The question:
Can any generalisations be made about the direction of derivation?

concerning

- (particular senses of) (particular subsets of) particular lexemes,
- particular (subsets of) derivational categories,
- particular lexeme (=word) classes;

- for particular languages,
- across some languages (delimitable as subsets on independent grounds),
- across all languages.

To exemplify:

In Italian, the noun *uccis-ore* 'killer' is derived from the verb *uccid-* 'to kill'.

Is this an observation about a particular couple of lexemes of a particular language, one happening to be a verb and the other a noun, a verb of action and an agentive noun, to be precise? Or are these particular facts the way they are because this is what is dictacted by general patterns? That is, are the answers to questions like the following in the affirmative?

- When AGENTIVE NOUNS and VERBS OF ACTION are derivationally related in Italian, are agentive nouns always derived from verbs, rather than vice versa?
- When NOUNS and VERBS are derivationally related in Italian, whichever the derivational category, are nouns always derived from verbs, and never verbs from nouns?
- Are the directions of derivation, for particular or for all derivational categories, the same in some or all other languages, too, rather than derivation in ITALIAN being unique in point of direction?

Prelim: **Derivation is inherently directional**

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:

- (underspecified) sense(s); [polysemy]
- (underspecified) form(s); [allomorphy]
- categorial (under-)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,

* There appear to be languages where (all?) lexical units – the units that grammar operates on – are pre-categorial ("roots"); directionality here is a matter of categorially specifying roots, not of altering the word class of lexical units.

"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.

Which is perhaps to be distinguished from "derivedness", an asymmetric relation holding when both derivationally related lexemes are lexicalised, rather than only one being stored in memory and the other being productively derived from it on the spur of the moment.

"Derivation" and "derivedness" must be recognised as being 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.

The relation between derivationally related lexemes remains fundamentally asymmetric even when it cannot be unambiguously determined as being either one way or the other: in such instances the direction goes both ways and derivation/derivedness is "mutual".

(For example, when we seek to determine whether the English nouns *travel* and *journey*, designating acts, are derived from the corresponding verbs *travel* and *journey*, designating actions, or vice versa, and neither option can be safely discarded, why not accept that derivation/derived-ness is mutual.)

There remains a further question, namely whether derivation perforce involves all properties of lexemes – their sense(s), form(s), and categorial specification(s) – or may individually only target some.

It would seem reasonable, for instance, to allow derivation to only target individual senses, rather than all senses, in the case of polysemous lexical items (Plank 2008).

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

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

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

  • 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, to be dealt with presently, 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 2009);

- e.g., Engl N's *bin*, *buy* and V's *bin*, *buy* are formally <u>equally complex</u> (conversion), despite clear conceptual-semantic asymmetries; and ditto for N's *travel*, *journey* and V's *travel*, *journey*, which seem conceptually-semantically more symmetric.
- e.g., Engl transitive/causative V *kill* and intransitive V *die*, Engl basic A *bad* and comparative A *worse* are formally <u>equally complex</u> (suppletion), despite conceptual-semantic asymmetry.

- 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 (and the genders here are different for these designations of furniture, notwithstanding certain regularities for the assignment of gender elsewhere) – DIMIN *Stühl-chen*, *Bänk-chen*, *Bett-chen*, all N, with uniform gender due to DIMIN.

- 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.

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 sort of 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* with (end-)state (A) morphologically less complex than change-of-state (V), 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 (hence tangible) and semantic-conceptual complexity which raise the question of how semantic-conceptual complexity is to be established in the first place, even if it is admitted to not completely determine the direction of morphological derivation/derivedness.

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?

Are the answers dependent on linguistic structures of the languages concerned (in particular, on generalisations about what is expressed through morphologically and syntactically basic expressions)?
Or are they subject to cultural 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 <u>not</u> 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.

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

  To exemplify what is potentially a subtle and elusive asymmetry, and one of limited scope for determining directions of derivations:

  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 on these grounds cannot be recognised as

derived from the corresponding V. (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, is seen to be derived on these grounds: though designating a spatio-temporal particular such as an act or event, it does not designate something concrete in the manner prototypically associated with the word class N in English.

In a similar vein, comparing Engl V–N conversion pairs such as *bin* – *bin* and *dump* – *dump*, designating actions and places respectively, one could note that the V *bin* is less prototypically verbal than V *dump* insofar as its meaning, while an action, has a nominal component, namely that specifying the place where something is to be moved (see next point); 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 in fact 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 <u>not</u> 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;
  or rather the other way round, looked at diachronically:
  what occurs more frequently is likelier to be (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' (originally derived from *pugn-u-s* 'fist').
  Are they synchronically also instances of formally-simple derived from formally-complex? Probably not forever. But at what point is the direction of derivation reversed to formally-complex from formally-simple?

With direction of derivation/derivedness seen to be multi-factorial, with the several factors not always neatly correlated, back to our question:

How is the direction of derivation determined? Is it predictable?

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

- for all particular lexeme pairs participating in this semantic opposition?
- for each particular language (i.e., with languages randomly differing from one another)?
- for all languages alike, unconditionally or perhaps depending on other typological parameters?

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 has to be determined language by language, derivational category by derivational category, lexeme by lexeme even what is basic and what derived.

The reason it that what needs to be derived depends on what is available as basic, i.e., on what happens to be lexicalised as part of the basic vocabulary of a language.
And basic vocabulary is random.
[Is it? Isn't cognitive-cultural salience a reasonably accurate predictor of 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 and probably also universally.

Interlude (needs elaboration): What are possible derivational categories?

Functions of derivation (generally speaking: expressive enrichment, vis-à-vis existing basic vocabulary, subject to the demands of syntax) – and what this may mean for direction of derivation

- Through derivation expressions are created for those relational-syntactic slots for which basic lexemes are missing.
- Through derivation expressions are created which can be used in syntactic slots different from those of the corresponding basic lexemes – in particular:
  - (i) process/state and (ii) result nominalisations of verbs, and vice versa, "contextual" verbalisations of nouns;
  - abstract-quality nominalisations of adjectives/adverbs, and vice versa, property adjectivalisations of nouns.

