Typological Distinctions in Word Formation

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The Lexicon

- Arbitrary form-meaning associations
- But also regularity…
  - lexical class assignment restricts syntactic function, e.g., nouns can be subjects, objects, etc.
  - lexical class subject to class’s inflectional possibilities, e.g., Nouns: plural, possessive; Verbs: tense, etc.
- Lexicon also contains multi-word idioms, too, e.g. 'kick the bucket,' 'make one’s mark,' etc.

Structure in Lexical Items

- Some items in lexicon “partially motivated” in that they involve isolable parts combined in principled ways
- e.g., broken-hearted has internal structure, as opposed to Mississippi
- broken < break + heart + ed
  - cf., long-lived, three-legged, open-mouthed
- [[break > broken + heart] compound + ed] derivation
- Even though principled, also serendipitous, in that many potential equivalents don’t exist: *cooked-goosed, etc. “Idiosyncracies of the wordstock”
**Form and Function**

- We can look at derivation from perspectives of both form and function.
- E.g.: owner, listener, reader
  - form: addition of suffix -er to agentive verb
  - function: establishes relation between a verb and a noun meaning ‘one who (verb)s [perhaps typically or professionally’

**General Questions**

- 1. Does this formal process always express the same relation between forms?
- 2. Are there other processes that also express this same relation?
- 3. How productive is the process?
- 4. Which of two derivational forms is derived reciprocally; A and B from C [which does not exist separately in lg]

**Typology of Word Formation**

- With exception of genetic relations, distinctions in word-formation have probably been the single most popular basis of classifying languages
  - e.g., Kwak’wala and Mandarin
- But typologies only have value if they “uncover relations among phenomena”
  - Lg X differs from Lg Y in property p and thus property p
  - E.g., languages that the word for ‘horse’ starts with /w/, languages that explicitly mark trial number, etc.
Classical Typology

- Traditional linguistics: phonology and “grammar,” where grammar = morphology
  - syntax viewed as appendage to morphology

- Typological categories
  - 1. degree of internal complexity of words
  - 2. transparency and isolability of morphemes within words

Classical Types

- Isolating lgs, e.g., Chinese
  - tend to have a one-to-one ratio of formatives to words

- Agglutinating lgs, e.g., Turkish
  - complex words of many formatives, with transparent boundaries

- (In)flexional lgs, e.g., Latin
  - complex words with non-transparent boundaries (portmanteaus, etc.)

- Polysynthetic lgs, e.g., Eskimo
  - complex, usually agglutinative words, but with affixes (or components) that have semantic content representing multiple open classes (roots).

Problems

- Most languages studied show variation in these properties, e.g., English, is isolating wrt inflection, agglutinative wrt derivation
- Nothing seems to follow consistently from this typology, e.g., agglutinative lgs don’t share properties as a group that inflectional lgs show systematic differences from (as a group)
Edward Sapir’s 1922 Typology

- Three independent parameters
  - 1. The type of concept represented in a word.
    - [All lgs] A. Basic, or Concrete concepts: the primary meanings of nouns, verbs, adjectives
    - [All lgs] B. Pure relational concepts: identification of basic grammatical relations such as subject & object, head & modifier, etc.
    - [Some lgs] c. Derivational concepts: express modification of a basic concept, but still have a rather lexical content, e.g., plurality, diminutiveness, etc.
    - [Some lgs] d. Concrete relational: function primarily in grammatical structure rather than contributing to word meaning directly (e.g., gender systems); associated with agreement.

