

YES, WE HAVE NO ASCENDERS (PART 1)

REX GOOCH

Welwyn, Herts, England

As I get older, I seem to have more problems reading words I have written quickly, as sequences like 'muvuw' become just one wavy line. I wondered what was the longest word that I would represent-as a wavy line, and what was the longest wavy-line sequence as part of a word. The letters involved are those with no ascenders or descenders, i.e. aceimnorsuvwxzs. (Actually, I write 'z' with a descender, but that's not how it's printed.) The 'i' is included despite the giveaway dot because, in hurried writing, the dot appears in a rather random position above the wavy line, giving a false clue.

Thinking about this reminded me of perhaps the cleverest logo I have ever seen. It belongs to the well-known UK electronics company, Plessey. It is appropriate for an electronics company to use an oscilloscope trace as a logo, but close examination reveals that the waveform actually spells out the word 'Plessey' written in a lazy fashion. Clever!



A little research revealed previous work had been done on this subject in Word Ways, and I report this below, but let me first present my classification of letters. The reader may find it helpful to refer to the alphabets printed below, which show the most often encountered varieties of printed letters, viz. a variant of Times, Roman and italic, then a variant of Helvetica (which has no serifs), Roman and italic, then typical handwriting. A letter always has a body part the same height ("x-height") as the body part of all other letters, e.g. the round part of a 'd'. It may also have an ascender, as in the case of 'd', or a descender, like 'p', but commonly not both. Actually, handwritten 'f' does have both, as does italic 'f' in the Times typeface. 'I' and 'j' are exceptions: they have no ascender, but have a dot above the top of the body, making the total height about the same as if they had ascenders. To avoid too many combinations, and knowing that 'j' is of no great importance, I classify it along with the other letters that have descenders. However, 'i' is important, so I assign it a category to itself. Thus we have four categories of letters for printed fonts:

type A (letters with ascenders) b d f h k l t

type B (letters with descenders) g j p q y

type C (letters with body only) a c e m n o r s u v w x z

type I (letter 'i' only) i

a b c d e f g h i j k l m n o p q r s t u v w x y z æ ì í î ï å š ç ø ñ ô ø
 a b c d e f g h i j k l m n o p q r s t u v w x y z æ ì í î ï å š ç ø ñ ô ø
 a b c d e f g h i j k l m n o p q r s t u v w x y z æ ì í î ï å š ç ø ñ ô ø
 a b c d e f g h i j k l m n o p q r s t u v w x y z æ ì í î ï å š ç ø ñ ô ø
 a b c d e f g h i j k l m n o p q r s t u v w x y z æ ì í î ï å š ç ø ñ ô ø

As can be seen, handwritten 'f' and 'z' have descenders, unlike their printed Roman counterparts, contrary to what is implied in W73-188. Capitals have neither ascenders nor descenders (in workmanlike type-faces), although the Q often has a part below the base line. This article confines itself to lower-case printed Roman letters.

There are seven ways of combining the three principal categories, which we can theoretically double by regarding 'i' as an optional addition. Thus we could look for words containing letters which have:

1. Ascenders Only We need to include the 'i' to get a vowel; LIBIDIBI is given (W73-189) as the longest of this subset of tall words, to be matched by TITIFILL (OED in W79-216), called an all-high-letter word.
2. Descenders Only The 'y' provides a vowel, though the haul of words should not be rich. We cannot pretend that 'i' belongs with these letters. Such words were regarded as a subset of tall words (W73-189), GYP being given as an example. PYGG and JUGG? are longer examples from W79-216, where they are called all-low-letter words.
3. Body Only Those which prompted my investigation. A good selection of consonants and vowels ensures long words are possible. Indeed, if we include 'i', we have the six most frequent letters in my wordlist, accounting for half of all the letter uses, and we still have eight other letters. Ripley's 35th Anniversary Believe It Or Not (1954) recorded the longest such words as CONCESSIONAIRE and RECONNAISSANCE, both straightforward dictionary words of length 14, though their plurals would be 15 letters long, thus just qualifying for the list below. Borgmann excludes the 'i' and calls them narrow words in *Language on Vacation*, for a reason that is obscure to me, since all the short fat letters are here. Actually, Borgmann was very rude about Ripley, partly for including the 'i', and offered UNCEREMONIOUSNESSES and SEMICONSCIOUSNESSES (19 letters) as the longest with an 'i', and OVERNUMEROUSNESSES (18) as the longest without.
4. Ascenders and Descenders If we include 'i', these seem to be the words referred to by Darryl Francis (W73-188) as tall words. He gave a number of examples, the longest being the 10-letter LILLIPILLY. This was matched in W79-216 by BIDDY-BIDDY, FIFTY-FIFTY, FIFTY-FIFTH, HIDDYGIDDY, HIGLY-PIGLY, LIGHT-TIGHT. These were exceeded by HIGHTY-HIGHTY (EDD) and FIFTY-FIFTHLY which were called tall-letter words.

