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Implicit lexical knowledge

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There is a broad consensus that native speakers' knowledge of the grammatical system of their language is predominantly implicit, i.e., unconscious and acquired incidentally rather than intentionally. Word meaning, in contrast, is regarded as the paradigm case of explicit, or declarative, knowledge (although some aspects of lexical knowledge, e.g. collocations and grammatical features, may be implicit). This paper presents evidence that knowledge of word meanings can also be implicit. 63 undergraduate students were given a self-evaluation task in which they were asked to assess their own knowledge of low frequency words, followed by a multiple-choice test providing an objective measure of their knowledge of the same words; they were asked to guess if they did not know the meaning of a word. Results indicate that even when participants claimed to be guessing, their performance was significantly above chance, indicating the existence of implicit knowledge by the guessing criterion (Dienes 2008).

1. Introduction

In recent years we have seen a large body of research on the role of explicit and implicit knowledge in language acquisition and processing (see, for example, Cleeremans 2006; DeKeyser 2003; Ellis 2011; Ellis et al. 2009; Paradis 2009; Perruchet 2008; Reber 1993; Rebuschat and Williams 2012l; Saffran 2003; Shanks

2005; Williams 2009). Explicit, or declarative knowledge – knowledge of events and facts (e.g., "World War II broke out in 1939", "Paris is the capital of France", "A cat is an animal") – is conscious, and is usually acquired intentionally. Implicit, or nondeclarative knowledge, in contrast, is unconscious and acquired incidentally (i.e., passively, without attempting learn);[1] examples involve motor skills (e.g., how to ride a bicycle), priming, and basic associative learning.

While the distinction between the two types of knowledge is clear in principle, in practice it is very difficult to determine whether a particular aspect of a speakers' performance depends on implicit or explicit knowledge (Dienes 2008; Ellis et al. 2009; Rebuschat 2013). Several different criteria have been proposed to distinguish between these two types of knowledge (see Rebuschat 2013 for a comprehensive discussion). One widely used measure is verbal report: knowledge is considered implicit if participants perform above chance but are unable to explain their responses verbally. It is acknowledged, however, that verbal report is not a very reliable criterion, as participants may be unwilling to verbalize knowledge that they are uncertain about, or unable to verbalize it because they lack the requisite linguistic skills. The latter point is rather obvious for grammatical knowledge (to formulate a grammatical rule, one often needs specialized metalanguage – words like *verb, person, number, agree,* etc. – which many speakers do not know), but it is also true for vocabulary (some words are notoriously difficult to define).

A more refined criterion involves comparison of performance on direct and indirect tests. Direct tests, as the name suggests, measure knowledge directly by requiring participants to perform a task which requires a particular kind of knowledge.

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[1] Note that implicit/nondeclarative knowledge comprises several distinct systems subserved by different brains systems: procedural knowledge (i.e., skills and habits), priming and perceptual learning, classical conditioning, and nonassociative learning (see Squire 2004).

Indirect tests, in contrast, measure the extent to which performance on some seemingly unrelated task is facilitated as knowledge is acquired. Knowledge is considered to be implicit if an indirect test shows learning while a direct test does not. For instance, in a sequence learning experiment, implicit knowledge may be revealed through decreasing reaction times in copying a sequence, even when participants are unable to reproduce the sequence themselves and are unaware that the stimuli are ordered in a particular way. One problem with this criterion is that differences in performance on direct and indirect tests may be due simply to task demands: direct tests are typically considerably more difficult than indirect tests. Furthermore, performance on direct tests may be contaminated by implicit knowledge, leading the researcher to overestimate explicit learning.

Finally, it is possible to measure implicit knowledge by comparing participants' confidence in their responses with their accuracy. Knowledge is considered to be implicit when participants believe they are guessing when their performance is actually above chance or if accuracy is unrelated to confidence: these are referred to as the *guessing criterion* and *zero correlation criterion* respectively (see Dienes et al. 1995; Dienes 2008). Although such subjective measures are not as widely used as verbal report, there is evidence that they are more sensitive and more reliable (see Dienes 2008; Dienes and Scott 2005; Hamrick and Rebuschat 2012; Rebuschat and Williams 2009, 2012; Ziori and Dienes 2006).