Typing Concept Type

- Languages fall into 4 types
  - 1. those with neither c nor d
  - 2. those with only c, but not d
  - 3. those with only d, but not c
  - 4. those with c and d
- But (a) basic and (b) pure relational, as well as (c) derivational and (d) concrete relational show diversity across lgs

2. Morphological Technique

- 1. Isolation: word = formative
- 2. Agglutination: simple juxtaposition of formatives (little morphophonemics)
- 3. Fusion: multiple formatives lacking clear boundaries (i.e., wicked morphophonemics)
- 4. Symbolism: internal modifications such as ablaut, consonant change, suppletion.
3. Degree of Synthesis

- 1. Analytic: one morpheme per word
- 2. Synthetic: a small # of morphemes per word
- 3. Polysynthetic: many morphemes per word, esp. many “roots”

- A single scale of “degree of complexity”

Strengths & Weaknesses

- Sapir’s framework is both more flexible & more comprehensive than previous typologies.
- But again, nothing seems to follow from it
  - e.g., fact that a lg expresses concrete relational concepts but not derivational doesn’t predict anything.
  - but maybe we need to look harder
  - Likely that “mechanisms of word-formation are independent of other aspects of grammar”
  - Lgs can type differently in different areas of vocabulary (e.g., English)
- Better to look at individual word-formation rules

Identifying Word-Formation Rules

- breakable, movable, inflatable
  - 1. phonetic resemblance
  - 2. shared meaning (able to be V-ed)
  - 3. shared relationship to base (the V variable)
    - V is usually a transitive verb, cf, *dieable, *beable
- Properties
  - 1. Formal relationships not arbitrary (sound)
  - 2. Systematic relations of meaning & grammar between words connected by -able word formation rule
    - a. related -able adjective means ‘able to be V-ed’
    - b. subject of -able adjective corresponds to object of V
Inconsistencies

- We can’t absolutely derive one class from the other (either V from V-able or V-able from V) because…
  - 1. one class may idiosyncratically lack a correspondent in the other (e.g. eligible)
  - 2. one member of pair may have idiosyncratic meaning not predicted by rule (e.g., respond ~ responsible; read ~ readable)

- There are -able forms based on non-verbs, e.g., peacable, objectionable, palatable
  - This is not productive: *nounable, *verbable
  - But we might want to deal with this residue by creating a second -able rule: one which relates nouns to adjectives, “characterized by (noun)” (but palatable doesn’t work); fashionable de-N -- ‘in fashion’, de-V ‘able to be fashioned’
  - So a “single” phonological string (affix, ablaut) may characterize more than one wfr in a lg

Formal & FunctionalDefs of WFR’s

- We can identify any word formation process in formal terms by…
  - specifying the class of stems affected and the modification performed
  - We can identify it in functional terms by…
  - specifying the syntactic and semantic relationships between the word and its input stem
Multiplicities

- One form, multiple functions
  - -er, agent: hunter, baker, actor
  - -er, instrument: computer, typewriter
  - -er: driver (agent: one who drives; instrument: golf club)
- One function, multiple forms
  - relation of verbs to their "action nominals"
    - act/acting, laugh/laughing, synthesize/synthesis
- Conclusion: unitary word formation processes of a lg often cannot be identified either by formal relationship or functional relation.

Back to Classical Typology

- Classical typology sought to essentialize languages into types based on outputs – it did not as such concern itself with relations between inputs and outputs…
  - but individual word formation rules in a language show a great deal of diversity in terms of input classes, semantic, and structural relations
- So Anderson takes things “bird by bird”

Productivity

- “Word formation processes occupy an intermediate status between the full generality of syntactic principles, on the one hand, and the completely individual, arbitrary, listing of the lexical properties of particular words on the other.”
Languages

- Kwak’wala
- Arabic (not presented in slides)
- Mandarin Chinese

Kwak’wala

- Region: Northern Vancouver Island and adjacent mainland, British Columbia. Also spoken in USA.
- Alternate names: Kwakiutl, Kwagiul, Kwak’wala
- Classification: Wakashan, Northern.
- Comments: Related to Haisla and Heiltsuk. Bilingualism in English. Most or all speakers are middle-aged or older. Dictionary. Grammar.

