* 'to fall', 3SG PRES *fäll-t*, PAST *fiel-*; *erschreck-en* 'to be frightened', 3SG PRES *erschrick-t*, PAST *erschrak*-) insofar as they undergo a dissociation of specification of (lexically underspecified) stem vowels from morphological categories, and instead have their stem vowels specified by phonological default (Plank & Lahiri 2015);

- e.g., Engl N's *bin*, *buy* and V's *bin*, *buy* are formally equally complex (conversion), despite clear conceptual-semantic asymmetries; and ditto for N's *travel*, *journey* and V's *travel*, *journey*, which seem conceptually-semantically more symmetric.

- Maltese *kbir* A 'great, large' – *kobor* N 'greatness':

the pattern/binyan CoCoC is not limited to a particular meaning:
e.g., *ġobon* 'cheese', *hoġor* 'lap', *xogħol* 'work' (N), *ħomor* 'red', *boloh* 'foolish'

the pattern CCiC is not limited to a particular meaning either:
e.g., *fqir* 'poor', *żbib* 'raisin', *inbid* 'wine';

everything else (e.g., more segmental substance in CoCoC) is irrelevant.

- Maltese *kittieb* N 'writer' – *kiteb* V 'he wrote':

the pattern/binyan CiC'CieC is limited to a particular meaning, hence non-basic: 'person habitually/professionally performing the action designated by the root or its verbal specification';
e.g., *nissieġ* 'weaver', *giddieb* 'liar';

the pattern CiCeC is not limited to a particular meaning, hence basic.

- MORPHOLOGICAL REGULARITY:
  derivatives are morphologically regular, subject to general rules (defaults);
  bases are possibly irregular, subject to specific rules or constraints
  - e.g., Engl V *buy*, irregular PAST *bought* – N *buy*, regular PL *buy-s* [z];
  - e.g., Engl N *foot*, irregular PL *feet* – V *foot*, regular PAST *foot-ed*;
  - e.g., German intransitive V *fallen*, *erschrecken* PAST *fiel-*, *erschrak-* strong (Ablaut) – transitive/causative V *fällen*, *erschrecken* regular PAST *fäll-t-*, *erschreck-t-* weak (uniform dental suffix);
  - e.g., *Stuhl* M 'chair', *Bank* F 'bench', *Bett* N 'bed', with genders assigned lexically – DIMIN *Stühl-chen*, *Bänk-chen*, *Bett-chen*, all N, with uniform gender due to DIMIN.

- SEMANTIC WORD-CLASS PROTOTYPICALITY:
  (tends to be) greater of bases than of derivatives

  The meaning of Engl V *cheat* 'to behave in a dishonest way in order to get an advantage' conforms to what words of this word class prototypically mean in this language with a three-way distinction of major lexical word classes (V, A, N):
  - verbs are words prototypically designating actions (activities, achievements, accomplishments), perceptions, sensations;
  - nouns are words prototypically designating persons, things, places;
  - adjectives are words prototypically designating properties and states.

  The derivationally related Engl N *cheat* with the sense 'person who cheats' equally shows the prototypical semantics of its word class, N, designating persons, and cannot be assumed to be derived from the corresponding V **on these grounds**.

  (On the grounds of definability, however, it can: *a cheat* is 'a person who cheats', while it would be odd to define the meaning of *to cheat* as 'to behave in the manner of cheats'.)

The Engl N *cheat* in the sense ‘an act of cheating or deception‘, on the other hand, though designating a spatio-temporal particular namely an act or event, does not designate something concrete in the manner prototypically associated with the word class N in English; *cheat* in this sense ‘an act of cheating or deception‘ does not instantiate the prototypical meaning of its word class (N), while *cheat* in the sense ‘to behave in a dishonest way in order to get an advantage‘ does (V): hence the former is assumed to be derived and the latter to be basic.