It is important to note that the presence of explicit knowledge does not rule out the presence of implicit knowledge, and vice versa. Thus, it is perfectly possible – and indeed quite common (Dienes 2008) – for a person to perform above chance on those test items on which they believe they are guessing (which demonstrates implicit knowledge according to the guessing criterion) and also to perform significantly

better on those items which they are more confident about (thus demonstrating explicit knowledge by the zero correlation criterion). In such cases, we conclude that the two types of knowledge co-exist in the same person. I will return to this issue in the concluding section.

Speakers' knowledge of their native language is largely implicit (Ellis 2011). Speakers are able to understand and produce grammatical sentences like *The cat is sitting on the mat,* and distinguish them from ungrammatical strings such as **The cat on mat are sit* without being consciously aware of the grammatical rules involved (e.g. the subject *the cat* is singular and therefore requires a singular form of the auxiliary; the progressive is formed by combining the appropriate form of the auxiliary *be* and a lexical verb with the *-ing* suffix; in an affirmative sentence, the first auxiliary comes after the subject but before adjuncts and complements, etc.)

There is, however, an important exception, namely, lexical knowledge, and more specifically, knowledge of a word's meaning. Although some aspects of lexical knowledge, such as knowledge about grammatical properties of words (Paradis 2009: 14ff) and their typical collocations (Ellis 2004) may be implicit, knowledge of word meaning is clearly explicit: native speakers not only know what words like *cat* or *sit* mean*;* they also know that they know, and are able to provide a rough definition. In fact, it is difficult to imagine how word meaning could be implicit. Words are used to communicate ideas. They can do this because their meanings are shared by members of a particular speech community. If speakers weren't consciously aware of the meanings they encoded, and listeners of the meanings they decoded, communication could not take place.

There is some evidence from earlier research that speakers may have implicit representations of word meanings, at least in the early stages of acquisition. Hamrick

and Rebuschat (2012, 2014) studied the acquisition of picture and label pairings using a cross-situational learning paradigm. Participants were presented with pairs of pictures and pairs of pseudoword labels. The order of the pseudowords was not related to the order of the pictures: thus, when participants heard a pseudoword, they did not know which of the two pictures it was associated with. Half of the participants were in the intentional learning condition (they were asked to learn the meanings of the words and told they would be tested afterwards), while the other half were in the incidental learning condition (they were asked to say how many objects on each slide were animate, then given a surprise test). After training, participants were given a four-alternative multiple choice test. Both groups performed significantly above chance, and the intentional learning group performed significantly better than the incidental learning group (73% v. 44% correct).

Hamrick and Rebuschat also asked participants to assess their confidence that their responses were correct on a scale from 50 (pure guess) to 100 (absolutely sure). Confidence ratings in the intentional group (mean 81) were significantly higher than that incidental group (mean 61). Moreover, the intentional group's confidence ratings correlated with accuracy ($r=.77$, $p <.05$), while those of the incidental group did not ($r=.45$, $p > .05$). Crucially, in both groups, performance was above chance even when participants claimed to be guessing: even when confidence ratings equalled 50, participants in the incidental learning group chose the correct response 34% of the time, while those in the intentional group were 45% correct.

While these results are suggestive, it is not clear whether the knowledge acquired by the participants in the Hamrick and Rebuschat experiment can be described as lexical knowledge. The problem is that, in the real world, most words are not acquired simply by hearing a label in the presence of a referent, even in the early

stages of language acquisition. Although parents often name objects for a child, words for actions, for example, rarely coincide with their labels: they typically occur either before or after (cf. *eat your peas; he ran away;* see also Gillette et al. 1999; Tomasello and Kruger 1992). A number of experimental studies have demonstrated that we learn a word when we infer that the speaker (or writer) who used it wanted to refer to some object, process or relationship that we are able to identify. Even young children are able to use complex social cues to determine the correct referent, and the referent need not be present when the word is produced (Tomasello and Barton 1994; Tomasello 2003); conversely, children do not acquire a word when they hear it spoken by a disembodied voice in the presence of a potential referent (Baldwin et al. 1996). In other words, vocabulary knowledge is not merely associative knowledge, and thus it is not clear what the Hamrick and Rebuschat (2012, 2014) studies tell us about vocabulary learning.