- Through derivation expressions are created which are in cognitively / culturally salient paradigmatic relations to each other, when basic lexemes expressing concepts thus related ("suppletion") are missing:
  - pre-state, change-of-state, post-state;
  - opposites (negation, reversative, converse, ...);
  - individual, collective;
  - affective/evaluative modification (diminutive, augmentative);
  - ...

relational semantic-syntactic frames (cf. "Begriffsschema" in Plank 1980)
(with basic lexemes underlined)

arguments		**circumstances**	
Sbj/PAT	**$V_{intrans/inact}$**	**Adv/INS**	**Adv/PLACE**
±ANIMATE	**BE**		
stand-ee	stand		stand
sleep-er	sleep	sleeping-pill	sleep-er
island-er	live-in		island
person	bleib-		Bleib-e
London-er	be (from)		London
Turk-	be (from)		Turk-ey
biolog-ist	be (in)		biology
Philosoph (???)	be (in)		Philosoph-ie
Wind	weh-		
wind	blow		

Sbj/AGT +ANIM	**$V_{intrans/act}$ ACT**	**Adv/INS**	**Adv/PLACE**
act-or	act		
sail-or	sail	sail	
whistl-er	whistle	whistle	
Pfarr-er	(wirk-)		Pfarr-e/-ei
Flieg-e	flieg-		

Sbj/AGT +ANIM	**dObj/effPAT –ANIM**	**V_{trans} MAKE/TELL**	**Adv/INS –ANIM**	**Adv/PLACE –ANIM**
Dicht-er	Ge-dicht/Dicht-ung	dicht-		
poet	poet-ry	compose/write		
Lügn-er	Lüg-e	lüg-		
Säng-er	Ge-sang/Lied	sing-		
Bäck-er	Ge-bäck	back-		Bäcker-ei
Konditor	Kuchen	back-		
Käs-er	Käse	käs-		Käs-er-ei
person	thing	säg-	Säge	Säge-werk
Gärtn-er	Garten	gärtn-er-		Gärtn-er-ei
Först-er	Forst	forst-		Först-er-ei
build-er	build-ing	build		
cook	cook-ie/cake	cook	cook-er	
person	question	ask	questionn-aire	
		answer		

Sbj/AGT +ANIM	**dObj/affPAT ±ANIM**	**V_{trans} DO**	**Adv/INS –ANIM**	**Adv/PLACE –ANIM**
employ-er	employ-ee	employ		
person		hammer	hammer	
person	nail	nail		
person	food	salt	salt	
person	rubbish	dispose-of		rubbish-place
		dump		dump
		bin		bin
person	person/thing		bind-	Bind-e
Detekt-iv	Geheim-nis	entdeck-		Detekt(iv)-ei
Wäsch-er	Wäsch-e	wasch-		Wäsch-erei
eat-er	food	eat		
drink-er	drink	drink		
Trink-er	Ge-tränk	trink-		

Sbj/AGT **±ANIM**	**dObj/affPAT** **±ANIM**	**V_{trans}** **HAVE**	**Adv/INS** **–ANIM**	**Adv/PLACE** **–ANIM**
own-er		own		
possess-or	possess-ion	possess		

Sbj/AGT +ANIM	**dObj/PAT –ANIM**	**iObj/REC +ANIM**	**$V_{ditrans}$ GIVE/TAKE**	**Adv/INS –ANIM**	**Adv/PLACE –ANIM**
giv-er	gif-t	giv-ee	give		
don-or	don-ation		donate		
award-er	award	award-ee	award		
	prize		give		
thief	goods	victim	steal		
robb-er		victim	rob		
begg-ar			beg		
teach-er	lesson	pupil	teach		school
Lehr-er	Lehr-e	Lehr-ling	lehr		Lehr-e

Derived Nouns

N from N

Affective/Evaluational	
Diminutive/Endearment	(hill-ock – hill), It. donn-ina – donna
Augmentative/Pejorative	(earth-ling – earth), It. donn-ona – donna
Hypocoristic	dogg-ie – dog, dadd-y – dad, Charl-ie – Charl(es), book-ie – book(-maker)
Quantificational	
Collective	king-dom – king, neighbour-hood – neighbour brother-hood – brother, professor-ate – professor
Singulative	information – piece of information
Person originating from place	island-er – island, London-er – London, Japan-ese – Japan, Israel-i – Israel
Place inhabited by persons	Slovak-ia – Slovak, Turk-ey – Turk, Den-mark – Dane, Fin-land – Finn, Kazakh-stan – Kazakh

Person habitually doing something relating to thing
hatt-er – hat,
theolog-ian – theology,
trick-ster – trick

Animate being of opposite gender
poet-ess – poet, vix-en – fox, lion-ess – lion

Abstract / State
child-hood – child, infan(t)-cy – infant
friend-ship – friend, relation-ship – relation,
idio(t)-cy – idiot,
slave-ry – slave,
Calvin-ism – Calvin

N from V

Player of semantic role

Agentive
employ-er – employ, sail-or – sail, li-ar – lie,
cook – cook, cheat

Instrumental
cook-er – cook, whistle, rattle

Locative
sleep-er – sleep, two-seat-er, dump, bend

Temporal
spring, fall

Patientive	employ-ee – employ, stand-ee – stand, found-ling – find, deposit, award
Action	arriv-al – arrive, educat-ion – educate, acknowledge-ment – acknowledge, behav-iour – behave, arrest grin, limp
State	consist-ence – consist, bankrupt-cy – bankrupt, modern-ism – modern, fear, desire
?	smell, taste, feel
Result	build-ing – build, propos-al – propose

N from A

Abstract quality	wid-th – wide, kind-ness – kind, real-ity – real, modest-y – modest
Abstract X	false-hood – false, tru-th – true
Person with property	young-ster – young

Derived Adjectives

A from A

Negative	un-wise – wise

A from N

Comparative	child-ish – child, child-like – child, pictur-esque – picture
Manner	friend-ly – friend, book-ish – book, natur-al – nature, Luther-an – Luther, chaot-ic – chaos
Origin/Provenance	Japan-ese – Japan, Turk-ish – Turk,
Proprietive	talent-ed – talent, narrow-minded, gold-en – gold, wooll-en – wool, faith-ful – faith, hungr-y – hunger, wondr-ous – wonder
Non-proprietive	hat-less – hat, faith-less – faith
Modal	knowledge-able – knowledge

A from V

Modal	read-able – read, pay-able – pay, talk-ative – talk
Proprietive?	tire-some – tire
Non-proprietive?	tire-less – tire
Result of change of state:	fade-d – fade, brok-en – break

Derived Adverbs

Adv from A	slow-ly – slow,
Adv from Num (ord)	third-ly – third, doub(le)-ly – double
Adv from N	money-wise – money

