

Handout 4: Morphology – Words in our Language

June 11&14, 2004 (Chienjer Charles Lin)

1. What are **words**?
 - a. In English, words are separated by spaces.
 - b. This is not necessarily so in other languages. For instance, the writing system in Chinese does not put spaces between words. It becomes an issue to define words especially for natural language processing.
2. Morphology is about the composition of words and morphemes.
 - a. What is a **morpheme**?
 - b. Some elements in morphology you need to know:
 - i. Bound morphemes
 - ii. Free morphemes
 - iii. Content words
 - iv. Function words
 - v. Derivational morphemes
 - vi. Inflectional morphemes
 - vii. Root
 - viii. Base/stem
 - ix. Affixes (prefixes, infixes, suffixes)
3. Terminology (taken from Johanna Rubba's website)
 - a. **MORPHEME** = the smallest meaningful unit of language (any part of a word that cannot be broken down further into smaller meaningful parts, including the whole word itself). The word 'items' can be broken down into two meaningful parts: 'item' and the plural suffix '-s'; neither of these can be broken down into smaller parts that have a meaning. Therefore 'item' and '-s' are both morphemes.
 - b. **FREE MORPHEME** = a morpheme that can stand alone as an independent word (e.g. 'item').
 - c. **BOUND MORPHEME** = a morpheme that cannot stand alone as an independent word, but must be attached to another morpheme/word (affixes, such as plural '-s', are always bound; roots are sometimes bound, e.g. the 'kep-' of 'kept' or the '-ceive' of 'receive').
 - d. **BASE** = an element (free or bound, root morpheme or complex word) to which additional morphemes are added. Also called a **STEM**. A base can consist of a single root morpheme, as with the 'kind' of 'kindness'. But a base can also be a word that itself contains more than one morpheme. For example, we can use the word 'kindness' as a base to form the word 'kindnesses'; to make 'kindnesses', we add the plural morpheme, spelled '-es' in this case, to the base 'kindness'.
 - e. **ROOT** = a (usually free) morpheme around which words can be built up through the addition of affixes. The root usually has a more-specific meaning than the affixes that attach to it. Ex.: The root 'kind' can have affixes added to it to form 'kindly', 'kindness', 'kinder', 'kindest'. The root is the item you have left when you strip all other morphemes off of a complex word. In the word *dehumanizing*, for example, if you strip off all the affixes -- *-ing*, *-ize*, and *de-*, *human* is what you have left. It cannot be divided further into meaningful parts. It is the root of the word.