In this paper, I argue that word knowledge can be implicit in the early stages of word learning, that is to say, before it becomes well entrenched – in other words, that weakly entrenched lexical knowledge is not accessible to consciousness. To demonstrate this, I describe an experiment testing native speakers' comprehension of words which they are likely to have experienced in naturalistic settings, but very infrequently, and thus any knowledge that they may have acquired is likely to be poorly entrenched. The prediction is that even when speakers claim they do not know the words, they will perform above chance on an objective test tapping their knowledge.

2. Method

2.1. Materials

The instrument used in this study was partly based on Nation and Beglar's (2007) Vocabulary Size Test. The VST consists of 140 items divided into 14 levels of difficulty. Level 1 contains 10 items sampled from the thousand most frequent "word families" in the British National Corpus; level 2 contains items sampled from the second thousand most frequent families, and so on. Each test word is presented in a short non-defining context and followed by four simple definitions, as in example (1). Note that the distractors describe concepts which are very different from the target word; hence participants are able to choose the correct definition even if they have only a very rudimentary knowledge of the word's meaning.

(1)   hessian: She bought some **hessian**.

a. oily pinkish fish

b. stuff that produces a happy state of mind

c. coarse cloth

d. strong-tasting root for flavouring food

The initial test consisting of all items from levels 11 to 14 of the VST was piloted with a group of 29 undergraduates. The pilot study revealed that some of the original items were too easy (i.e., virtually all respondents selected the correct definition), while others were too difficult; these items were replaced with new words (see below). In addition, an analysis of the responses revealed some systematic errors

which were probably attributable to the wording of the definitions. The VST was developed to measure the vocabulary size of second language learners, and hence the defining vocabulary is very restricted, which results in some rather unnatural definitions which some respondents found misleading. Since participants in this study were university students who were native speakers, these were replaced with more precise definitions: for instance, the definition of *weir* ("thing built across a river to control the water") was changed to "dam built across a river to control the water"; and definition of *didactic* ("tries hard to teach something") was changed to "intended to teach a moral lesson".

The final test (see appendix) consisted of 8 original items from the VST, 12 items based on the VST but with modified definitions, and 15 new items of comparable level of difficulty following the same format. The mean frequency of the target words in the British National Corpus was 1.4 per million. In addition, five medium frequency words (*yoga, mumble, bristle, haunted,* and *strangle*; mean BNC frequency 5.3) which all educated native speakers are expected to know were used as control items; these were taken from lower levels of the VST. The self-evaluation task (see below) also included five pseudoword controls (*cladon, fenculate, mockle, predolic,* and *spentive*).

The test consisted of two parts. Part 1 was a self evaluation task containing 45 items (35 target words, 5 real controls, and 5 pseudowords). Each item consisted of a sentence containing the target word (with the target word printed in boldface). For each word, participants were asked to give one of the following responses:

Y = Yes, I know what the word means.

? = I've got a hunch, but I'm not sure.

N = I've got no idea.

Part 2 was a traditional multiple choice test comprising 40 items (the 35 target items and 5 real controls). Each item consisted of a sentence containing the target word (with the target word printed in boldface) followed by four definitions. Participants were asked to choose what they thought was the correct answer, and to guess when they were not sure. They were also asked not to refer back to part 1 when they were completing part 2.

The test items were arranged in random order. Four different randomizations were used, with approximately a quarter of the participants being tested with each version. To discourage participants going back to part 1 to change their answers, different random orders were used in parts 1 and 2. One complete version of the test, including instructions, is provided in the appendix.