Derived Numerals

Ordinal from Cardinal	six-th – six
Multiplicative from Card	six-fold – six
Frequentative from Card	twi-ce – two
Distributive from Card	

Derived Verbs

V from V

Reversative	un-zip – zip
Repetitive	re-read – read
Aspectual	G. hüst-el-n – hust-en

V from N

"contextuals"

Predicate–Sbj Complement, 'be, act as, play the ...'	
	pioneer, mother, referee; ape, dog
	dart, shadow
Pred–Obj Compl, 'make into, put in the form of, convert into; call'	
	lump, cash, malt
	beggar, knight, fool
	sir, madam [delocutive]
Pred-Adv Compl	
ornative	anger, label, butter (= 'provide with')
	pepper, salt
instrumental	brake, hammer, bomb, knife
	mail, bike,

bag, bottle

'deprive of' skin, scale

Pred–Effected Obj, 'produce'

calve, bloom, blot, fume, fish, harvest

gesture, palaver, crusade

Causative length-en – length, beaut-ify – beauty,

diphthong-ize – diphthong

V from A

Change of state (Inchoative, Cessative) dark-en – dark, green – green,

wors-en – worse

ver-blass- – blass, ver-welk- – welk

[other way round in E: A fad-ed from V fade]

Causative black-en – black, ampl-ify – ample,

legal-ize – legal, clear – clear, better – better

V from Preposition/Adverb

out, down, up

V from Interjection (delocutive)

boo, hail, tut-tut

End of interlude. Back to question of predictability of direction.
First example.

POSITIVE–NEGATIVE: predictably, always NEG derived from POS, never the other way round

lexically distinguished, with NEG the marked member of such oppositions:
true – *false* (not true), *have* – *lack* (not have), *husband*/*wife* – *bachelor*/*spinster* (man/woman not married),
G *mit* – *ohne* (not with);
possible (not necessary that not) – *necessary* (not possible that not)
[as only recognised by modal logicians, never by an ordinary language]

syntactically distinguished: an overt negative marker (or several combined markers for emphasis: G *Ich bin noch nie auf keinen Berg nicht geklettert*, or strengthened by a non-negative: *not ... at all*, Fr *ne ... pas*/*point*) added to affirmative expression, rather than an affirmative marker added to negative expressions themselves unmarked.

(Counterexample: South Dravidian languages, where negation can be expressed through the omission of an affirmative verb marker (realis, indicative mood).)

derivationally distinguished: e.g., E *un-* (*un-true*), *in-/iŋ-/im-/il-/ir-* (*im-possible*), *a(n)-/ab-* (*a-moral*, *ab-normal*), *non-* (*non-native*), *dis-* (*dis-loyal*), *-less* (*colour-less*); also categories with an affinity to NEGATION, such as reversative/separative (*to un-pack*, *to de-rail*), defective (*dys-function*), or discontinuative (*ex-husband*). There is ever only derivational negation and no derivational affirmation (with basic lexical items negative and their derivatives positive) – though perhaps subtly subject to constraints, with unmarkedness and subjective evaluation the most common enabling factors: in pairs of opposites, only the unmarked members (*true* unmarked – *false* marked, hence *untrue* – **unfalse*) and the positively evaluated members (*un-fair* – **un-cruel*) tend to permit derivational negation, with unmarkedness and positive evaluation often coinciding (as with *un-true* – **un-false*).

Second example.

Numerals: CARDINAL always basic, ORDINAL, FRACTIONAL, MULTIPLICATIVE, DISTRIBUTIVE, ABSOLUTE-COUNTING ... always derived
(when distinguished derivationally; otherwise syntactically more complex)

e.g., Latin
CARD *sex* '6', *octō* '8';
ORD (also FRACT, with optional *pars* 'part') *sex-t-*, *oct-āv-*;
MULT *X-(u)plex*;
DISTRIB *sē-n-*, *octō-n-*

e.g. Bavarian CARD *oans, zwoa, drei, ...*
COUNTING *oans-e, zwoar-e, drei-e, ...*

So, optimism justified?

Yes, for these particular derivational categories.

What about others?

Third example.

Valency-increase/decrease: Which verb is basic and which derived?
(Nichols, Peterson, & Barnes 2004, Plank & Lahiri 2009; see also Nedjalkov 1969, Nedjalkov & Silnitsky 1973, Talmy 2000, Haspelmath 1993, 2008, Comrie 2006 ...)

Examples of relevant semantic-conceptual relationships:

INTRANS		**TRANS** (PAT typically animate)
stative, inchoative/cessative		**causative**
(rather: **Valency *n***	**—>**	**Valency *n*+1**, or
Valency *n*–1	**<—**	**Valency *n***)
laugh		make laugh, amuse, strike as funny
die		kill
sit		seat, have sit, make sit
hide, go into hiding		hide, conceal, put into hiding
eat		feed, give food
learn, know		teach
see		show

be/become angry		anger, make angry
fear, be afraid		frighten, scare
INTRANS		**TRANS** **(**PAT typically inanimate)
stative, inchoative/cessative		**causative**
(rather: **Valency *n***	**—>**	**Valency *n*+1**, or
Valency *n*–1	**<—**	**Valency *n***)
(come to) boil		(bring to) boil
burn, catch fire		burn, set fire
break		(cause to) break
(come to be) open		(cause to be) open
(come to be) dry		make dry
be/become straight		straighten, make straight
be in a hanging position		hang (up)
turn over		(cause to) turn over
fall		drop, let fall

Moderate (=typological) pessimism, guarded (=language-particular) optimism: Nichols, Peterson, & Barnes 2004, earlier Talmy 2000

Main conclusion: To the extent that INTRANS and TRANS differ in formal complexity (including derivational basicness/derivedness) for pairs of opposites, instead of being lexicalised suppletively (e.g., English *die* – *kill*), some languages have a clear preference for having TRANS formally more complex than (derived from) INTRANS, in line with semantic complexity, while other languages have a clear preference for having INTRANS formally more complex than (derived from) TRANS, at odds with semantic complexity.

Semantic factor:
When PAT argument is typically HUMAN/ANIMATE, then TRANS-as-basic is preferred whatever the general preference of the language.

INTRANS-as-basic, where chosen, tends to be morphologically simpler.

Typological correlations (?):

- High morphological complexity favours TRANS-as-basic.
- Acc alignment is favoured by TRANS-as-basic.
- INTRANS-as-basic favours OV.

Unguarded optimism: Haspelmath 2008: §4.4, Comrie 2006

Main conclusion:
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.