Kwak’wala Morphology

- Based almost exclusively on suffixing; several hundred suffixes
  - No prefixes, a bit of reduplication
- The lexical class of stems to which an affix can be attached is usually quite free
- In general, each suffix takes as its scope all of the material that precedes it, so that the relative order can reflect semantic (scope) differences (though in practice, not much variation)
Freedom of Attachment

- In general, suffixes aren’t sensitive to the complexity of the stem they attach to.
  - Some require that the stem contain (or end in) a suffix from a particular designated set.
  - But the relative freedom is so great that there is in principle no limit to the amount of complexity of certain sorts of formation.

Polysyntheticity

- Kwakwala is **polysynthetic**, meaning that words consist of many components corresponding to independent words in languages such as English: a single word may be the equivalent of an English sentence.
  - Affixes have meanings and functions corresponding to all major word classes.
  - Among several hundred suffixes, virtually all are totally dissimilar to corresponding free words; in many cases there is no non-complex word that corresponds to a given suffix.
  - There is even a class of dummy stems which serve only as bases to which suffixes are attached, e.g. /ax-/ “do”

Correspondence to Words

- Morphological elements do not in general fall into classes corresponding to the classes of independent words.
- The morphological elements are thus not reduced forms of words, and show no correspondence as classes with classes of words.
- So Kwakwala can be contrasted with languages whose word formation is based on the compounding of independent stems.
Formal & Functional Transparency

- The morphological structure of words is quite transparent.
- The roots which serve as bases are usually monosyllabic, and there is very little morphophonology.
- So the system is "agglutinative" and the suffixes correspond well to the classical notion of morphemes (discrete form-meaning composites).

Locative Suffixes

- These suffixes fill virtually all of the functions filled by adpositions in other languages.
- E.g., /la-/ 'go'
  - laxso 'go through something'
  - la'i- 'go into something'
  - laqa 'go past something'

Concrete Locations

- Many suffixes express concrete locations
  - 'into the water,' 'onto a flat object,' 'through a round opening in the side of an object'
- Features of landscape
  - 'into the woods,' 'at the mouth of the river'
- Everyday objects
  - 'in a canoe,' 'on the fire,' 'in front of the house'
Common Suffixes

- /-i/ 'on the floor' in the house
- /-s/ 'on the ground'
- /-is/ 'on the beach'
- dzəlkə ‘run’
  - dzəlx-si’stala ‘run around in circles’
  - dzəlx-si’stə’nisala ‘run around in circles in the house’
  - dzəlx-si’stə’nisala ‘run around in circles on the beach’

External Expression

- Not all locations are expressed by suffixes; specific places like ‘to the left of the big tree’ are represented outside the verb word.
- But other locations are expressed outside the word when no suffix with that meaning happens to exist.
  - e.g., the verb axaltso means ‘to put in a hollow place’ since there is no suffix to express ‘holes in the ground’ a sentence such as ‘The dog buried the bone in the hole’ expresses ‘hole in ground’ by means of an external word xəpəpsə, ‘hole in ground’

Example

axaltso’nda ’wat’s’e xa xaqa xəa xəpəpsə
put.in.DET dog DET bone PREP.DET hole.in.ground

‘The dog buried the bone in the (hole in the) ground.’

- So the content of suffixes does not replace or "incorporate" the external meaning, but only renders the meaning of the verbal form more specific in this respect.
**Body Part Locations**

- Most major body parts (e.g., head, arm, tooth, etc) have corresponding suffixes, which can be attached to either nouns or verbs
  - -iŋpa ‘nose’
  - dɔ̃bənd ‘wipe someone’s nose’ (V)
  - kʷawɨŋpa ‘hole in the nose’ (N)

**External Expression**

|xxtsan-ŋa-na qoma
hit.on.hand-1SG-my thumb ‘I hit my thumb (with a hammer)’

- There is no suffix that corresponds to qoma, ‘thumb’
- Although the meaning of the verb specifies that the object hit was (part of) the hand, the more precise specification appears as the object of the complex word form.