2.2. Participants and procedure

75 second year undergraduates studying English Literature participated in the study; they were all were native speakers of English. Participants were tested in a lecture room after a lecture, and took about 12 minutes to complete the test.

3. Results

3.1. Control items

Control items in the self evaluation task were scored as follows: real words were scored as correct if the participant said s/he knew what they meant; pseudowords were scored as correct if the participant said s/he did not know what they meant; all "not

sure" responses were scored as incorrect. 11 participants obtained scores of 7 or below on the control items and were deemed not to have engaged with the task and hence excluded; one participant was excluded because s/he did not complete the task. The remaining 63 participants were entered into the analysis.

The participants correctly identified 100% of the real control words on the self-evaluation task, and correctly rejected 83% of the pseudowords. Thus, overall performance on control items was 91%. Participants chose the correct definition of the control items 98% of the time. These results suggest that the judgments collected in the study were generally reliable, although participants showed a slight tendency to *overestimate* their knowledge. Thus, we can be confident that when participants reported that they had "no idea" what a word meant, they really had no conscious knowledge, rather than simply adopting a conservative attitude in their estimates.

3.2. Test items

On average, participants claimed to know 51% of the test items, were unsure about 12%, and did not know 37%. They scored 63% correct on the multiple choice test (SD 12, range 29-89%). There was a moderately strong correlation (r=.54, p<.001) between vocabulary size as measured by the self-evaluation and multiple choice tests, i.e., the number of items identified as "known" in part 1 and the number of correct responses in part 2.

To compare performance on the three categories of words, each participant's responses on the multiple choice test were divided into "known", "possibly known", and "unknown", depending on their responses on the self-evaluation task. The results, converted into percentages, are presented in table 1.

Table 1: Proportion of correct responses as a function of self-evaluated knowledge

Category	Mean	SD
Known	84	11
Possibly known	46	28
Unknown	45	20

On average, participants chose the correct definition on the multiple choice test for 84% of the words that they claimed to know. This is significantly lower (t(62)=5.05, p<0.001) than their scores on the control words, which confirms that they tended to overestimate their knowledge. They scored 46% on words they were not sure about, and 45% of the words they claimed they didn't know. Both of these scores are significantly lower than the scores for known words: for possibly known v. known, t(56)=10.97; for unknown v. known, t(62)=14.14. They were also significantly above chance (i.e., 25%): for unknown words, t(62)=8.07, p<0.001; for possibly known words: t(56)=5.75, p<0.001. Performance on unknown and possibly known words was not significantly different: t(56)=0.59, p=.557.

4. Discussion

As predicted, participants' performance on words they claimed they didn't know was above chance (45% correct). This is similar to the performance observed in the Hamrick and Rebuchat (2012) pseudoword learning study. The test items in the experiment described here, however, were real English words, acquired in the normal way, i.e., predominantly through incidental exposure in texts (Dąbrowska 2009),

although of course some of the words may have been learned explicitly, or even taught.

These results are compatible with two interpretations. First, applying Dienes' (Dienes et al. 1995; Dienes 2008) criteria, we may note that while the zero correlation criterion suggests that participants had explicit knowledge of the target words (since performance on known words was considerably higher), the guessing criterion indicates that their knowledge was at least partly implicit (since participants performed considerably better than chance even when they claimed to be guessing). Thus, we could conclude that participants' knowledge was partly implicit and partly explicit. This is how Hamrick and Rebuschat interpreted their results, arguing that in their study, participants in the intentional learning condition acquired both implicit and explicit knowledge, since they performed above chance even when they claimed to be guessing, but also there was a significant relationship between their confidence ratings and accuracy ($r=.77$, p<.05). The incidental group, on the other hand performed above chance even when they claimed to be guessing (thus demonstrating implicit knowledge), but showed no significant correlation between accuracy and confidence in their answer ($r=.45$, p>.05). Note, however, the failure to find a significant correlation was most likely due to lack of power: with only 15 participant and a correlation coefficient of .45, the likelihood of finding a significant correlation if there is one is only .38. Performance in the incidental learning condition (44%) was much lower than when learning was intentional (73%), so there is simply not enough variability in scores for a large correlation to arise.