5. Ascenders and Body This category only excludes a few letters, none vital, so if we include the 'i', we almost have the whole alphabet, offering little challenge.
6. Descenders and Body This only excludes seven infrequent letters (or eight, depending on 'i'), so is insufficiently restrictive to provide much entertainment.
7. Ascenders, Descenders and Body With the 'i', this is the full alphabet, so includes all words, therefore offering no challenge.

Of course, there are many other ways of categorising letters by their shape. For example, we could distinguish between different letter-widths, a technique exploited by Donald Knuth to create a decoding problem (W87-173). We could make (and often have made) words consisting of letters with particular kinds of symmetries.

I do not think that Borgmann's expressed contempt for Ripley is reasonable, so let me reply to his comments about 'i' belonging to the class of tall letters. Many of the body-only letters may have accents or stress marks above, or cedillas below; and 'i' itself may carry no dots (as in its Greek original, or in one of the two Turkish versions of 'I' today), one dot, or two dots (dieresis or umlaut) above. Are we then to classify a letter differently according to the accents it carries? And what are we to do with diphthongs like 'æ' or ligatures such as the conjoined 'fi' in which the 'i' has no dot?

Referring to the alphabets above, the top of the dot on the 'i' is, like most accents, at about the same height as the tops of the ascenders. Bearing in mind that the 'i' with the dot is two separate symbols, it seems most reasonable to include it in the company of other body-only letters that many carry other marks, such as 'é' or 'ç'. That is the position I would have taken, in agreement with Ripley, and contrary to Borgmann, had I not made 'i' a special category.

Actually, a wordplay reason for doing what Borgmann does, is that when making words from the other set of letters (those with ascenders or descenders), the lack of the 'i' means only 'y' is left as a vowel, making the game more difficult.

1. Ascenders only, with i

Complete words or phrases

15	IKI-IKI-IKI-IKI-IKI (Pal)			
9	TIT-TIT-TIT (EDD)	TITTIFILL		
8	TITIFILL	TIKITIKI (Web2)	LIBIDIBI (Web2)	BLITHLIK (vf)
	BIDDIKIL			
7	KITTILL (vf)	KILLKID?	ITITITI (Pname, Pal)	IBITIBI (in Bolivia)
	IBIKIBI (Pal)	HILLTIT	HILL KID	HIDDILL
	FILLITT (vf)	BITTILL		

Sequences within words or phrases

9	SELFDIFFIDING	OF A CHILD LITTLE (= from childhood)	INFALLIBILITIES
	IGNITIBILITIES	HILLBILLIES	GULLIBILITIES
	CHILD KILLING	ARMADILLIDIIDAE (DBS)	FALLIBILITIES