- f. **AFFIX** = a bound morpheme which attaches to a base (root or stem). PREFIXES attach to the front of a base; SUFFIXES to the end of a base; INFIXES are inserted inside of a root. An example of a prefix is the 're-' of 'rewrite'; of a suffix, '-al' of 'critical'.
- g. **INFLECTION** = the process by which affixes combine with roots to indicate basic grammatical categories such as tense or plurality (e.g. in 'cat-s', 'talk-ed', '-s' and 'd-ed' are inflectional suffixes). Inflection is viewed as the process of adding very general meanings to existing words, not as the creation of new words. The part of speech of the root stays the same.
- h. **DERIVATION** = the process by which affixes combine with roots to create new words (e.g. in 'modern-ize', 'read-er', '-ize' and '-er' are derivational suffixes). Derivation is viewed as using existing words to make new words. The inflection/derivation difference is increasingly viewed as shades of gray rather than an absolute boundary. Derivation is much less regular, and therefore much less predictable, than inflectional morphology. For example, we can predict that most English words will form their plural by adding the affix <-s> or <-es>. But how we derive nouns from verbs, for example, is less predictable. Why do we add <-al> to 'refuse', making 'refusal', but '-ment' to 'pay' to make 'payment'? 'Payal' and 'refusement' are not possible English words. We have to do more memorizing in learning derivational morphology than in learning inflectional morphology. The part of speech of the word may change.
- i. **CONTENT MORPHEME**: A morpheme that has a relatively more-specific meaning than a **function** morpheme; a morpheme that names a concept/idea in our record of experience of the world. Content morphemes fall into the classes of noun, verb, adjective, adverb.
- j. **FUNCTION MORPHEME**: A morpheme that has a relatively less-specific meaning than a **content** morpheme; a morpheme whose primary meaning/function is to signal relationships between other morphemes. Function morphemes generally fall into classes such as articles ('a', 'the'), prepositions ('of', 'at'), auxiliary verbs ('was eating', 'have slept'), etc.
- k. **SIMPLE WORD** = a word consisting of a single morpheme; a word that cannot be analyzed into smaller meaningful parts, e.g. 'item', 'five', 'chunk', 'the'.
- l. **COMPLEX WORD** = a word consisting of a root plus one or more affixes (e.g. 'items', 'walked', 'dirty').
- m. **COMPOUND WORD** = a word that is formed from two or more simple or complex words (e.g. landlord, red-hot, window cleaner).
- n. **MORPHOPHONEMICS/ALLOMORPHY** = the study of the processes by which morphemes change their pronunciation in certain situations. [you can ignore this.]
- o. **ALLOMORPHS** = the different forms (pronunciations) of a single morpheme. Ex: the plural morpheme in English is {-z}. Its allomorphs are / s /, / z /, / iz /.** Also, the morpheme 'leaf' has two allomorphs: 'leaf' in words built from it (e.g. 'leafy') and 'leav-', found only in the plural: 'leaves'.

Below are some examples of affixes (also taken from Rubba's website).

4. English inflectional morphology:

Word class to which inflection applies	Inflectional category	Regular affix used to express category
Nouns	Number	-s, -es: book/books, bush/bushes
	Possessive	's, -: the cat's tail, Charles' toe
Verbs	3rd person singular present	-s, -es: it rains, Karen writes, the water sloshes
	past tense	-ed: paint/painted
	perfect aspect	-ed: paint/painted ('has painted) (past participle)
	progressive or continuous aspect	-ing: fall/falling, write/writing (present participle)
Adjectives	comparative (comparing two items)	-er: tall/taller
	superlative (comparing +2 items)	-est: tall/tallest

5. Some irregular inflectional morphology in English:

Type of irregularity	Noun plurals	Verbs: past tense	Verbs: past participle
Unusual suffix	oxen, syllabi, antennae	.	taken, seen, fallen, eaten
Change of stem vowel	foot/feet, mouse/mice	run/ran, come/came, flee/fled, meet/met, fly/flew, stick/stuck, get/got, break/broke	swim/swum, sing/sung
Change of stem vowel with unusual suffix	brother/brethren/	feel/felt, kneel/knelt	write/written, do/done, break/broken, fly/flown
Change in base/stem form (sometimes with unusual suffix)	.	send/sent, bend/bent, think/thought, teach/taught, buy/bought	send/sent, bend/bent, think/thought, teach/taught, buy/bought
Zero-marking (no suffix, no stem change)	deer, sheep, moose, fish	hit, beat	hit, beat, come

6. Some derivational affixes of English:

Affix	Class(es) of word to which affix applies	Nature of change in meaning	Examples
Prefix 'non-'	Noun, adjective	Negation/opposite	Noun: non -starter Adj.: non -partisan
Suffix '-ity'	Adjective	Changes to noun	electric/electricity obese/obesity
Prefix 'un-'	Verb Adjective	Reverses action opposite quality	tie/ untie , fasten/ unfasten clear/ unclear , safe/ unsafe
Suffix '-ous'	Noun	Changes to adjective	fame/ famous , glamor/ glamorous
Prefix 're-'	Verb	Repeat action	tie/ retie , write/ rewrite
Suffix '-able'	Verb	Changes to adjective; means 'can undergo action of verb'	print/ printable , drink/ drinkable

7. Hierarchical structure of word derivations:

un use able

un do able

un do able

un friend li ness

‘reliability’