Thus, we cannot conclude that the knowledge acquired by the two groups differed in kind, just as there is no evidence that, in the study described here, participants' knowledge of the items they identified as "known", "possibly known"

and "unknown" was different. An alternative interpretation would be that all knowledge of word meaning is represented in the same format – in other words, that the distinction between implicit and explicit knowledge is a matter of degree, at least for vocabulary knowledge. Initial representations may be "implicit" in the sense that they are too weak to be accessible to consciousness, and gradually become "explicit" as they are strengthened through repeated exposure (cf. Cleeremans 2006).[2] On this account, participants' judgments would be a function of a words' entrenchment.[3]

Several lines of evidence seem to argue in favour of the second possibility. First, both kinds of knowledge can be acquired incidentally, and both are sensitive to frequency in the input (Hamrick and Rebuschat 2014). Furthermore, in studies which use the guessing criterion to establish the existence of implicit knowledge, the observed levels of performance are above chance, but relatively low, of the order of 35-45% correct on four-alternative forced-choice tasks (see, for example, Hamrick and Rebuschat 2014 and the results presented above), and 60-65% correct on many artificial grammar learning tasks (e.g. Rebuschat and Williams 2009; Redington and Chater 1996, Scott and Dienes 2010), where participants are required to perform a two-alternative forced-choice task (grammatical v. ungrammatical), and hence chance

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[2] It is important to note that it *is* possible to acquire an explicit representation of a word's meaning with just one exposure. This has been demonstrated in a number of "fast mapping" studies (Carey 1978, Dickinson 1984, Heibeck and Markman 1987, Houston-Price et al. 2005, Markson and Bloom 1997). Most fast-mapping studies, however, involve manipulating the learner's attention and repetition. Without such support, there is little long-term retention (cf. Vlach and Sandhofer 2012).

[3] Thus, some types of implicit knowledge can be considered "pre-explicit". Note, however, that this does not apply to all types of implicit memory: in particular, it does not apply to procedural memory. In fact, procedural memory can in some cases at least be regarded as "post-explicit", in the sense that lack of awareness may be a consequence of proceduralization (cf. Cleeremans 2006).

performance is 50%.[4] It seems that, as performance increases with gradual exposure, so do confidence judgements.[5]

The second account makes the following prediction: if the incidental learning group are given additional exposure, both confidence ratings and accuracy will rise, and a significant relationship between the two will emerge. Until an experiment testing this prediction is conducted, we cannot decide conclusively between the two explanations. However, whatever the relationship between implicit and explicit knowledge, it is clear that knowledge of word meaning can be (at least partly) implicit. It seems that the mental lexicon, like other areas of cognition, involves a coalition of mental processes – some implicit, and some explicit.

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[4] Note that these levels of performance are equivalent once we take the probability of producing the correct response by chance into account. We can correct for guessing by using the following formula: corrected score = (% correct - % chance)/(100 - % chance). Applying this correction, a score of 45% on a four-alternative forced choice task becomes 26%, while a score of 65% on a two-alterative test is equivalent to 30%.

[5] An anonymous referee points out that while it is true that, in general, performance is better when participants are more confident, the Scott and Dienes (2010) study found that participants performed above chance when they claimed they chose the response randomly and at chance when they reported that they relied on intuition, familiarity, rules or recollection. Although Scott and Dienes did not assess confidence directly, it is reasonable to assume that they would be more confident in the latter case. Note, however, that this finding does not undermine the argument presented here, since the chance performance when they were relying in intuition, rules, etc., shows that whatever generalizations they were relying on were incorrect.

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Appendix: Testing materials

Part 1. For each of the words below, indicate whether you know it:

       Y = Yes, I know what the word means

       ? = I've got a hunch, but I'm not sure

       N = I've got no idea

Put your answer in the box beside the sentence. Please be sure to answer all questions.