In a similar vein, comparing Engl V–N conversion pairs such as *bin* – *bin* and *dump* – *dump*, designating actions and places respectively, V *bin* is less prototypically verbal than V *dump* is insofar as its meaning, while an action, has a nominal component, namely that specifying the place where something is to be moved;

hence, the asymmetry between V *bin* and N *bin* would, on these grounds, be less marked than that between wholly verbal V *dump* and wholly nominal N *dump*.

- SEMANTIC SPECIFICITY AND SYNTACTIC LIMITATIONS OF DERIVATIVES ACCRUING FROM BASES, but not the other way round

  e.g., in English V *bin* 'to get rid of something undesirable by putting it in a bin' is derived from N *bin*,
  whereas N *dump* 'a place where something undesirable is deposited and thereby gotten rid of' is derived from V *dump*.

  The semantic relationship between the two N–V pairs is parallel:
  N 'a place (receptacle) where something undesirable (rubbish) is gotten rid of' – V 'to get rid of something undesirable by putting it in a designated place' (unclear which is conceptually basic and derived).

  But when V is derived, it is more specific insofar as the place of disposal – an oblique/adverbial object if expressed overtly – must literally be what the basic N designates, a bin (**They binned their litter in a pond*); when V is basic, there is no such limitation accruing from the corresponding derived N (*They dumped their rubbish in a pond*).

- generally, INHERITANCE:
  derivatives may inherit (something phonological, morphological, syntactic, or semantic) from their bases, but not the other way round

- generally, CONSTRAINTS:
  derivatives may be subject to constraints specifically on inputs or outputs of derivation, which would not be applicable to bases (with bases not outputs nor necessarily inputs of derivation)*

* An example where it appears to be the other way round (Don 2005):
In Dutch, there is a constraint on basic verbs:
their stem must not end in a monophthongal full vowel;
zero-derived denominal verbs, however, are not subject to this constraint:
koffie-en 'to drink coffee', *kano-en* 'to canoe', *taxi-en* 'to go by taxi'.

- FREQUENCY: higher for bases than for their derivatives;

  diachronically:
  what occurs more frequently is likelier (in the long run) to have become a basic expression than what occurs less frequently.

  What then remains to be accounted for is why something is more frequent than something else – for reasons of perceptual or cultural salience, cognitive simplicity, ...

  e.g., Which is more frequent, N *beauty* (more complex conceptually [?] and less complex formally), *length* (more complex conceptually [?] and also more complex formally) or A *beautiful* (less complex conceptually [?] and more complex formally), *long* (less complex conceptually [?] and also less complex formally)?

N *journey* is presumably more frequent than V *journey*,
while V *travel* is probably more frequent than N *travel(s)*,
tipping the scale in favour of recognising one-way directionality even in such cases where one might otherwise accept mutual derivation (N –> V with *journey*, V –> N with *travel*).

But the differences may be small, which raises the question of where to draw the line when frequency asymmetries acquire structural relevance and motivate directions of derivation.

- HISTORICAL PRIORITY: bases earlier than their derivatives

  Does this matter, given that learners/speakers will lack synchronic clues to relative chronologies (unless they have a chance to naively practise internal reconstruction)?

  And there are backformations:
  e.g., Engl. V *televise* backformed from N *television*,
  Lat N *pugn-a-* 'fight' backformed from V *pugn-a-re* 'to fight' (itself originally derived from *pugn-u-s* 'fist').
  Are there synchronically also instances of formally-simple(r) derived from formally-complex?
  If so, probably not forever. But at what point is the direction of derivation reversed to formally-complex from formally-simple?

Backformation as a synchronic concept?
cf. German V *AN-erkennen* ‘formally acknowledge’:
derived from V *erKENnen* ‘recognise‘ through preverb *AN*, which gets main stress owing to compound stress rule;
or backformed from N [*AN-erkenn*]-*ung* ‘formal acknowledgment‘?
evidence: preverb unseparated: *Österreich AN-erkennt Palästina*, rather than or alongside *Österreich erkennt Palästina AN* ‘Austria acknowledges Palestine’

Expand:
Why the coincidence between morphological irregularity and basicness, esp word-class-typical meaning?

e.g. foot, PL feet; man, men; woman, women; mouse, mice; goose, geese;