‘representations’

8. Some notable morphological processes:

a. Affixation

b. Compounding

- i. Boyfriend
- ii. Ladybug
- iii. Sleeping car
- iv. Hot dog

c. Reduplication

9. Languages of different morphological types: (LF p.161-65)

- a. **Analytic** languages: Mandarin Chinese
- b. **Synthetic** languages: Hungarian
- c. **Agglutinating** languages: Hungarian
- d. **Fusional** languages: Spanish
- e. **Polysynthetic** languages: Sora (in India)

10. Ways to make new words into a language: (LF p.428-30)

- a. **Acronyms**: IBM, CIA, FBI, LASER, USA, UA, AIDS, UFO
- b. **Blending**: brunch, smog, motel, Spanglish, telethon
- c. **Clipping**: dorm, lab, exam, math, sub
- d. **Coinage** (usu. Brand names): Kodak, Xerox, scooter, kleenex, band-aid
- e. **Conversion** (a.k.a. **functional shift** or **zero derivation**): position, process, laugh, run
- f. **Stress shift**: rewrite, implant
- g. **Eponymy**: watt, Washington D.C.
- h. **Backformation**: pronounce, self-destruct, edit, burgle, burger
- i. **Borrowing**: sushi, tomato, chic, cliché, spaghetti, shmuck

11. Some *new words* in 2003 for you to enjoy:

Do you know these words? Identify through what sort of process was the word created and what the new words tell us about changes in our life. (compiled by *American Speech* in 2003)

- a. craptacular
- b. SARS
- c. apatheist
- d. botox party
- e. bushism
- f. dialarhoea
- g. like no other
- h. my big fat
- i. walking piñata
- j. blog

Here's what they mean:

- a. **craptacular** [*crappy* + *spectacular*] *adj* **Ambiguously bad and good at the same time** 2002 Dec 28 *Toronto Star* M2 (Lexis-Nexis; subhead & text) Relax and [End Page 434] try this fast, fun, light-hearted quiz Questions from Life, Health, Food, Fashion, Boom! / Columnist Hannah Sung thinks The Bachelor [television series] is: a) a critical factor in the intellectual development of today's youth, b) can't-miss TV, c) a way for women to land a really swell dude, d) a craptacular TV product aimed at people who love to hate it.
- b. **SARS** *acronym* **Severe acute respiratory syndrome**
- c. **apatheist** *n* [*apathetic theist*] **Person not concerned with the existence of God or gods** 2001 July 2 Arwon *Brunching Shuttlecocks* <http://www.brunchma.com/archives/Forum14/HTML/000500-2.html> 4:21 PM Apatheist. Someone [End Page 332] coined the term for me in IRC (I think it might have been Toon). Basically, religion is no longer a part of my life. I was christened and so technically, in the eyes of the government and in the eyes of my father, and my grandparents, I'm Christian. But I don't go to church (except to sing in choir concerts for school at Christmas). My grandparents still go to church. I think my dad does sometimes. I don't. I don't care about God. I don't care if God, or gods, or goddesses, or nothing, or anything exist[s]. I am just me, and I am going through my life, relying on me and other people. 2002 Dec 29 edgewalker <http://www.dumbrella.com/ubb/Forum2/HTML/004109.html> 9:35 AM i'm [*sic*] an apatheist: the question is no longer interesting, and the answer no longer matters. 2003 Mar 6 (accessed) http://atheism.about.com/library/glossary/general/bldef_apatheist.htm Definition: An apatheist is a type of atheist who, rather than not believing in any gods because the arguments for them are weak, simply doesn't care about the existence of any gods and goes about life as if none existed. (Most Creative)
- d. **botox party; Botox bash** *n* **Social gathering at which a physician injects the guests with botox in order to reduce or remove facial wrinkles** 2001 Feb 17 Liz Stuart *Guardian* (London) 26 (Lexis-Nexis) So ordinary that, worryingly, some people are organising [*sic*] botox parties, run along the same lines as Tupperware ones. Groups of (usually) women invite a surgeon from a clinic to an individual's house, and the treatment—an injection of botulinium toxin which relaxes the muscles and so lifts frown lines—is administered to everyone. 2002 Oct 5 Maria Montoya *New Orleans Times-Picayune* 1 (Lexis-Nexis; head & teaser) A wrinkle in time; Another [*sic*] night, another party in the French Quarter . . . [ellipsis in text] only on this night, the host is a surgeon and the party favors are injected into the facial muscles through a syringe. Welcome to a New Orleans-style Botox bash, where hairstylists, undertakers and socialites come together for white wine and wrinkle erosion. 2003 Jan 21 John Fauber *Milwaukee Journal-Sentinel* 01A (Lexis-Nexis) Safwan Jaradeh, chairman of neurology at the Medical College of Wisconsin, said he has a handful of patients with excessive sweating problems whom he has successfully treated with Botox. . . . However, Jaradeh said he didn't think Botox parties for sweating are likely to happen anytime soon. [¶] The treatments are for those with excessive sweating problems. [¶] "Mildly excessive sweating probably is overkill," he said. Mar 23 Toby MacDonald *Scotland on Sunday* 9 (Lexis-Nexis) AN MSP [*sic*; 'Member of Scottish Parliament'] is launching a campaign to ban Botox parties. An accidental overdose of the toxin can cause eyelids and facial muscles to droop, and the long-term side-effects are unknown. (Most Outrageous)