That's why:
Iconicity, with formal derivation corresponding to semantic-conceptual complexity, is irrelevant.
The real explanatory notions are frequency and economy.
And the explantion goes as follows.

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 the rarer elements – causatives/transitives with automatic verbs, inchoatives/intransitives (decausatives) with costly verbs – be formally non-basic, and the more frequent elements – inchoatives/intransitives with automatic verbs, causatives/transitives with costly verbs – basic.

As to frequency, Haspelmath 2008 refers to text counts for English which show different percentages of transitive occurrences for different verbs:

dry	61 %
freeze	62 %
melt	72 %
burn	76 %
open	80 %
break	90 %

So, in English, *break*, *open* etc. should be basically causative and derivedly inchoative, while *dry*, *freeze* etc. should be basically inchoative and derivedly causative [Should they?].

Are they? Not morphologically, nor periphrastically.

Would *melt* be expected to go with *freeze* or with *open* – or to do what it really does (but what all the others do, too): remain formally uncommitted between inchoative and causative?

If a language were to employ derivational morphology for valency-increase or decrease, where would one expect the cut-off point between increase (causative) and decrease (decausative) morphology, with the frequencies forming pretty much a continuum (if the English counts above are anything to go by)?

And even the most automatic of the verbs counted (*dry*) is more frequently used transitively than intransitively! (There should be only detransitivisation, then.)

Empirical question:
How is Haspelmath 1993, 2008 to be reconciled with Nichols et al. 2004?
Their factual claims are obviously contradictory.

Universalist optimism (grounded in Minimal Effort) or only language-particular/guardedly typological optimism?

Fourth example.

Which is (more) basic and which is derived: Noun or Adjective,

in German?		**in English?**	
Länge	*lang*	*length*	*long*
Tiefe	*tief*	*depth*	*deep*
Höhe	*hoch*	*height*	*high*
Dicke	*dick*	*thickness*	*thick*
Schönheit	*schön*	*beauty*	*beautiful*

"A curious iconicity paradox", according to Croft & Cruse 2004: 175:

- Abstract nouns are conceptually simpler than adjectives, designating 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'. (With this meaning definition of theirs probably not quite doing justice to the markedness relationship between *long*, unmarked, and *short*, marked.)

- And yet, abstract nouns are formally more complex than corresponding adjectives, in English and other languages. [Is this really true?]
- Only *beauty* (basic [?]) – *beautiful* (derived [?]) is well-behaved.

Paradox revealed as pseudo-paradox by Haspelmath 2008: § 4.3:

- Morphological complexity does not mirror cognitive complexity to begin with; it mirrors rarity of use. Like basicness mirrors frequency of use.
- And adjectives are significantly more frequent than (corresponding) abstract nouns; e.g., acording to text counts for English, *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, within English as well as crosslinguistically. [Is it?] [And what does it mean, on this line of form–frequency reasoning, to be an "exception"?]

[And, not wholly by the way, is frequency-of-use-of-particular-linguistic-forms, relative to others with related meaning but different grammar, an *explanans* or itself an *explanandum*?]

What follows is a survey of adjectives and corresponding abstract nouns in English and German, broken down in terms of semantic subdomains, to see which direction of derivation is the rule and which the exception, within each language and across these two genealogically, areally, and culturally closely related languages.

Well, for almost a millennium now, English has had considerably more Romance in its lexicon and derivational morphology than German has. Including a straight Romance language in the comparison would therefore be instructive: Romance might be markedly different from Germanic in basicness preferences, and owing to its Romance lexical admixture, English might have ended up somewhat mixed up. But then, it would also be desirable to compare languages of wholly different families, neighbourhoods, and worldviews, so as to see whether basicness preferences indeed are a parameter of typological variation, at least for some semantic subclasses of property concepts.

My German-English comparison is based on basic vocabulary collections for language learners (like *Grund- und Aufbauwortschatz Englisch* of the Ernst Klett Verlag, Stuttgart), thematic dictionaries (like Longman's L*exicon of Contemporary English* and *Roget's Thesaurus*), and the usual bilingual and monolingual dictionaries, as well as my own lexical intuitions.

The semantic subclasses which are assumed here (to some extent following typological precedent), and particular allocations of property concepts, are not entirely unproblematic. Disagreements here, however, are unlikely to invalidate the major conclusions to be drawn.

Explanation of the colour code:
green means an adjective is basic; red means a noun is basic,
blue is used for a corresponding verb which is more basic than either;
and **black** means being morphologically derived of a corresponding green/red/blue lexeme.

domain: Human Propensities

Noun	Adjective	Noun	Adjective
Tugend	tugendhaft	virtue	virtuous
Würde	würdig	dignity	dignified
Wert	wert	worth	worth
		worthiness	worthy
(taugen)			
Tüchtigkeit	tüchtig	staunchness	staunch
Güte/Gutheit	gut	goodness	good
Güte	gütig		
(freuen)			
Freundlichkeit	freundlich	kindness	kind

(Heil) Heiligkeit	heilig	holiness	holy
Adel	edel	nobility	noble
Ehre	ehrlich, ehrenhaft aufrichtig	honesty	honest
Ehre	ehrenhaft, ehrbar	honour	honourable
(wissen) Gewissen	gewissenhaft	conscience	conscientious
Treue	treu gewissenhaft	(faith) faithfulness	faithful
Aufrichtigkeit	aufrichtig	sincerity	sincere

Frei(zügig)keit	frei	freeness	free
Offenherzigkeit	offenherzig		
Freimut	freimütig	frankness	frank
Bescheidenheit	bescheiden	humbleness	humble
Demut	demütig	humility	
Geselligkeit	gesellig	sociableness	sociable
Mut	mutig	braveness	brave
Tapferkeit	tapfer	courage	courageous
(Schrecken)			
Unerschrockenheit	unerschrocken	fearlessness	fearless
Kühnheit	kühn	boldness	bold
Keckheit	keck	daringness	daring

Dreistigkeit	dreist	audacity	audacious
Frechheit	frech	impudence	impudent
		cheek	cheeky
(entschließen)		(determine)	
Entschlossenheit	entschlossen	determination	determined
Leidenschaft	leidenschaftlich	passion	passionate
Ernst	ernsthaft	seriousness	serious
((ver)mögen)			
Macht	mächtig	power	powerful
(stehen)			
Standhaftigkeit	standhaft	firmness	firm
		steadiness	steady
Strenge	streng	severity	severe