2. Descenders only, no i

Complete words or phrases

5 GYPPI

4 PYGG (P)PPP (music)

Sequences within words or phrases

5 PYPPYNS (DAW)	PYGGYSNY	GYPPY TUMMY (Ch)
4 YPYGHT	WORLEGYGG (vf)	WHYRLEGYGG (vf)
TRYPPGETTE	TARPHYGYGUS (TF1)	SYPPYN (vf)
STYPPYL	STEATOPYGY	SNAPPY PACE (BT)
RYPPYLL (vf)	PYPYNE	PYPYN
PYPPE	PYPPE	PYPANE (vf)
PYGYN	PYGYMAST	PYGG
PUPPY PICTURE	PUPPY PERTNESS	PUPPY-PEEPING
POPPY PLAIN	POPPY PINK	POPPY JUICE
POPPY GLOSSY	POPPY GARLAND	PLATYPYGUS
LYPPYN	LYGGYST	LYGGYNDE (vf)
LOUNGING PYJAMAS (BT)		KYYYY (USSR, OSNG)
JIGGYJIG (DOTE)	HAPPY PILL	HAPPY PAIR
HAPPYGOLUCKY (ISM)		HAPPYGOLUCKINESS
GYPPING (Ch)	GYPIE	GYPPY (vf)
GYPPED (Ch)	GYPE	SYPPY (vf)
GYGG	FYSGYGG (vf)	SLOPPY JOE(S)
EURYPYGA(E) (Ch, sun bittern etc)		PYPPE
DOGGY PADDLE(S) (Ch)		PYPGRASS
CLYPPYCE (vf)	CHYPPYNUTIE	PUPPY PLAY
BUGGYPLOUGH (or -PLOW)		PUPPY-GOD
BAGPYE (vf)	BABYRLYPYD (vf)	POPPY-GRAIN
		NYGGYSHE
		LYGGYN (vf)
		JIGGYJOGGY
		HAPPY JACK
		GYPPO(S)
		GYPPERY (Pull)
		GYPPER(S) (Web2)
		GYGYLL
		GYGGETGYGGER (vf)
		EURYPYGIDA(E) (Web2)
		DYGGYD (see dig, OED)
		DASYPYGAL
		CYPYIN (vf)
		CANYPPY (vf)
		BYGGJA (big, Old Norse)
		BRYGGJA (bridge, Old Norse)

3. Body only, with and without i

Complete words or phrases

22 RAISE ONE'S CONSCIOUSNESS (BT)

21 INSURANCE COMMISSIONER

COSMIC CONSCIOUSNESSES (BT)

20 SENSE CONSCIOUSNESSES

CONSCIOUSNESS-RAISERS

19 UNCEREMONIOUSNESSES

OVERCONSCIOUSNESSES

MARCUS ANNAEUS SENECA (Seneca)

EXCISE COMMISSIONERS

18 UNSUCCESSIVENESSES

OVERNUMEROUSNESSES (Borgmann, no I)

now ban phrases:

17 UNCONSCIOUSNESSES

COCONSCIOUSNESSES

CARNIVOROUSNESSES

NEAR-UNCONSCIOUSNESSES (Ch)

CONVEXO-CONCAVENESSES (Sted, no I)

SEMICONSCIOUSNESSES (Web2)

NONSUCCESSIVENESSES?

INSURANCE CANVASSERS?

CONVEXO-CONVEXNESSES (Sted, no I)

UNCENSORIOUSNESSES (Web2)

CONVERSION NEUROSIS (BT)

OVERNERVOUSNESSES (W79-216, no I)

CEREMONIOUSNESSES

now only use selected words:

- | | | | |
|----|------------------|-------------------------|-------------------------------|
| 16 | ZENZIZENZIZENIC | OMNIVOROUSNESSES | NEURORECURRENCES (Sted, no I) |
| | MICROMICROCURIES | CONCESSIONNAIRES | CIRCUMINSESSIONS (Web2) |
| | CIRCUMINCESSIONS | CIRCUMCRESCENCES (Web2) | CENSORIOUSNESSES |
| | AVARICIOUSNESSES | | |

now also ban NESS(ES):

- | | | |
|----|------------------------------|------------------------------|
| 15 | ZENZIZENZIZENIC | VESICOCAVERNOUS (Web2) |
| | VERRUCARIACEOUS (Web2) | SARRACENIACEOUS (Web2) |
| | SARCOCARCINOMAS (Sted) | RECONNAISSANCES |
| | NON-CONCURRENCES (no I) | MEXICAN-AMERICAN |
| | MEROMICROSOMICS (Sted) | MEROMICROSOMIAS (Sted) |
| | MERCURIAMMONIUM (Web2) | INCONVENIENCIES |
| | CONCESSIONNAIRES | CONCAVOCONVEXES (Sted, no I) |
| | CONCAVOCONCAVES (Sted, no I) | COENOMONOECIOUS (DBS) |
| | CARCINOSARCOMAS (Sted) | AMINOSUCCINAMIC (Web2) |

Sequences within words or phrases

- | | | |
|----|--|-----------------------------|
| 22 | MANPOWER SERVICES COMMISSION (UK Govt) | |
| 20 | PUBLIC SERVICE ANNOUNCEMENT (BT) | CIVIL SERVICE COMMISSIONERS |
| | AMERICAN CANOE ASSOCIATION (BT) | |
| 19 | WISE IN ONE'S OWN CONCEIT (BT) | TO RECEIVE ONE'S SAVIOUR |
| | GIVE A VIVA VOCE EXAMINATION (BT) | CONSCIOUSNESS-RAISING |

now ban phrases:

- | | | |
|----|--|--|
| 17 | FRANCOIS-MARIE AROUET (author) | DECEMNOVENARIANIZE |
| 16 | PROMISCUOUSNESSES | PNEUMONOCARCINOMA |
| | PNEUMOCOCCOSURICS (Sted) | PNEUMOCOCCOSURICALLY (Sted) |
| | PNEUMOCOCCOSURIAS (Sted) | PHOTORECONNAISSANCES |
| | GRAMINIVOROUSNESS (BT) | ERNST WERNER VON SIEMENS (Industrialist) |
| | COUNTERRECONNAISSANCE (Web2) | CLASS-CONSCIOUSNESS |
| | AXIOMESIOCERVICAL (Sted, various endings) | |
| | ARGININOSUCCINICACIDURICS (Sted, many different endings) | |

4. Ascenders and Descenders, with and without i**Complete words or phrases**

- | | | | |
|----|--------------------------------|-------------------|------------------|
| 15 | IKI-IKI-IKI-IKI-IKI (Pal) | | |
| 12 | HIGHTY-TIGHTY | FIFTY-FIFTHLY | |
| 10 | LILLY-PILLY | LIGHTTIGHT (Web2) | HIGLY-PIGLY |
| | FLY BY LIGHT (BT) | FIFTY-FIFTY | FIFTY-FIFTH |
| 9 | TIT-TIT-TIT (attractive alien) | TITTIFILL | HIDDY-GIDDY |
| | THIGH LIFT | THIGH HIGH | BIDDY-BIDDY |
| | ITTY-BITTY | HILLBILLY | TIDDLY BIT |
| | FLIGHTILY | DID THY BIT (?) | LIGHTHILL (name) |
| | | | FLY BLIGHT |

The longest words or phrases without *is* are of length 7:

YPLYGHT THYFTLY PYKKYLL (vf) LYTTYLL (vf) LYGHTLY (vf) BLYTHLY (vf)

Sequences within words or phrases

12	TIGHTLY-FITTING (Ch)		
11	UNINTELLIGIBILITY (-IES)	SKYLIGHT FILTER	
	PORTLAND BILL LIGHTHOUSE	NEGLIGIBILITY (-IES)	
	MOONLIGHT FLITTING	INTELLIGIBILITY (-IES)	
	FLOCCINAUCINIHIPIPILIFICATION		
10	WITH LIGHT FINGERS (BT)	UTILITY BILL	UNELIGIBILITY (-IES) (Web2)
	TWILIGHT-HIDDEN	TIGHT-FITTING	REELIGIBILITY
	PRESCRIPTIBILITY (-IES)	PREELIGIBILITY (-IES) (?)	NONREELIGIBILITY (-IES) (?)
	NIGHT-FLIGHT	NIGHT-FIGHTING	MYTILIDIPHICA (NZ)
	MULTIPLY BY THREE (BT)	LIGHTTIGHTS (?)	LIGHT FITTING
	INELIGIBILITY (-IES)	IMPREScriptIBILITY (-IES)	HIGHLIGHTING
	GO FIFTY-FIFTY (BT)	FLIPPITY-FLOP (?)	
	FIFTY-FIFTY SPLIT/CHANCE (BT)		FIFTY-FIFTHS
	EPITYPHLITIS (Web2)	ELIGIBILITY (-IES)	EIGHTY-FIFTH(S)
	DIVIDE FIFTY-FIFTY (BT)	ANTI-PHILIPPIZING	
now selected words only:			
9	YGYFFYLLIOG (place)	WEIGHTLIFTING (Ch)	UNSUSCEPTIBILITY
	UNINFALLIBILITY (Web2)	UNCORRUPTIBILITY	TYTTYFYLLLE (vf, no l)
	TROTH-PLIGHTING	TIGHT-LIPPED	SUSCEPTIBILITY (-IES)
	STRAIGHT-PIGHT	RUMPTI-IDDITY (Ch)	RECEPTIBILITY
	PHILLIPPINES	PHILIPPIKOS (Ch)	PHILHIPPIC
	PERCEPTIBILITY (-IES)	OVERSUSCEPTIBILITY (Web2)	NULLIBILITY
	NIGHTLIGHT(S)	NIBBYJIBBY (?)	NEUROSYPHILITIDES (Sted)
	NAPHTHYLTHIOUREA (Sted)	MYELOSYPHILITIDES (Sted)	
	METHYLDIHYDROMORPHINONE or -MORPHINE (Sted)		
	(META-, MESO)SYPHILITIDES (Sted)		ITHYPHYLLOUS (Web2)
	INSUSCEPTIBILITY (-IES)	INFALLIBILITYSHIP	INFALLIBILITY (-IES, -SHIP)
	INDISCERPTIBILITY (-IES)	INCORRUPTIBILITY (-IES)	INCORRIGIBILITY (-IES)
	IMPERCEPTIBILITY (-IES)	IMPARTIBILIBLY (Web2)	IGNITIBILITY (-IES)
	HYPERSUSCEPTIBILITY (-IES)	HILLBILLIES (Pull)	HIGH LITTLETON (place)
	HIGHLIGHT(ER)(S) (Ch)	HIGHLIGHTED (Ch)	HIGH BIGGINS (place)
	GULLIBILITY (-IES)	FONTHILL GIFFORD (place)	FILTHIFYING (Pull)
	FALLIBILITY (-IES)	EXEMPTIBILITY (-IES) (BT)	DISCERPTIBILITY
	DIRIGIBILITY	DECEPTIBILITY	CULLIBILITY
	CORRUPTIBILITY (-IES)	CORRIGIBILITY (-IES)	CONTEMPTIBILITY (-IES)
	CONSUMPTIBILITY	CONCEPTIBILITY	CHILD-KILLING (Ch)
	BALLILLILLY (CSD)	ARMADILLIDIIDAE (DBS)	ADDIBILITY