- e. **Bushism** *n* Mistakes or peculiarities noted in the speech of either President George H W Bush or his son President George W Bush **1988** Oct 23 Colman MacCarthy *Washington Post* F2 (Lexis-Nexis) It's not too soon to begin collecting Bushisms. One sure entry is that Dan Quayle has received an "unfair pounding." George Bush presumably believes it was unfair of the media to look into Danny Boy's background and see what kind of pipes were playing in his past glens. **1992** Oct 20 *St Louis Post-Dispatch* 9A (Lexis-Nexis) Top Bushism. BUSH [*sic*]: "Hindsight is 90-90." **1996** June 2 Rupert Cornwell *Buffalo News* 7F (Lexis-Nexis) Let me say it at the outset. I've missed George Bush, badly. [¶] Not because I'm a closet Republican (perish the thought in this impartial newspaper). Nor because of anything he ever did in the White House (which, apart from winning the Gulf War, was next to nothing) or [End Page 334] because he was the nicest U.S. president in recent memory (which he was). [¶] The gap in my life has been what he said, or rather the way he said it—in other words, Bushisms. [¶] For those of us who observed firsthand the Demosthenes of modern American presidents in action between 1989 and 1993, the very phrase has one quivering with laughter. **2000** Feb 13 Jena Heath *Atlanta Journal-Constitution* 2B (Lexis-Nexis) And dogging him always are the Bushisms, first made famous by his dad, but being refined to a new art, such as his own explanation of his new look: "A reformer with results is a conservative who's had compassionate results in the state of Texas." Oct 1 Mike Allen *Washington Post* 8 (Lexis-Nexis) Several Bush-watchers said that in recent weeks he has served up a surfeit of Bushisms after being virtually gaffe-free from April to early August. **2003** Apr 9 *Times* (London) 4 (Lexis-Nexis; head & text) Bushism / President Bush at Hillsborough Castle: "The grip I used to describe that Saddam had around the throats of the Iraqi people are [*sic*] loosening. I can't tell you if all ten fingers are off the throat, but finger by finger it's [*sic*] coming off." The location of Saddam's thumbs has yet to be revealed. (Word of the Year)
- f. **dialarhoea** *n* Inadvertent dialing of a cell phone in a pocket or hand bag **2002** Nov 2 *New Scientist* (from Erin McKean personal e-mail Nov 20) THREE [*sic*] weeks ago we asked readers to suggest a name for the tendency of cellphones to make inadvertent phone calls when left in a pocket or bag with the keypad unlocked. [¶] There were lots of replies. Our favourite was "dialicide", suggested by Derek Woodruffe after his mobile called a friend "entirely of its own volition" while Woodruffe was discussing him and left a recording of the discussion on the friend's answering machine. This prompted us to think of our own variants such as "mobicide", "cellicide", or even "apoptosis" (cellular suicide). [¶] Other suggestions we enjoyed were "dialarhoea", "accidial", [End Page 336] "keypad poker", "pocket roulette", "trigger happy calls" and the acronym "BLURT" (Button Left Unlocked, Recipient Tormented). (Most Creative)