(freuen, Freund)		(friend)	
Freundlichkeit	freundlich	friendliness	friendly
(Herz)			
Herzlichkeit	herzlich	cordiality	cordial
Barmherzigkeit	barmherzig	mercy	merciful
Gnade	gnädig		
((mit)leiden)			
Mitleid	mitleidig	compassion	compassionate
(richten?)			
Gerechtigkeit	gerecht	justice	just
		fairness	fair
(Ehre erbieten)		(respect)	

Ehrerbietung	ehrerbietig	respect	respectful
Bescheidenheit	bescheiden	modesty	modest
Takt	taktvoll	tact	tactful
[no N?]	heikel	delicateness	delicate
(fühlen)		(sense)	
Feinfühligkeit	feinfühlig	sensitivity	sensitive
Zartheit	zart	tenderness	tender
Empfindlichkeit	empfindlich		
Zärtlichkeit	zärtlich	affection	affectionate
		fondness	fond
(vorsehen)			
Vorsicht	vorsichtig	care	careful
		discretion	discreet

(hüten)			
Hut	behutsam	caution	cautious
		cautiousness	
		care	careful
Besonnenheit	besonnen		
Sanftheit	sanft	gentleness	gentle
Milde	mild		
Frömmigkeit	fromm	piety	pious
(geben, ziehen)			
Freigebigkeit	freigebig	generosity	generous
Großzügigkeit	großzügig	liberality	liberal
(danken)		(thank)	
Dankbarkeit	dankbar	thankfulness	thankful
		gratitude	grateful

Vernunft	vernünftig	reason	reasonable
Fähigkeit	fähig	ability	able
Weisheit	weise	wisdom	wise
Klugheit	klug		
Umsicht	umsichtig	prudence	prudent
Witz	witzig	wit	witty
(wenden)			
Gewandtheit	gewandt	smartness	smart
(verstehen)			
Verstand	verständig		
Geschick	geschickt	cleverness	clever
		skill	skilful

Aktivität	aktiv	activity	active
Energie	energisch	energy	energetic
Tatkraft	tatkräftig		
Forschheit	forsch		
	munter		lively
(taugen)			
Tüchtigkeit	tüchtig	efficiency	efficient
			staunch
	praktisch	practice	practical
(fahren)			
Erfahrung	erfahren	experience	experienced

(entschließen)		(resolve)	
Entschlossenheit	entschlossen	resolution	resolute
Zähigkeit	zäh	toughness	tough
Hartnäckigkeit	hartnäckig	tenacity	tenacious
(dulden)			
Duldsamkeit	duldsam	tolerance	tolerant
Neugier	neugierig	curiosity	curious
(merken)		(attend)	
Aufmerksamkeit	aufmerksam	attention	attentive
(Geist)			
Begeisterung	begeistert	enthusiasm	enthusiastic
Genauigkeit	genau	exactness	exact

(sehen)			
Zuversicht	zuversichtlich	confidence	confident
Glück	glücklich	happiness	happy
		luck	lucky
		fortune	fortunate
Frohsinn	froh	gladness	glad
		(cheer)	
Heiterkeit	heiter	cheerfulness	cheerful
Freude	fröhlich		
		joy	joyous
			joyful
		jollity	jolly

Lust	lustig	gaiety	gay
Vergnügtheit	vergnügt	merriness	merry
		glee	gleeful
(zucken)			
Entzücken	entzückt	delight	delighted
	entzückend		delightful
(Spaß)		(fun)	
Spassigkeit	spassig	funniness	funny
Drolligkeit	drollig		
Zufriedenheit	zufrieden	content	content
		contentedness	
(messen)			
Maß	mäßig	moderation	moderate
	maßvoll		
	gemäßigt		

Geduld	geduldig	patience	patient
(dauern)		(persevere)	
Ausdauer	ausdauernd	perseverance	perseverant
Ruhe	ruhig	calmness	calm
Fleiss	fleissig	industriousness	industrious
		industry	
Eifer	eifrig	eagerness	eager
Bereitschaft	bereit	readiness	ready
(Wille, wollen)		(will, will)	
Willigkeit	willig	willingness	willing
Geschäftigkeit	geschäftig	busyness	busy

Laster	lasterhaft	vice	vicious
Bösartigkeit	bösartig		
	boshaft	malice	malicious
Bosheit	böse	evilness	evil
Garstigkeit	garstig	nastiness	nasty
Falschheit	falsch	falseness	false
Unaufrichtigkeit	unaufrichtig		
Schuld	schuldig	guilt	guilty
Grausamkeit	grausam	cruelty	cruel
Gemeinheit	gemein	meanness	mean

(schämen)

Unverschämtheit	unverschämt	impudence	impudent
Eigensinn	eigensinnig	stubbornness	stubborn
Stolz	stolz	pride	proud
Hochmut	hochmütig	haughtiness	haughty
(anmaßen)		(pretend)	
Anmaßung	anmaßend	pretentiousness	pretentious
	selbstgefällig		smug
Grobheit	grob	coarseness	coarse
Derbheit	derb		sturdy
	ungeschliffen		
	ungehobelt		
	brüsk		brusque
	barsch		gruff

Rohheit	roh	roughness	rough
Rauheit	rauh		
Ungeschick	ungeschickt	awkwardness	awkward
Unbeholfenheit	unbeholfen		
(Hof)			
Unhöflichkeit	unhöflich	politeness	polite
		rudeness	rude
(schätzen)			
Geringschätzigkeit	geringschätzig	disdain	disdainful
(gelten)			
Gleichgültigkeit	gleichgültig	indifference	indifferent
		(coward)	
Feigheit	feig	cowardice	cowardly
(fürchten)			

Furcht	furchtsam	timidity	timid afraid
	(eng)	(fear)	
Angst	ängstlich	fear anxiety	fearful anxious
Sorge	besorgt		
Schüchternheit	schüchtern	shyness	shy
Scheu	scheu		
Gier	gierig	greed	greedy
Geiz	geizig	thrift	thrifty
(sparen)			
Sparsamkeit	sparsam		
Ehrgeiz	ehrgeizig	ambition	ambitious
Selbstsucht	selbstsüchtig	selfishness	selfish