V. How is the direction of derivation determined? Is it predictable? [skip most of this]

Given a semantic opposition encoded through derivation, is the direction of derivation predictable

- for all particular lexeme pairs participating in this semantic opposition?
- for each particular language?
- for all languages alike, unconditionally or perhaps depending on other typological parameters?

predictability by language:

(A) ROOT-languages, where both NOUN and VERB realise underspecified ROOTS and neither is derived from the other (but there can still be N-to-V and V-to-N derivation once word class has been specified – unpredictable?)
(B) NOUN- and VERB-deriving languages: direction unpredictable
(C) NOUN-deriving languages: uniform direction of derivation
(D) VERB-deriving languages: uniform direction of derivation

Optimistic answer: Yes!

Two grounds for optimism:

A. **Iconicity** rules ok.

Since it is [obviously] semantic-conceptual complexity which is the determinant [Is it?], directions are predictable and will be universally the same for any given asymmetric (non-equipollent) categorial opposition.

B. **Minimal Effort** rules ok.

For any categorial opposition, one or the other opposite will occur more frequently depending on the lexeme, and this will be expressed in the simplest way possible (as a basic lexeme), with the less frequent meaning expressed in a more complex way (as a derivative) for this pair of opposites.

Pessimistic answer: No.

It's not predictable, neither universally nor language-particularly, but what is basic and what derived has to be determined
(i) language by language, (ii) derivational category by derivational category, (iii) even lexeme by lexeme.

The reason it that what needs to be **derived** depends on what is available as **basic**, i.e., on what is lexicalised as part of the **basic vocabulary** of a language.
(Which **is** a way of predicting, after all!)

And (basic) vocabularies are random and haphazardly assembled historical archives.

(But are they? Isn't cognitive-cultural **salience** a reasonably accurate predictor of lexical basicness?)

Probably the **right** answer, as usual: It depends,

namely on the categories concerned and on the lexical-semantic fields where such derivation occurs.

For some categorial oppositions [but why these and not others?] and for some lexical-semantic fields [again: why these and not others?], the direction of derivation is predictable [but on which grounds: iconicity or minimal effort?] – within a language, for certain types of languages, and probably even universally.

VI. N/V conversion: Systematics (German)

The point to be made here is this:

- German (equally English) has basic lexical units specified as N or V.
- German (equally English) also has basic lexical units not so specified ("pre-categorial roots").
- When a lexical unit is involved in a derivational relationship where the N partner has a meaning that is prototypical for that word class, designating something **concrete** (visible and tangible) rather than abstract, then this unit is likely to be lexically specified as N.
  The reverse effect for units where the **V** partner has prototypically verbal meaning, designating **actions/achievements/accomplishments** or **states**, is less strong.
  When no partner in a N-V derivational relationship, or only V, has prototypical word class meaning, then lexical underspecification is likely.

And a subsidiary point:

- Morphological irregularity and default assignment to morphological classes (such as genders, or also clas inheritance) are among the strongest indicators of being basic and derived respectively.
  It is striking how consistently these indicators match with prototypical word class semantics.

A. a. Clear cases of N –> V conversion / without umlaut or other stem vowel change (e/i alternation, ablaut)

- The semantics of N –> V conversion is "contextual", and, roughly, predictable if you share the relevant cultural knowledge: the verb designates an **action** or **state** typically associated with what the noun designates;
  e.g., blood – flow, fish – catch, louse – get rid of.
  (I don't include cases where the verb meaning is more on the idiosyncratic side: Hut 'hat' –> hüten, Hecht 'pike' –> hechten, Wurm 'worm' –> wurmen, Maus 'mouse' –> mausen, Fuchs 'fox' –> fuchsen, Buch 'book' –> buchen.)
- The **gender** of **nouns** is irrelevant; i.e., all genders occur as bases – though feminines aren't so numerous among the monosyllabic nouns included here, because many feminines end in -e (die Geige 'violin' –> geigen).
- The **inflection class** of **verbs** is relevant: all derived verbs in German are **weak** (although not all weak verbs are necessarily derived).
- **Stem vowel alternations** are also relevant, at least this has been assumed: in derivationally related words where one has its stem vowel umlauted or e-to-i alternated and the other one hasn't, the assumption is that umlaut and e/i alternation are indicators of derivedness. (I have my doubts; see B.bb and C.b.)