- g. **like no other** *qual/adv* Extremely **2002** Oct Connie Eble Univ of North Carolina at Chapel Hill Campus Slang (unpub) LIKE NO OTHER—extremely: "I'm hungry like no other." "I'm hurting like no other." Can be added to almost any scalar adjectival[.] (Most Useful) [End Page 337]
- h. **my big fat** — — *adj phr* [fad use after the movie *My Big Fat Greek Wedding* but see precedent in 1990 citation] Overblown, overly complicated but vacuous **1990** Apr 9 Ann Trebbe *USA Today* 2D (Lexis-Nexis) She's [Melissa Gilbert's] reminded that she has sounded this way before and admits: "I was really good at saying everything was perfect. I'm the queen of 'I'm OK.' I've always been really good at covering things up. Not anymore. If something's not OK with me, I open my big fat mouth." **1998** May 6 Jim Slotek *Toronto Sun* 63 (Lexis-Nexis) SECOND CITY GIRL MAKES GOOD [*sic*]: It's a long way from Winnipeg's St. Vital district to Tom Hanks' dining room. But Nia Vardalous [*sic*] got there, via Toronto and Chicago. [¶] The former Second City cast member made some influential friends in L.A. with *My Big Fat Greek Wedding* [*sic*], her autobiographical play about "marrying a person who's not Greek and bringing him into my crazy family." **2003** Apr 4 Eleanor Ringel Gillespie *Atlanta Journal-Constitution* 6P (Lexis-Nexis) "Bend It Like Beckham" / Grade: B+ / Starring Parminder Nagra, Keira Knightley and Jonathan Rhys Meyers. Directed by Gurinder Chadha. Rated PG-13 for language and sexual situations. At Phipps Plaza. 1 hour, 52 minutes. . . . Imagine if in "My Big Fat Greek Wedding" what Nia Vardalous wanted wasn't a cute WASP husband but to drive it like Tiger Woods or shoot it like Shaq. Eighteen-year-old Jess Bhamra (Parminder Nagra), the spunky heroine of the crowd-pleasing British import "Bend It Like Beckham," faces a similar tension between her rowdy yet loving ethnic family and her true love, soccer. Think, "My Big Fat Sikh Soccer Match." (Most Useful)
- i. **walking piñata, walking pinata** *n* Person who is the object of relentless criticism or scorn **1995** June 18 Michael Lewis *New York Times* Late Ed 6/18/1 (Lexis-Nexis) THE RICH PROBABLY ARE DIFFERENT [*sic*] from you and me, if for no other reason than they spend their lives being treated differently by you and me. Especially in America, where public goods are scarce and private wealth vast, a rich person is a walking piñata. He strolls through life stuffed with surpluses while the rest of us bash away at him with little sticks. **2002** Dec 17 Mike Allen & Dana Milbank *Washington Post* Final edA01(Lexis-Nexis) President Bush has decided not to intervene to save Sen. Trent Lott (Miss.) after concluding he has become an albatross to the party and no longer