Anmaßung	anmaßend	(presume) presumptuousness	presumptuous
Eitelkeit	eitel	vanity	vain
Neid	neidisch	(envy) envy	envious
Eifersucht	eifersüchtig	jealousy	jealous
Argwohn	argwöhnisch	(suspect) suspiciousness	suspicious
(trauen) Misstrauen	misstrauisch	(trust) distrust	distrustful
Wut	wütend	fury	furious
Zorn	zornig	anger	angry

		shame	ashamed
Schande	schändlich		shameful
Dummheit	dumm	stupidity	stupid
(Tor)		(fool)	
Torheit	töricht	foolishness	foolish
Albernheit	albern	silliness	silly
Einfalt	einfältig	simplicity	simple
(verrücken)			
Verrücktheit	verrückt	madness	mad
Tollheit	toll		
Wahnsinn	wahnsinnig		
Geilheit	geil	lecherousness	lecherous

			horny
Muße	müßig	idleness	idle
Faulheit	faul	laziness	lazy
Trägheit	träge		
Müdigkeit	müde		tired
	matt		weak
Leichtsinn	leichtsinnig	carelessness	careless
	unachtsam		
Sorglosigkeit	sorglos		
(trauern)			
Trauer	traurig	sadness	sad
Betrübnis	betrübt	sorrow	sorry
Gram	gram		

Düsterkeit	düster	gloom	gloomy
Trübsinn	trübsinnig		
(verzweifeln)		(despair)	
Verzweiflung	verzweifelt	despair	desperate
		desperation	

Interim conclusion: Looks pretty messy (i.e., colourful).

No overwhelming preference in either English or German to either derive Adjectives from Nouns or Nouns from Adjectives:
ca. 60% N-from-A and ca. 40% A-from-N in German,
ca. 75% N-from-A and ca. 25% A-from-N in English
Thus, preferably N-from-A in both languages, but it still seems pretty random which direction obtains for any given pair of opposites, with about half as many disagreements as there are agreements between translation-equivalents of the two languages.

The semantic-conceptual difference between adjectivally and nominally expressed concepts – A: property concept, N: abstract quality – isn't such a big deal here. So, on semantic-conceptual grounds alone, one wouldn't expect one or the other direction to be clearly favoured. Essentially, the difference is one of word-class conceptualisation; and for property concepts one might expect Adjective to be the most appropriate word class (if A is distinguished from N and V in the first place), with Noun thus a derived conceptualisation.

Notice that, here and in subsequent sections of this survey, in many cases where a noun is basic the derived adjective can in turn be back-derived into a noun, with the semantic difference between the original basic noun and the twice-derived ultimate noun an elusive one. Examples:

Tugend	tugendhaft	virtue	virtuous
Tugendhaftigkeit	tugendhaft	virtuousness	virtuous
Gewissen	gewissenhaft	conscience	conscientious
Gewissenhaftigkeit	gewissenhaft	conscientiousness	conscientious
Ernst	ernsthaft	seriousness	serious
Ernsthaftigkeit	ernsthaft		
Tapferkeit	tapfer	courage	courageous
		courageousness	courageous

Adjectives twice-derived from basic adjectives, via a noun, are rare and would seem to involve lexical splits between the once-derived and then-basic noun:

Güte ‘good value’	gut
Güte ‘kindness’	gütig

All A–N pairs so far were to do with (what has been called) Human Propensities. What about other semantic classes of property concepts?

domain: Subjective Evaluation (aesthetic, moral, intellectual, practical)

Noun	Adjective	Noun	Adjective
Güte	gut	goodness	good
	lieb	dearness	dear
	teuer		
Feinheit	fein	fineness	fine
Schönheit	schön	beauty	beautiful
		prettiness	pretty
(Hübschheit?)	hübsch	handsomeness	handsome
(anziehen)		(attract)	
Anziehung	anziehend	attractiveness	attractive

Anmut	anmutig	grace	graceful
Nettigkeit	nett	niceness	nice
Reiz	reizend	charm	charming
	hold		
		(love)	
		loveliness	lovely
(gefallen)		(please)	
Gefallen	gefällig	pleasantness	pleasant
		pleasure	
Annehmlichkeit	angenehm		
[Chic]	schick	chic	chic
		style	stylish

(auszeichnen)			
Ausgezeichnetheit	ausgezeichnet	excellence	excellent
(vorziehen)			
Vorzüglichkeit	vorzüglich		
Wunder	wunderbar	wonder	wonderful
	glorreich	glory	glorious
Pracht	prächtig	gorgeousness	gorgeous
Kostbarkeit	kostbar	preciousness	precious
Großartigkeit	großartig	greatness	great
		splendor	splendid
		remarkableness	remarkable
		perfection	perfect

Bequemlichkeit	bequem	comfort	comfortable
		convenience	convenient
	schwerwiegend	graveness	grave
Gewicht, Wichtigkeit	wichtig	import(ance)	important
Bedeutung	bedeutend		
Besonderheit	besonders	specialness	special
		plainness	plain
Einfachheit	einfach	simplicity	simple
			real
			right
		sureness	sure

Schlechtigkeit	schlecht	badness	bad
	arg		
(Hass)			
Hässlichkeit	hässlich	ugliness	ugly
	schäbig		shabby
	öde		dull
Sauberkeit	sauber	cleanness	clean
Reinlichkeit	rein		
Reinheit	rein	purity	pure
		(dirt)	
Schmutz	schmutzig	dirtiness	dirty
Dreck	dreckig	filth	filthy
		foulness	foul
Unflat	unflätig		

[hoher Preis]	teuer kostspielig	expense	expensive dear
	billig		cheap
Wahrheit	wahr echt	truth	true genuine
Falschheit	falsch	falseness	false wrong
Klarheit	klar	clearness	clear

		possibility	possible
		necessity	necessary
		likelihood	likely
Ruhm	berühmt	fame	famous
		terror	terrible
		horror	horrible

Same conclusion:

preferably N-from-A, but still pretty colourful, messy;
quite a number of disagreements between German and English;
which suggests lexeme-by-lexeme determination of direction of derivation, for each language, for this subdomain, too.