1	affidavit: He needs an **affidavit**.	
2	serrated: It had a **serrated** edge.	
3	mockle: We **mockled** out of the house.	
4	aperitif: She had an **aperitif**.	
5	humdrum: He lived a **humdrum** life.	
6	lintel: He painted the **lintel**.	
7	mirth: She tried to control her **mirth**.	
8	querulous: He was very **querulous.**	
9	fenculate: She was **fenculated.**	
10	atoll: The **atoll** was beautiful.	
11	bawdy: It was very **bawdy**.	
12	weir: We looked at the **weir**.	
13	rue: He will **rue** the day.	
14	locust: There were hundreds of **locusts**.	
15	mumble: He started to **mumble**.	
16	impale: He nearly got **impaled.**	
17	trill: He practised the **trill**.	
18	cladon: He needs a new **cladon.**	
19	ubiquitous: These plants are **ubiquitous**.	
20	gauche: He was **gauche**.	

21	spentive: He was very **spentive**.	
22	didactic: The story is very **didactic.**	
23	marsupial: It is a **marsupial**.	
24	augur: It **augured** well.	
25	predolic: It is **predolic.**	
26	strangle: He **strangled** her.	
27	charlatan: He is a **charlatan**.	
28	lugubrious: He was a **lugubrious** fellow.	
29	malinger: She's not **malingering.**	
30	pristine: The beach was **pristine.**	
31	rouble: He had a lot of **roubles**.	
32	refectory: We met in the **refectory**.	
33	coven: She is the leader of a **coven**.	
34	squawk: The bird **squawked.**	
35	yoga: She has started **yoga.**	
36	myopic: He is **myopic.**	
37	dally: Stop **dallying**!	
38	hessian: She bought some **hessian**.	
39	nebulous: It's a **nebulous** concept.	
40	emir: We saw the **emir**.	
41	canonical: These are **canonical** examples.	
42	haunt: The house is **haunted.**	
43	alum: This contains **alum**.	
44	bristle: The **bristles** are too hard.	
45	mollify: They tried to **mollify** her.	

Part 2. Choose the word or expression (A, B, C or D) that is most similar in meaning to the word in boldface. Put your answer in the box beside the question. **IF YOU DON'T KNOW, GUESS.** Be sure to choose just 1 answer in each set. **PLEASE DO NOT GO BACK TO PART 1.**

1	nebulous: It's a **nebulous** concept. A. difficult to understand B. strange C. very old D. vague or ill-defined	
2	lugubrious: He was a **lugubrious** fellow. A. not very intelligent B. not very quick C. mournful or gloomy D. prone to illness	
3	atoll: The **atoll** was beautiful. A. a ring-like coral island and reef surrounding a lagoon B. work of art created by weaving pictures from fine thread C. small crown with many precious jewels D. a wide canyon	
4	ubiquitous: These plants are **ubiquitous**. A. are difficult to get rid of B. have long, strong roots C. are found nearly everywhere D. need a lot of water	
5	bawdy: It was very **bawdy**. A. strange and unpredictable B. enjoyable C. rushed D. humorously indecent	
6	emir: We saw the **emir**. A. bird with two long curved tail feathers B. woman who cares for other people's children in Eastern countries C. a Middle Eastern ruler D. a large house	
7	affidavit: He needs an **affidavit**. A. young female companion B. written statement confirmed by oath C. artist's board for mixing paints D. heavy iron pole with a curved end	
8	humdrum: He lived a **humdrum** life. A. full of adventures B. lacking variety or excitement C. extraordinary D. filled with sorrow and sadness	
9	malinger: She's not **malingering.** A. joking B. pretending to be ill C. telling untrue stories D. preparing to go out	