Apart from TYTTYFYLLLE (vf, length 9) noted above, the longest sequences in words or phrases without an *i* are of length 8:

YGYFFYLLIOG (place)	STYGHTYLLE (vf)	SLYGHTYLY (vf)
POLYPHYLLY	NAPHTHYLTHIOUREA (Sted)	ITHYPHYLLOUS (Web2),
GLYPHYLLINE (Sted)	DIMETHYL PHTHALATE	

SUMMARY

I have presented many new longer examples of words and phrases using one of the four interesting combinations of letters categorised by letter height. In addition, I have, in each of the four cases, presented long sequences within words or phrases.

It turns out that the number and length of the longest words are very similar to the number and length of the longest sequences within words for a given case, except that longer sequences than words can be found when using letters with ascenders and descenders without an 'i'.

As expected, given some restriction, the easiest types of words to find are those using letters with body only, though including the letter 'i' does help. Next most easy is finding words containing letters with ascenders, though here the 'i' is essential. Adding descenders to the ascenders scarcely helps, since it is difficult to find any words with letters with descenders alone. However, it is possible to do without the 'i' if we have both ascenders and descenders, mainly because the 'y' serves for an 'i' in some scientific and older spellings.

REFERENCES

Words are derived from Oxford English Dictionary headwords, except for those listed below (vf denotes a variant form).

- AmHer (American Heritage Dictionary)
- BT (Bloomsbury Thesaurus)
- Ch (Chambers 20th Century Dictionary)
- CSD (Chambers Scots Dictionary, by Alexander Warrack)
- DAW (Dictionary of Archaic Words, by James Orchard Halliwell)
- DBS (The Dictionary of the Biological Sciences, by Peter Gray)
- DJE (Dictionary of Jamaican English)
- DOTE (A Dictionary of Obscenity Taboo and Euphemism, by James McDonald)
- EDD (English Dialect Dictionary)
- LonV (Language on Vacation, by Dmitri Borgmann)
- Mang (Tregear: Dictionary of Mangareva)
- NZ (Nomenclator Zoologicus)
- OSNG (Official Standard Names Gazetteer of USSR)
- Pal (Palindromicon, by Jeff Grant)
- Pull (The Complete Word Game Dictionary, by Pulliam and Carruth)
- Ro (Roget's Thesaurus)
- Sted (Stedman's Medical Dictionary)
- TFI (Tertiary Faunas, Volume 1)
- Web 2 (Webster's Second Edition)