**Numeral Classifiers**

- When a numeral modifies a noun, a classifier element must be used which is in part determined by properties of the noun
  - ma’l ‘two’
    - ma’luk= ‘two people’
    - ma’taxxa ‘two flat objects’
    - ma’taxa ‘two dishes’
    - ma’luk= bɑ̃γ̃an̆ ‘two men’
    - ma’taxxa mãp ‘two blankets’
    - ma’taxa ha’ma’tsi ‘two plates’
Lexical Class Suffixes

- Intransitive verbs do not require suffix
- Many transitive verbs end in -a
  'amx ‘(be) watertight’
  'amxa ‘to make watertight’
- After locatives transitives end in -(n)d
  kw’amta ‘suck’
  kw’amdɔdɔzdud ‘suck on (a flat surface)’

Noun-Forming Suffixes

- Instrument for V-ing
- Thing which could be V-ed
- Reason for V-ing
- Expert at V-ing
- Something that has been V-ed
- The meanings of many of these suffixes can be paraphrased by expressions with independent nouns, but suffixes usu don’t resemble nouns

Verb-Suffixes

- -amas ‘cause’
- -la’lamas ‘kill’
- -(q)ila ‘kill’
- -p’ala ‘smells like’ gex+p’ala ‘smells like deer’
- -alisam ‘die of V-ing’ qw’ayalisam ‘die of crying’
- -g ‘eat’ gqewasiq ‘eat deer’
- -wαlala ‘carry along in hand’
- -a’mala ‘quarrel about’ supa’mala ‘quarrel about an axe’
Verb-Suffixes

- Express many concrete meanings
- Play a central role in expressing meanings
  - In most languages, adverbs and quantifiers subordinate to main verbs; in Kwakwala, verbal concepts are often suffixed to adverb stems
    - -mola ‘walk together’ q’e’mola ‘many walk together’
- In some cases there are independent verbs, but in others, only suffixes.
- This central role played by suffixes with verbal content is basic to polysynthetic languages

Adjective-Suffixes

- Many suffixes correspond to adjectives in other languages
  - -bidu ‘small’
  - -dzi ‘large’
  - -kas’u ‘beautiful’
- And adverbs...
  - -ak ‘easy’
  - -u‘ completely’

Sentence-Modifiers

- Markers for source of information
  - ‘from hearsay, it is said’
  - ‘evidently, it appears’
  - ‘in a dream’
- Degree of speaker’s confidence in his assertion
  - ‘perhaps’
  - ‘certainly’
  - ‘it seems’
Conjunctive-Suffixes

- Many languages have coordinating elements as suffixes, e.g., Latin -que ‘and’
- Kwak’ala has two suffixes which appear as suffixes on the matrix verb, marking the fact that a later verb is subordinated
  - e.g., -to’yí ‘to do while (verb)-ing’
  - q’aq’alalo’s-to’yó-xos x=ánuk+x-x xá míksilaex
    watch-while.doing-her child-COMP cooking
  - ‘She’s watching her child while she cooks’

Here the matrix verb (watch) is converted by the suffix into a verb taking a sentential complement

Affixation in Kwakwala

- Affixation supplies elements corresponding to all major word classes
- Other affixes correspond to inflectional categories
  - temporal (remote past, recent past, future, recently-completed)
  - aspectual (momentaneous or inchoative, continuative, occasional, habitual, repetitive)
  - voice (two passives)
  - modality (hypothetical, potential, optative, exhortative)

Derivation vs Inflection

- Hard to classify elements as inflectional or derivational
- Temporal, aspectual, plural…
  - are optional, present only for emphasis or to disambiguate
  - equally applicable to words of any syntactic function or word class…
Canoe

- x=ak=əna ‘canoe’
- x=ak=ənaλ ‘canoe that will be’
- x=ak=ənaxdi ‘canoe that has been destroyed’
- These are the same suffixes that appear on verbs to mark the same categories, and this is general across all members of these classes

Semantic/Syntactic Relations

- In general, a suffix modifies the meaning of just the stem material to which it is added
- But -wə¬ reverses the implied direction of a following locative suffix
  - axt’s’ud ‘put into’
  - ax’wə¬ts’ud ‘take out of’