- N designates something CONCRETE/SOLID

(der) Knecht	–>	knechten	
(der) Fisch	–>	fischen	
(die) Laus	–>	lausen	
(das) Haus	–>	hausen	
(das) Zelt	–>	zelten	
(das) Salz	–>	salzen	(N more a mass than an individual)
(der) Rost	–>	rosten	(N more a state of a thing than itself a thing)
(das) Blut	–>	bluten	(N not solid)
(das) Los	–>	losen	(N concrete? in one sense: lot which you draw)
(der) Film	–>	filmen	(N concrete?)

- N doesn't designate something CONCRETE/SOLID

(der) Durst	–>	dursten	
(der) Tag	–>	tagen	(ambiguous, also back-formation of Tag-ung 'meeting')
(der) Blitz	–>	blitzen	
(der) Qualm	–>	qualmen	
(der) Rauch	–>	rauchen	
(der) Ruß	–>	rußen	
(der) Staub	–>	stauben	(cf. Salz)
(die) Flut	–>	fluten	
(das) Öl	–>	ölen	(N already with umlaut)
(der) Lärm	–>	lärmen	(N already with umlaut)
(der) Plan	–>	planen	

A. b. Clear cases of N –> V conversion / with umlaut or e/i alternation

• N designates something CONCRETE/SOLID:

(die) Haut	–>	häuten
(der) Kopf	–>	köpfen
(der) Kamm	–>	kämmen
(das) Nest	–>	nisten
(die) Schnur	–>	schnüren

• N doesn't designate something CONCRETE/SOLID:

(die) Zahl	–>	zählen	
(der) Durst	–>	dürsten	
(der) Sturm	–>	stürmen	
(die) Luft	–>	lüften	
(der) Trost	–>	trösten	(or "unclear"?)

B. a. Clear cases of V –> N conversion / without stem vowel change

- The semantics of converted nouns is that of (an **occurrence** of) an **action/act** [nomina actionis/acti, Handlung/Vorgang] and/or a **result**.
  As in the case of N –> V, derivatives with more idiosyncratic meaning are excluded: hängen –> der Hang (with both senses, 'inclination' and 'slope', unpredictable from the V sense 'hang'), besuchen –> der Besuch 'person(s) visiting' (with 'visiting event' as the predictable sense).
- The **gender** of such nouns is normally **masculine**, and masculine could therefore be taken for an indicator of derivedness (the default for these kinds of meaning).
  But there are also **feminines**, if mostly in -e: bitten –> die Bitte, suchen –> die Suche, wenden –> die Wende; without -e: rasten –> die Rast, hasten –> die Hast, schauen –> die Schau, brüten –> die Brut.
  Even rarer are **neuters**: loben –> das Lob, baden – das Bad, leiden – das Leid, spielen – das Spiel. With many of them it would seem "unclear" whether they are V –> N or N –> V, which would confirm the value of masculine as an indicator of derivedness.

- The **inflection class** of verbs is irrelevant: both weak and strong verbs are possible bases.

bauen	–>	der Bau	(N CONCRETE/SOLID, when a result)
fangen	–>	der Fang	(N CONCRETE/SOLID, when a result)
kaufen	–>	der Kauf	(N CONCRETE/SOLID, when a result)
laufen	–>	der Lauf	
fallen	–>	der Fall	
fluchen	–>	der Fluch	
raten	–>	der Rat	
schreien	–>	der Schrei	
scherzen	–>	der Scherz	
rufen	–>	der Ruf	
blicken	–>	der Blick	
scheinen	–>	der Schein	
marschieren	–>	der Marsch	(V with -ier extension; therefore N –> V?)