10	weir: We looked at the **weir**. A. table or block used for ritual sacrifices B. wet and muddy place with water plants C. old metal musical instrument played by blowing D. dam built across a river to control the water	
11	hessian: She bought some **hessian**. A. oily pinkish fish B. stuff that produces a happy state of mind C. coarse cloth D. strong-tasting root for flavouring food	
12	gauche: He was **gauche**. A. talkative B. flexible C. awkward D. determined	
13	querulous: He was very **querulous.** A. maniacal B. curious C. devote D. complaining	
14	marsupial: It is a **marsupial**. A. an animal with hard feet B. a plant that grows for several years C. something that brings good luck D. an animal that carries its young in a pouch on its belly	
15	trill: He practised the **trill**. A. a rapid alternation of two musical tones B. type of stringed instrument C. way of throwing a ball D. dance step of turning round very fast on the toes	
16	alum: This contains **alum**. A. a poisonous substance from a common plant B. a soft material made of artificial threads C. fermented milk D. a chemical compound used in dying and for medicinal purposes	
17	bristle: The **bristles** are too hard. A. questions B. short stiff hairs C. folding beds D. bottoms of the shoes	
18	pristine: The beach was **pristine.** A. very small B. pebbly C. unspoiled D. unremarkable	
19	dally: Stop **dallying**! A. wasting time B. worrying C. jumping up and down D. making rude remarks	

20	rouble: He had a lot of **roubles**. A. very precious red stones B. distant members of his family C. Russian currency D. moral or other difficulties in the mind	
21	charlatan: He is a **charlatan**. A. a skilled craftsman B. a person falsely claiming to have special knowledge or skill C. a medieval scholar D. a person who tries to help others	
22	yoga: She has started **yoga.** A. handwork done by knotting thread B. a form of exercise for the body and mind C. a children's game D. a type of dance from eastern countries	
23	rue: He will **rue** the day. A. celebrate B. remember C. regret D. forget	
24	squawk: The bird **squawked.** A. became ill B. turned suddenly C. made a harsh noise D. flew away	
25	aperitif: She had an **aperitif**. A. a long chair for lying on with just one place to rest an arm B. a private singing teacher C. a large hat with feathers D. a drink taken before a meal	
26	haunt: The house is **haunted.** A. full of ornaments B. rented C. empty D. full of ghosts	
27	refectory: We met in the **refectory**. A. a communal dining hall B. office where legal papers can be signed C. room for several people to sleep in D. room in the back of a house	
28	augur: It **augured** well. A. it was a good omen B. agreed C. had a colour that looked good with something else D. rang with a clear, beautiful sound	
29	serrated: It had a **serrated** edge. A. sharp B. blunt C. slightly curved D. notched like a saw	

30	didactic: The story is very **didactic.** A. is intended to teach a moral lesson B. is very difficult to believe C. deals with exciting actions D. is long and complicated	25
31	impale: He nearly got **impaled.** A. charged with a serious offence B. put in prison C. stuck through with a sharp instrument D. involved in a dispute	
32	mollify: They tried to **mollify** her. A. make her feel less angry or upset B. persuade her to change her mind C. dress her very attractively D. persuade her to eat more	
33	locust: There were hundreds of **locusts**. A. unpaid helpers B. insects with wings C. people who exercise a lot D. brightly coloured wild flowers	
34	coven: She is the leader of a **coven**. A. a small singing group B. a business that is owned by the workers C. a group or gathering of witches D. a group of women who follow a strict religious life	
35	mirth: She tried to control her **mirth**. A. anger B. amusement C. jealousy D. fear	
36	strangle: He **strangled** her. A. killed her by squeezing her throat B. gave her all the things she wanted C. took her away by force D. admired her greatly	
37	canonical: These are **canonical** examples. A. examples which break the usual rules B. examples taken from a religious book C. regular and widely accepted examples D. examples discovered very recently	
38	lintel: He painted the **lintel**. A. beam across the top of a door or window B. small boat used for getting to land from a big boat C. beautiful tree with spreading branches and green fruit D. board which shows the scene in a theatre	
39	myopic: He is **myopic.** A. short-sighted B. imaginative C. very tall and slim D. confused	

40	mumble: He started to **mumble**. A. think deeply B. shake uncontrollably C. stay further behind the others D. speak in an unclear way	26

One last question: Is English your native language? **Yes/No** (Circle one.)
Please check that you have answered all questions. **If you are not sure, guess.**
THANK YOU!