(Notice: *beauty* – *beautiful* is <u>not</u> an "isolated exception".)

domain: Physical Condition (essence rather than accidence, of people and things)

Noun	Adjective	Noun	Adjective
Gänze	ganz	wholeness	whole
Wohlsein	wohl	wellness	well
Gesundheit	gesund	health	healthy hale
		soundness	sound
Krankheit (Seuche) Unwohlsein	krank siech unwohl	illness sickness unwellness	ill sick unwell

		sanity	sane
	irr		insane
Wahnsinn	wahnsinnig	madness	mad
	verrückt		
Stärke	stark	strength	strong
Kraft	kräftig	force	forceful
Schwäche	schwach	weakness	weak
			faint
	spröde		brittle
(Gebrechen)			
Gebrechlichkeit	gebrechlich	frailty	frail
Blindheit	blind	blindness	blind
Taubheit	taub	deafness	deaf

Stummheit	stumm	muteness	mute dumb
Heiserkeit	heiser	hoarseness	hoarse
Lahmheit	lahm	lameness	lame
	verkrüppelt		crippled
	wund weh		sore
Schwindel	schwindelig	dizziness	dizzy
Schläfrigkeit	schläfrig	drowsiness	drowsy
Nacktheit	nackt	nakedness	naked
Blöße	bloß	bareness	bare

	kahl	baldness	bald
	zart		delicate
	dicht		dense
	zahm		tame
	wild		wild
Armut	arm	poorness poverty	poor
Elend Not	elend	misery	miserable
Reichtum	reich	richness wealth	rich wealthy

Wohlstand	wohlhabend		prosperous affluent
	allein		(a)lone
Einsamkeit	einsam	loneliness	lonely
Tod	tot	death	dead
		(live)	
Lebendigkeit Leben	lebendig	liveliness	alive
Hunger	hungrig satt	hunger	hungry full
Durst	durstig	thirst	thirsty

Leichtigkeit	leicht	ease lightness	easy light
	schwer	(weight) heaviness	heavy
	locker lose		loose
	gerade ungerade		even odd
	gleich ähnlich		equal similar
	genau		exact precise

Conclusion for this (semantically somewhat heterogeneous) lexical field:

green clearly predominates (well, there is *hunger* – *hungr-y*, *thirst* – *thirst-y*); i.e., nouns tend to be derived from adjectives, in both languages.

domain: Size and Dimension (extension and orientation in space)

Noun	Adjective	Noun	Adjective
Größe	groß	bigness	big large tall
Kleinheit	klein		small little
			long short
	breit weit	breadth width	broad wide
	eng schmal		narrow

	dünn		thin
	schlank		slim
	mager		slender
	schmächtig		lanky
	vollschlank	plumpness	plump
Beleibtheit	beleibt		stout
		corpulence	corpulent
	dick		fat
	fett		
			thick
Umfang	umfangreich	volume	voluminous
		bulk	bulky
Raum	geräumig	space	spacious
		ampleness	ample
		depth	deep

		height	high
	tief		low
	nieder, niedrig		
	seicht		shallow
	flach		flat
	rund		round
	gerade		straight
Quadrat	quadratisch	square	square
Viereck	viereckig		
	eben		plain
	platt		
	schief	(lean)	leaning

	slope	sloping
krumm	crook curve	crooked curved
spitz		pointed acute
leer hohl		empty hollow
voll		full
steil schroff		steep
prall		buxom
weit		far

Conclusion for this lexical field:

green clearly predominates;
i.e., nouns (which are easy to fill in when a slot is left blank) – with a few conspicuous exceptions – are derived from adjectives, in both languages.

Notice that when nouns are exceptionally basic, a yet more complex noun can usually be derived from the derived adjective:

Raum	geräumig	space	spacious
Geräumigkeit	geräumig	spaciousness	spacious
		bulk	bulky
		bulkiness	bulky

domain: Time: Age

Noun	Adjective	Noun	Adjective
Alter	alt	age, oldness	old
Jugend	jung	youth	young
Neuheit	neu	newness	new
Modernität	modern	modernity	modern
		recency	recent
Frische	frisch	freshness	fresh
Reife	reif	ripeness	ripe mature
	gar		done

	welk	(wither)	withered
Frühe	früh	earliness	early
Spätheit	spät	lateness	late
(dauern)	dauerhaft	(to last)	lasting
Dauer		(to (en)dure)	durable
Ewigkeit	ewig	eternity	eternal [?]
Dringlichkeit	dringlich	urgency	urgent

Conclusion for this lexical field:

(almost) all green, both German and English;
i.e., nouns are (almost) always derived from adjectives.

domain: Time: Speed

Noun	Adjective	Noun	Adjective
Schnelligkeit	schnell	fastness	fast
Langsamkeit	langsam	slowness	slow
Geschwindigkeit	geschwind	speed	speedy
		swiftness	swift
		quickness	quick
		velocity	
	flink		nimble
	jäh		sudden
			abrupt

Conclusion here too:

(almost) all green, both German and English;
i.e., nouns are (almost) always derived from adjectives.

domain: Sensory Perception: Colour, Smell, Taste, Touch, Hearing

Noun	Adjective	Noun	Adjective
Farbe	farbig	colour	colourful
Buntheit	bunt		coloured
Schwärze	schwarz	blackness	black
			blue
			brown
			green
			grey
		orange?	orange
			pink
			red
			white
			yellow

Helligkeit	hell		fair light
	grell		bright
	blond		blond(e)
Klarheit	klar	clarity	clear
Dunkelheit	dunkel	darkness	dark
Finsternis	finster	gloom	gloomy
Düsternis	düster		
Schatten	schattig	shadow shade	shadowy shady
Blässe	blass fahl		pale
	matt		matt dull
	trüb		

Nebel	neblig	fog	foggy
		mist	misty
Dunst	dunstig	haze	hazy
(riechen)		(to smell)	
Geruch	(riechend)	smell	smelly
Duft	duftig, duftend	fragrance	fragrant
		odour	odorous
		scent	scented
Parfüm	parfümiert	perfume	perfumed
Aroma	aromatisch	aroma	aromatic
(stinken)		(to stink)	
Gestank	stinkend	stink	stinking
		stench	

Muff	muffig	(must	musty)
Mief			
Moder	modrig	mustiness	musty
(beissen)	beissend	acridity	acrid
(schmecken)		(to taste)	
Geschmack	schmackhaft	taste	tasty
		flavour	flavoured
Pikantheit	pikant	savour	savoury
Würze	würzig	spice	spicy
Würzigkeit	würzig	spiciness	spicy
	fad		stale
			bland
			insipid
			flat

Bitterkeit	bitter herb	bitterness	bitter
	süß		sweet
	sauer		sour acid
		(salt) saltiness	salty
Kälte	kalt	cold coldness	cold
	kühl		cool
	frisch		fresh

	lau(warm)		luke(warm) tepid
Wärme	warm	warmth	warm
Hitze	heiss	heat	hot
	mild		mild
	lind		
Schwüle	schwül	sultriness	sultry
			muggy
Frost	frostig	chill	chilly
		chilliness	chilly
Lautheit	laut	loudness	loud
Lärm	lärmig	noise	noisy