B. b. Clear cases of V –> N conversion / with ablaut

- For this subpattern the **inflection class** of verbs **is** relevant: only **strong** verbs are possible bases – even though the stem vowels of converted nouns are not always ones from the ablaut series of the corresponding verb (e.g., V brechen, brach, gebrochen – N Bruch; V stechen, stach, gestochen – N Stich).
  (Well, weak verbs with so-called Rückumlaut aren't so different synchronically: absetzen –> Absatz, ausschenken –> Ausschank, aufwenden –> Aufwand.)

brechen	–>	der Bruch
schießen	–>	der Schuss
werfen	–>	der Wurf
fliegen	–>	der Flug
finden	–>	der Fund
springen	–>	der Sprung
wachsen	–>	der Wuchs
schwören	–>	der Schwur
zwingen	–>	der Zwang
klingen	–>	der Klang

stechen	–>	der Stich
beissen	–>	der Biss
pfeifen	–>	der Pfiff
saugen	–>	der Sog

B. bb. Clear cases of V –> N conversion / with umlaut undone

(Or are these "unclear" cases? A bit unclear ...)

- **Inflection class** of verbs always **weak**.

drücken	–>	der Druck	(also: drucken –> Druck?)
drängen	–>	der Drang	
höhnen	–>	der Hohn	
(be)trügen	–>	der (Be)Trug	
(ein)führen	–>	die (Ein)Fuhr	(N feminine!)
fürchten	–>	die Furcht	(N feminine!)

C. a. Unclear cases of direction of conversion / without umlaut or other stem vowel change (e/i alternation, ablaut)

- **Inflection class** of verbs weak or (more rarely) strong.

teilen	–	der Teil	("clear" N –> V for Fleischer & Barz 1992: 307)
hassen	–	der Hass	("clear" N –> V for Fleischer & Barz 1992: 307)
dampfen	–	der Dampf	("clear" V –> N for Fleischer & Barz 1992: 305)
schlagen	–	der Schlag	
schmerzen	–	der Schmerz	
loben	–	das Lob	(N neuter; see above, B.a)
spielen	–	das Spiel	(N neuter; see above, B.a)
brunchen	–	der Brunch	
frusten	–	der Frust	
rufen	–	der Ruf	(according to Fleischer & Barz 1992: 210, above listed as "clear" V –> N)

C. b. Unclear cases of direction of conversion / with umlaut

- **Inflection class** of verbs always weak.

küssen	–	der Kuss	
grüßen	–	der Gruß	("clear" N –> V for Fleischer & Barz 1992: 307)
tönen	–	der Ton	
strömen	–	der Strom	(electric, water)
stürzen	–	der Sturz	
träumen	–	der Traum	
schäumen	–	der Schaum	("clear" N –> V for Fleischer & Barz 1992: 307)
zürnen	–	der Zorn	
kämpfen	–	der Kampf	
glänzen	–	der Glanz	
schützen	–	der Schutz	("clear" N –> V for Fleischer & Barz 1992: 307)

Also when noun is feminine? (Or are these "clear" cases of N –> V?)

quälen	–	die Qual	("clear" N –> V for Fleischer & Barz 1992: 307)
wählen	–	die Wahl	
wüten	–	die Wut	
fürchten	–	die Furcht	
schämen	–	die Scham	
züchten	–	die Zucht	
lügen	–	die Lüge	(with -e, N with umlaut; V strong!)
ehren	–	die Ehre	(with -e)
sorgen	–	die Sorge	(with -e)

empirical evidence

– speaker judgments
– experimental psycho- and neurolinguistic evidence (PhD theses of Jeannique Darby 2014, Oxford: priming, Nadine Tema 2015, Konstanz: EEG)

VISUAL MASKED PRIMING
Darby p194 list of items, test items p204
p198 method masked priming

PRIME:	biting	TARGET:	to bite / a bite
	nesting		a nest / to nest
filler pairs:	carver		to carve

results p229

AUDITORY DELAYED PRIMING 237ff

primes:	[[[nestN]V]ing]	target: a nest / to nest
	[[biteV]ing]	a bite / to bite

results p260

277ff experiment concerning non-directional conversion

p287-289 list of items

p301-303
results p309

VII. Some history: Diachronic reversals of basic and derived

Asymmetry: Derived nouns are frequently re-analysed as basic, with direction of derivation subsequently reversed to N –> V; but derived verbs are rarely re-analysed as basic.