Could be that -wə¬ is an infix

Subject vs Object

- Different suffixes have scope over subject or object
  - Suffix -enux ‘good at (verb)ing’
    - Intransitive, gəλqə ‘swim’ gəλqəenux ‘good swimmer’
    - Transitive, məxa ‘punch, strike with fist’; mə阐释enux ‘good at punching*/taking punches
  - Locative suffixes modify either subject of intransitive or object of transitive: absolutives
  - This is a common feature of derivation, that derivational material may only affect or refer to these
Content & Freedom

- Polysynthetic languages are interesting in the range of functions (and their specificity) that occur in derivational forms.
- But we can also find freedom in the relative ordering of elements…

Variable Ordering

- ne’nak ‘go home’
  – -amas ‘cause’ & -exsd ‘want’
  – ne’nak-exsd ‘want to go home’
  – ne’nak-exsdamas ‘cause to want to go home’
- q’aq’o’ka ‘learn’
  – q’aq’o’kaamas ‘cause to learn: teach’
  – q’aq’o’kaamadzexsd ‘want to cause to learn’
- There is a kind of recursivity built into such a system: cause to want to cause to want to…

Variation in Productivity

- Kwakwala affixation is subject to the same variation we find in other lexical systems in the extent to which particular affixes can be used to create new forms
- These limitations aren’t due to the structural system, but rather the arbitrariness of the lexicon.
- Some suffixes can be freely added to nearly any semantically compatible stem; others are very restricted, with the choice seemingly arbitrary.
Some suffixes are restricted in their application, even when they are semantically compatible, and there is often no other comparable morphological formation to fill the gaps.

In many cases, derived forms have taken on special meanings, so they are no longer available to express more general meanings.

Languages such as Kwakwala are characterized by an open ended set of word formation processes and a close (but not perfect) relation between the formal effects of word formation and the function it serves.

Anderson especially "explores ways in which compounds reflect the properties of phrasal constructions" Compounding bridges morphology and syntax
Compounds vs Phrases

- Often distinguishable **phonologically**, e.g., compounds show **word phonology**, as opposed to **phrase phonology**, e.g., stress, tone sandhi
- Often **morphologically** distinguishable, e.g., absence of genitive inflection for noun modifiers found in phrases, English ’s (duck’s egg vs duck-egg), Mandarin particle de found in phrases, absent in (most) compounds

Classifying Compounds

- Compounding processes can differ in class(es) of the elements compounded and the structures that result (e.g., German often inserts -e, -en or -(e)s between compound elements.

Compounds vs Phrases

- Differences in **arrangement**, e.g., English sightsee, housekeep, etc.
- Differences in **interpretation**, phrases usually compositional in meaning, but compounds range from being compositional to having “special interpretive principles not paralleled by any principle applicable to phrases”
- Because compounds are **words**, they are subject to **semantic drift**, e.g., specialization, generalization, etc., footloose, heavy-handed
Mandarin Chinese

- Population: 867,200,000 in mainland China (1999), 70% of the population, including 8,602,978 Hui (1990 census). Other estimates for Hui are 20,000,000 or more. 1,042,482,187 all Han in China (1990 census). Population total all countries 1,052,000,000 including second language speakers (1999 WA).
- Region: Covers all of mainland China north of the Changjiang River, a belt south of the Changjiang from Qingjiang (Hunan) to Zhejiang (Zhejiang), Tibet except the region south of the Changjiang, Guangxi (except the northeastern corner of Hainan). Also spoken in Brunei, Cambodia, Indonesia (Java and Bali), Laos, Malaysia (Peninsular), Mauritius, Mongolia, Philippines, Russia (Asia), Singapore, Taiwan, Thailand, United Kingdom, USA, Viet Nam.
- Alternate names: MANDARIN, GUANHUA, BEIJING FANGYAN, NORTHERN CHINESE, GEYU, STANDARD CHINESE, PUTONGHUA
- Dialects: HUABEI GUANHUA (NORTHERN MANDARIN), XIBEI GUANHUA (NORTHWESTERN MANDARIN), XINAN GUANHUA (SOUTHWESTERN MANDARIN), JINGHUAI GUANHUA (JIANGXIA GUANHUA, LOWER YANGZE MANDARIN).