has any chance of surviving as Republican majority leader, administration sources said yesterday. . . . Another Republican said Lott "has become a walking pinata for Democrats" who would undermine "all the work the president has done to try to eliminate this perception of the party." Dec 21 Frank Rich *New York Times* Late ed A21/1 (Lexis-Nexis) Mr. Lott had become, in the words of a widely quoted (but unidentified) White House hand, a "walking pinata." Dec 22 DKL *New Straits Times* (Malaysia) 12(Lexis-Nexis)Some albatrosses suffered three defeats in succession! Datuk Mustapa Mohamad's apparent hard work, unless these walking pinatas leave, will come to almost nothing. (Most Creative)

- j. **blog** [*Web + log*] **1: n Personal Web site full of commentaries, some of which concern the mundane events of the site owner's life and offer links to other sites of interest to the site owner** **2000** May 16 Doug Bedell *San Diego Union-Tribune* Computer Link 8 (*Dallas Morning News*; Lexis-Nexis) They are called weblogs—blogs for short. In the space of a mere two years, this new breed of Web site has begun changing the way Net denizens navigate through the Internet's sometimes mind-boggling info-clutter. . . . Blogs are enigmatic. Not even those who created this growing genre can agree on a definition. . . . But one thing is certain: These personal, energetic, heavily linked commentary pages have struck a resounding chord with Web surfers seeking alternative but reliable guides through the tangled jungle of Internet news, entertainment and general e-silliness. "You know how people nudge each other and say, 'Holy crap! Get a load of that!'," says Derek Powazek, award-winning designer of Fray, Kvetch and other smart Web sites. [fl] "That's what a weblog does." [fl] The explanation seemed to sit as well as any with an audience gathered recently for an intense panel discussion in Austin, Texas, on weblogging, which Powazek (<http://www.powazek.com>) moderated. Still, as the number of cataloged blogs has swelled from a handful to many hundreds, commonalities have grown harder and harder to pinpoint. [fl] Text-friendly [fl] By and large, weblogs shun heavy graphics. Blogs are bursts of text and hypertext packaged chronologically, mapping the designer's treks across the Internet and pointing out noteworthy sights along the way. The most successful collect wide followings of users who feel simpatico with the creator's tastes for news, offbeat information and collections of fascinating info. **2002** May 19 Lynnell Burkett *San Antonio Express-News* 2G (Lexis-Nexis; head & text) Are media being blog-rolled? / Have you run across this hot new term? Blog? Or blogger? [fl] I just caught up to it recently when a friend sent an e-mail asking what I thought it would do to the future of journalism. Naturally, that question grabbed my attention, so I dived into the world of the blog. [fl] A blog is shorthand for "Web log," which has become a big thing on the Internet. A blogger is someone who has a Web Log. Just as anyone, with a little help, can set up a Web **[End Page 229]** page, anyone, with a little help, can include a blog—a free-wheeling conversation that can dig deeply into a single subject or travel all over the map. It can include links to all kinds of other sites as well, so that one can move from site to site to pursue an interest in a particular item. **2003** Jan 30 Jenny Sinclair *Age* (Melbourne) Green Guide Livewire 3 (Lexis-Nexis) **TOPBLOG** [*sic*]—Samuel Pepys [fl] This blog is almost 350 years old. Inspired by the proliferation of online diaries, Phil Gyford came up with the bright idea of posting the famed diaries of Samuel Pepys on the Web—not all at once, but day by day. **2:v Produce or maintain such a Web site** **2000** May 16 Doug Bedell *San Diego Union-Tribune* Computer Link 8 (*Dallas Morning News*; Lexis-Nexis) Some of the movement's founders, in fact, deny they're even blogging. **2003** Jan 16 Noah Shachtman *New York Times* G5/1 (Lexis-Nexis) But it's not just readers' expectations that keep Mr. [Glenn] Reynolds blogging. **3:v** Link a Web posting to such a Web site **2001** Oct 21 Monica Collins *Boston Herald* 24 (Lexis-Nexis) [Sarah] Bunting's essay was blogged on many post-Sept. 11 sites. I found her via www.diarist.net—a list of links to eyewitness accounts of the terror in New York and Washington. (Most Likely to Succeed)