(i) Regardless of eventual word class, many words originate as verbs (or as expressives/ideophones), at the earliest times for which word histories can be reliably ascertained.

(ii) From such verbal bases, nouns are derived through synchronically regular derivational morphology – action, result, agent/patient, instrument, location nouns.

(iii) Non-basic and formally complex at their own origin as the products of derivation, such nouns can then, at some point, be reanalysed as basic monomorphemic words.

(iv) From such newly basic nouns, verbs can be productively zero-derived.

Diachronically speaking, for languages like the Germanic ones, there is something verbal in many nouns, but not vice versa.

When words begin life as basic nouns, then verbs can be derived from them, but here the story would typically seem to end, with derived verbs rarely reanalysed as basic. Being a derived verb would seem to be a relatively time-stable state of affairs: reanalyses as basic verbs will not happen so often and so quickly.

Being a derived noun is **not** a very time-stable state: especially when their meaning is of a prototypical nominal kind (designating a person or thing: something concrete: visible and tangible), such deverbal nouns are prone to be reanalysed as basic.

A. current basic nouns, originally derived from verbs or adjectives

Geige	late OHG gīga, < Germ V *geigan '(sich) hin und her bewegen'
Haus	Germ N *hūsa- < *kūso- < s-extension of IE root *(s)keu 'bedecken, umhüllen'
Zelt	verbal noun from strong verb Old Frank. *tëldan 'decken'; cf. E tent, << Fr tente < Gallo-Rom *tendita, Lat tendere 'spannen'
Rost	nominalisation by suffix -st from Adj Germ *rud- < *rudh- 'rot', i.e., 'das mit Rot verbundene'
Blut	< IE root *bhlē- 'quellen', participle *bhlōtō 'Gequollenes'
Hand	nominalisation derived from a verb, **khand-u-z* 'the one for holding, grasping' (with declension-class suffix *-u* and nominative singular suffix *-z*)
Los	Germ strong verb, e.g. OHG hliozzan, liozan 'erlosen, erlangen; wahrsagen', *hlut- 'festhaken'
Tag	Germ *daga- 'lichte Zeit', IE *dheguh-, *dhoguh- verbal? 'brennen'?

Blitz	from verb, MHG bliczen < OHG blëcchazzen 'blitzen', from N OHG blic 'Glanz, Blitz, Blick der Augen' ('heller Strahl'), root pre-Germ *bhleg-
Qualm	Grundbedeutung 'das Hervorquellende', from V quellen
Staub	< strong verb stieben
Flut	Germ *flōdus, IE root *plō- 'fließen, schwimmen, schiffen'
Lärm	Early NHG V (???) larman, lerman << It. allarme, Fr. alarme 'zu den Waffen!'
Haut	Germ *hūþi-, IE root *keut-, *(s)keut-, root *(s)keu- 'bedecken, umhüllen'
Nest	*nizdo- < ni-zdos, with root *sed- 'sitzen, sich setzen' and ni- 'nieder', thus lit. 'Niederlassung'
Schnur	IE root *(s)ner- 'drehen, winden'
Durst	abstract noun derived from Adj Goth *þaúrsta- 'durstig'
Sturm	Germ *sturm- 'Unwetter' < stur-m 'Störung' (cf. E stir, G stören)

Luft	Etymologie dunkel
Trost	Germ *trau-sta- < *drou-sto- (cf. treu, trauen, E trust)
Aas	originally deverbal, < essen
Abend	< der hintere/spätere Teil des Tages
Achse	< Verbstamm *ag- 'mit geschwungenen Armen treiben'
Achsel	
Acker	'Weideland', wohin Vieh getrieben wird
Arm	< 'fügen, passen'
Auge	< 'sehen'
Art	< 'fügen, passen'
Ähre	< 'spitz sein'
Alge	< 'modern, faulen'
Anke	(=Butter) < 'salben'