Mandarin Compounding

- Mandarin employs compounding almost to the exclusion of other word formation processes
  - Stem modification plays little role
  - The comparatively limited inventory of possible syllables combined with the rather strict monosyllabism of formatives leads to a situation where compounding is the major device by which the lexical stock of the language is formed and augmented
  - Most of the lexicon consists of combinations of formatives produced by compounding

Phrase vs Compound

- Many Mandarin compounds structurally very similar to syntactically created phrases, and s.t. the same sequence of formatives may correspond to a phrase or a compound
  - e.g., dà ‘strike’ plus shǒu ‘hand’ may mean either a verb phrase ‘strike the hand’ or a compound word ‘hired rioter, thug’
Distinguishing

- Since compounds are words, they occur in syntactic positions occupied by nouns, as opposed to phrases.
  - but phrases may be single words, so there is often ambiguity
- Compounds are often semantically non-compositional.
  - but some compounds are compositional, e.g. jī-dān 'chicken-egg: chicken’s egg'

Phonology

- Many lgs have phonological means of distinguishing compounds
  - No uniform property in Mandarin as in English (compound stress), but
    - Most syllables in Mandarin have a tone and thus, the capacity to take stress; but in many compounds, second element loses tone and erases capacity to take stress; but many compounds don’t lose their tone
- Compounds usually have only a single stress center, i.e., position where main or contrastive stress may fall
- Pause not allowed between elements of compound, because we generally pause between words. (problematic in actual use)

Mandarin Compounds

- No single feature found in all compounds
- But enough properties applicable to enough instances to establish general classes
  - then the less certain cases can be examined on the basis of their structural parallels to the more certain
Classifying Compounds

1. On the basis of formal structure
   - fēi-jī ‘fly-machine:airplane’ is composed of a verb followed by a noun; the entire compound is a noun
     • formula [V - N]$_n$
   - kāi-guǎn ‘open-closeswitch’ is composed of a verb followed by a verb, and is a noun
     • formula [V - V]$_n$

Kinds of Compounds

1. Modifier-Modified Compounds
2. Verb-Object Compounds
3. Subject-Predicate Compounds
4. Coordinate Compounds
5. Resultative Compounds

Note classification based on grammatical/semantic relations

Modifier-Modified

Many Mandarin compounds are of this type, e.g.,
- gāng-bǐ ‘steel-pen:(fountain) pen’

Modifier limits or makes more specific the reference of the element it modifies
- here gāng ‘steel’ limits bǐ ‘pen’ to those made of steel, as opposed to māo-bǐ ‘hair-pen:writing brush’ and qiān-bǐ ‘lead-pen:pencil’ etc.
Structure of Modifier-Modified

1. Compounds that function as nouns
   - [N-N] niú-ròu 'cow-meat:beef'
   - [Adj-N] xiāng-lào 'fragrant-material:spice'
   - [V-N] fēi-chuān 'fly-boat:dirigible'

2. Compounds that function as verbs
   - [N-V] yòu-zhá 'oil-fry:deepfry'
   - [Adv-N] hú-shuō 'randomly-talk:talk nonsense'

3. Compounds that function as adjectives
   - [N-Adj] xuě-bái 'snow-white:very white'
   - [V-Adj] gǔn-rè 'boil-hot:very hot'
   - [Adv-Adj] xiāng-jìn 'mutually-near:near'

Relation to Phrases

- Modifier-modified compound types in Mandarin all have phrasal counterparts
  - I.e., each modifier type in compound is also found in phrases
- Ordering of modified-modified mirrors syntax
- All of the semantic variations of compounds found in phrases, e.g., whole modifying part material modifying thing, action modifying goal, etc.