(ruhen)			
Ruhe	ruhig	quiet	quiet
		quietness	
		silence	silent
Stille	still	stillness	still
		calm	calm
		calmness	
	dumpf		dull
			hollow
Nässe	nass	wetness	wet
	feucht	moisture	moist
		moistness	
		dampness	damp
	klamm		numb

Tau	tauig	dew	dewy
			fresh
Trockenheit	trocken	dryness	dry
Dürre	dürr	drought	
Härte	hart	hardness	hard
	fest		firm
	firm		
	scharf		sharp
	stumpf		blunt
	weich		soft
	glatt		smooth
			raw
			faint

Conclusion for this lexical field (a sort of waste-paper basket: Physical Conditions and Size & Dimensions are also percepts, typically visual):

overwhelmingly green, for both languages;
i.e., nouns are almost always derived from adjectives – with a few conspicuous exceptions, including the semantically circumscribed set of most/all smell terms. (Likewise for taste terms, *salz-ig*/*salt-y* are derived; but then the quality nouns, *Salzig-keit*/*salti-ness*, are in turn derived from the adjectives.)

And note again the derivability, in two steps of nouns from adjectives from exceptionally-basic nouns:

		chill	chilly
		chilliness	chilly
Geschmack	schmackhaft	taste	tasty
Schmackhaftigkeit	schmackhaft	tastiness	tasty

Typological evaluation

In essence, the results above are compatible with typological systematisations of property concepts. The idea of these systems is to account for crosslinguistic preferences in word classes – nouns and verbs being available universally and a separate class of adjective only language-particularly – through which to express particular subsets of property concepts.

The classic system is Dixon's adjective hierarchy (1977), which orders subsets of property concepts (from left to right) so as to correspond to the order in which they will be expressed in a distinct word class of adjective which does not cover all property concepts:

relatively most least likely
type of property concept to be expressed through an adjective

AGE – COLOUR – DIMENSION – SPEED
VALUE PHYSICAL PROPERTY HUMAN.PROPENSITY

That is, if a language only has a single adjective (expressing other property concepts through nouns or verbs), it will be one for AGE; when adjectival inventories grow, they will include property concepts for COLOUR and/or VALUE; etc.

Our results are in line with this particular hierarchy (ignoring certain difficulties of assigning property concepts to the right classes) insofar as the domains for which adjectives have been found to be most consistently basic in English and German, and nouns derived from them, are on the adjectivy end on Dixon's hierarchy. For VALUE, however, our English and German results don't square with Dixon's ordering of this domain, here supposedly sharing with COLOUR a high adjectivity rank.

On Stassen's scale of verbiness and nouniness (1997), property concepts are arranged as follows, with those in the middle tending towards adjectival expression if a word class of adjective, distinct from those of verb and noun, is available in a language:

verby (least time-stable) — nouny (most time-stable)

HUM.PROPENSITY – PHYSICAL PROP. – DIMENSION – VALUE – MATERIAL
COLOUR AGE GENDER
FORM

Our results for German and English have adjectives as basic and nouns as derived for the domains of COLOUR, DIMENSION, AGE – as one would expect from Stassen's system. Also as expected, HUMAN PROPENSITY, at an extreme position on Stassen's scale, is not a domain where adjectives are basic with equal consistency; however, though at the verby end of Stassen's scale, they tend not to be derived from verbs, but rather from nouns. (It is only in German, but not in English, that ultimately there is sometimes a verbal source.)

Finally, it is hard to see how frequency of use could serve as an ultimate intellectually satisfying *explanandum* of such patterns – partly random, partly systematic – of differential asymmetries which equally manifest themselves in derivational directions and in word-class preferences of different subsets of property concepts.

References

Comrie, Bernard. 2006. Transitivity pairs, markedness and diachronic stability. *Linguistics* 44. 303–318.

Croft, William & Alan Cruse. 2004. *Cognitive linguistics*. Cambridge: Cambridge University Press.

Dixon, R. M. W. 1977. Where have all the adjectives gone? *Studies in Language* 1. 19–80.

Don, Jan. 2005. On conversion, relisting and zero-derivation. *SKASE Journal of Theoretical Linguistics* 2(2). 2–16. http://www.skase.sk/

Haspelmath, Martin. 1993. More on the typology of inchoative/causative verb alternations. In Bernard Comrie & Maria Polinsky (eds.), *Causatives and transitives*, 87–120. Amsterdam: Benjamins.

Haspelmath, Martin. 2008. Frequency vs. iconicity in explaining grammatical asymmetries. *Cognitive Linguistics* 19. 1–33.

Koontz-Garboden, Andrew & Beth Levin. 2005. The morphological typology of change of state event encoding. In Geert Booij, Emilio Guevara, Angela Ralli, Salvatore Sgroi, & Sergio Scalise (eds.), *Morphology and linguistic typology: On-line proceedings of the Fourth Mediterranean Morphology Meeting*, 185–194. Bologna: University of Bologna. http://morbo.lingue.unibo.it/mmm

Nedjalkov, V. P. 1969. Nekotorye veronatyostnye universalii v glagol'nom slovoobrazovanii. In Igor' F. Vardul' (ed.), *Jazykovye universalii i lingvističeskaja tipologija*, 106–114. Moskva: Nauka.

Nedjalkov, V. P. & G. G. Silnitsky. 1973. The typology of morphological and lexical causatives. In Ferenc Kiefer (ed.), *Trends in Soviet theoretical linguistics*, 1–32. Dordrecht: Reidel.

Nichols, Johanna, David A. Peterson & Jonathan Barnes. 2004. Transitivizing and detransitivizing languages. *Linguistic Typology* 8. 149–211.

Plank, Frans. 1980. *Morphologische (Ir-)Regularitäten*. Tübingen: Narr.

Plank, Frans. 2008. Variable directionality in zero derivation and the unity of polysemous lexical items. To appear in *Word Structure*.

Plank, Frans & Aditi Lahiri. 2009. Macroscopic and microscopic typology: Basic Valence Orientation. Paper at ALT 8, Berkeley, 23-26 July 2009.

Stassen, Leon. 1997. *Intransitive predication*. Oxford: Oxford University Press.

Talmy, Leonard. 2000. *Toward a cognitive semantics. Vol. 2: Typology and process in concept structuring*. Cambridge, MA: MIT Press.