Angel < 'biegen, Krümmung'

Anker

Axt < 'scharf'

Arbeit < 'ein verwaistes Kind sein (deshalb zu harter Arbeit verdingt)'

Asche < 'trocken, heiss sein'

Ast < 'was (am Stamm) ansitzt'

Atem < früh fehlender Verbstamm plus Suffix -mó-

historically (OHG, Wilmanns 1899: 176ff), **V –> N**
(Why? because there was THEN no N –> V derivation otherwise [???])

stiuren	stiura	'Steuer'
salbôn	salba	'Salbe'
schrûben	schrûbe	'Schraube'

B. current basic verbs, originally derived from nouns or adjectives

kaufen	< nomen agentis OHG koufo 'Händler' << Lat caupo 'Schenkwirt, Höker'
stechen	IE root *steig- 'stechen; spitz', extension from *stei- 'spitzig', that is, originally an Adj
pfeifen	<< Vulg. Lat pīpa 'Schalmei', from pipāre 'piepen' (of birds), from expressive for cry of young bird (delocutive), 'to cry [pi:p]'
höhnen	OHG Adj *hōn 'verachtet', IE root *kau- 'erniedrigen, demütigen; Schande, Scham' < local meaning 'niedrig'
leiden/Leid	N: IE root *leit- 'verabscheuen; Frevel' V: Germ *līðan 'gehen', IE root *leit(h)- '(fort)gehen, sterben' [???]

C. current basic status of N or V unclear

teilen/Teil	originally a N, *dhai- 'Teil'
hassen/Hass	IE root *kād- 'seelische Verstimmung, Kummer, Hass'
dampfen/Dampf	IE root *dhem- 'stieben, rauchen; Rauch, Dunst, Nebel', i.e., ambivalent between V and N
spielen/Spiel	OHG spil 'Spiel' < 'Tanz' (originally a N?)
küssen/Kuss	IE expressive *ku(s)-
stürzen/Sturz	IE *ster- 'starr' > 'steif gehen' > 'stolpern, fallen' > 'umkehren, so dass das Oberste zu unterst kommt'
kämpfen/Kampf	<< Lat campus 'Schlachtfeld'
glänzen/Glanz	Germ *glent < *ghlend, something to do with seeing, probably not nominal or adjectival
wüten/Wut	OHG N wuot 'Raserei', Adj wuot 'rasend'; OE wōþ 'Stimme, Gesang', ON ōðr 'Leidenschaft, Poesie', N!

sorgen/Sorge IE *suergh- 'sorgen, sich um etwas kümmern' < N/Adj 'körperliche, dann seelische Gedrücktheit, mürrisches Wesen als Folge von Krankheit'

(Source: Kluge, Etymologisches Wörterbuch der deutschen Sprache)

Direct reversals of direction of derivation between N and V?

like this:
t_1: V bauen –> N Bau
t_2 N Bau –> V bauen

instrumental V – instrumental N
V –> N ?
V <– N ?

bürsten	die Bürste	(Bürst-e, with derivational suffix?)
fesseln	die Fessel	(no overt suffix -e after bisyllable?)
knebeln	der Knebel	(masc!)
kurbeln	die Kurbel	
feilen	die Feile	(Feil-e)
peitschen	die Peitsche	(Peitsch-e)
pfeifen	die Pfeife	(Pfeif-e)
salben	die Salbe	(Salb-e)

schaufeln	die Schaufel	
wippen	die Wippe	(Wipp-e)
schmieren	die Schmiere	(Schmier-e)
schminken	die Schminke	(Schmink-e)
bohren	der Bohr-er	clearly V –> N
rasieren	der Rasier-er	
fliegen	der Flieg-er	
jetten	der Jet	clearly V <– N
faxen	das Fax	
telefonieren	das Telefon	
smsen	das SMS	
morsen	Morse	(proper name)
(ein)wecken	Weck	
...		

(cf. Eschenlohr 1999: 53-54)