Verb-Object Compounds

- These have structure [V-N] but cannot be interpreted as modifier-modified compounds
  - [V-N] xiào-xíng ‘cultivate-conduct:become a Buddhist’
  - most of these are intransitive verbs, and mirror syntactic structure (objects follow verbs in Mandarin syntax)
  - [V-N] dòng-shí ‘supervise-affairs:member of the board’
  - Clear syntactic parallels, e.g., noun phrases containing a relative clause modifying the head have the clause preceding the noun, analogous to dòng-shí ‘one who supervises affairs’
- In both Modifier-Modified and Verb-Object compounds, compounds mirror phrases syn & sem.
**Subject-Predicate Compounds**

- Internally [N-V]
  - [N-V]_{ni}  tān-liāng ‘day-brights:dawn’
  - [N-V]_{zu} shuō ‘mouth-speak:promise with the mouth only’
  - [N-V]_{tóu} tèng ‘head-hurt:have a headache’
- Noun is subject of verb; since Mandarin Subject-V, syntax mirror again
- But interpretive differences between these compounds and sentential subject-predicate.

**Coordinate Compounds**

- Compounds consisting of two or more members of the same lexical class: [N-N], [V-V], [Adj-Adj] and [Adv-Adv]
  - any may function as member of same class as components, or a different class
  - [N-N]_{chē-mǎ} ‘vehicle-horse:traffic’
  - [N-N]_{jiāng-hū} ‘rivers-lakes:adventuresome’
  - [Adj-Adj]_{dà-xiǎo} ‘big-small:size’

**Relation to Phrases**

- (Syntactic) Coordination is done by simply juxtaposing phrases with parallel structure, so compounds mirror phrases structurally.
- But the interpretation is different, since coordinate compounds not interpreted coordinatively, e.g., big-small does not mean “big and small”
**Semantic Classification**

1. Compounds of synonyms
   - yì-sì 'idea-thought: meaning'

2. Compounds of antonyms
   - ruǎn-yìng 'soft-hard: degree of hardness'

3. Parallel compounds involving grammatically similar but not synonymous elements
   - rè-nào 'hot-noisy: full of life'

Ergo, interpretation of a coordinate compound is found (more or less) as the sum of what the elements of the compound have in common.

**Resultative Verb Compounds**

- Structurally \([V-V]\)
  - guǎn-jìn 'shut-tight: shut tight'
  - xiē-cuò 'write-wrong: write incorrectly'

- V2 usually intransitive

- Meaning: usually V2 describes state of the object (or subject if V1 is intransitive) after the completion of the action described by V1, shut tight → (be) tight(ly shut)

**Relation to Phrases**

- Both structures and interpretation of resultative compounds mirror phrases
- But 2 special word formation processes applicable only to these compounds
  - From nearly any \([V-V]\), we can form a compound with structure \([V-de-V]\), with the meaning 'can (do whatever original compound means) and one with the form \([V-bu-V]\) meaning 'cannot do X'
  - No parallel exists in phrasal constructions; this construction is so important as a source of potential meaning that single-element V's are often made into 'dummy' compounds with addition of second element with little or no independent meaning, e.g. lái 'come'.
More Complex Compounds

- Mandarin compounding is not limited to simple binary structures, but can involve much more complex compounds, analogous to English recursive compounding:
  - jūn–shì–wēi–yuàn–hui
  - 'army-affair-delegate-member-group:military affairs committee'
  - $[\text{N}-\text{N}]_3\tau[\text{N}-\text{N}]_3\text{N}_3$

Summary

- Basic derivational distinction between processes that take a single lexical stem as input and relate it to some systematically different form ("stem modification") and processes that take two or more stems and combine them ("compounding")
- To characterize a word-formation process:
  - specify the class of input stems it affects
  - the structure of the resulting form
  - the syntactic and semantic relationship between the rule’s inputs and outputs
  - with compounding, must determine similarities and differences of syntax and semantics between compounds and analogous phrasal structures
  - whether the process is active (yielding new forms) or passive (serving simply to analyze existing word forms in the lexicon)