The Relationship Between Vocabulary Size and Lexical Automaticity

Tatsuo ISO
Reitaku University

Abstract

This study investigated the relationship between two dimensions of vocabulary knowledge, namely vocabulary size and automaticity with a newly developed test that measures vocabulary size and lexical access time in a single administration. The test was administered to two proficiency-based groups of Japanese learners of English majoring in foreign languages (N = 88). The results of the test showed that the overall means of both vocabulary size and lexical access time strongly correlated with frequency levels of the words used in the test. However, no correlation was found between vocabulary size and lexical access time when participants' individual data were analyzed. Furthermore, there was a tendency for participants with higher proficiency in English to score higher in terms of vocabulary size, whereas such a tendency was not observed for lexical access time data, which was contradictory to the findings of earlier studies. The possible reasons for the inconsistency are discussed in the target words.

1. Introduction

Comprehension of a body of text, delivered orally or in writing, requires vocabulary knowledge. That is not to say that vocabulary is the single most important element. Without a doubt, there is a whole range of other knowledge, such as syntax and phonology, and skills that are critical to text comprehension. Nonetheless, teachers and researchers place high value in vocabulary. It is problematic that defining vocabulary knowledge is so complex that the definitive answer to what vocabulary knowledge consists of remains unclear. Still, no matter how vocabulary is defined, it is widely accepted that vocabulary is one of the most fundamental elements in comprehending a text.

There are numerous studies that have investigated the role of vocabulary in text comprehension, of which the majority focused on reading. Those studies generally found a strong relationship between vocabulary size and reading comprehension (Iso & Aizawa, 2013; Mochizuki, 2010; Qian, 1999). At the same time, among reading researchers, it seems to be a common notion that both vocabulary size and automaticity of vocabulary are indispensable for
reading fluency, which leads to better comprehension of a text. When we think about our experience in reading, we can imagine how having a small vocabulary size would hinder comprehension as well as how taking so much time in retrieving meaning of words would compromise fluency. This, in turn, seems to suggest that a good reader is equipped with a large and highly automatic vocabulary. Then, how are vocabulary size and automaticity related to each other? Due to the lack of empirical studies on this topic, it is not clear how the two dimensions of vocabulary knowledge, size and automaticity, develop or how they interact. Therefore, the present study aimed to investigate the relationship between learners’ vocabulary size and automaticity by developing a test that measured both at the same time.

2. Previous Studies

The definition of vocabulary knowledge is far more complex than it may seem. Even a description of a single word knowledge is not at all straightforward. One of the simplest views of knowing a word would be to say a learner knows the core meaning of a given word or how to spell it out. However, such a view is too simplistic as knowing a word entails so many aspects of it. A proficient language user should know a word’s peripheral meanings, pronunciation, parts of speech, inflections, collocates, and so on (Nation, 2001; Ringbom, 1987).

More recently, researchers’ focus has shifted from single word knowledge to vocabulary knowledge, that is, the collective knowledge of all the words a learner has acquired. Envisaging size, organization (or depth), and automaticity of vocabulary as constituents, some researchers proposed a three-dimensional view of vocabulary knowledge (Daller, Milton, & Treffers-Daller, 2007; Meara, 1996, 2005; Milton, 2010). One of the most common and easy-to-understand dimensions is size, which concerns the amount or number of words a learner knows.

The second dimension is more controversial. Some researchers see the dimension as depth of vocabulary, which deals with how well a learner knows (Daller et al., 2007), while others see it as organization, or how words are interconnected and how strong those connections are (Meara, 2005). It is not our intention to say that the distinction is trivial; however, it is beyond the scope of this study, and for this reason, this study only focuses on the first and third dimensions.

The third dimension, automaticity, represents how automatically a given word is recognized in terms of word form and meanings. As will be mentioned later, Segalowitz and Segalowitz (1993) argue that speeded-up processes and automatized processes not the same. Yet, many of the studies that focus on lexical automaticity deal with the speed of word recognition.

To see how dimensions of vocabulary knowledge affect real-life tasks, let us turn to reading comprehension, for example. According to Grabe (2008, 2010), vocabulary size and automaticity are indispensable for fluent reading comprehension. It is not difficult to imagine a situation where comprehension is compromised due to a large number of unknown words. It was found that text coverage of 98% is needed for learners to adequately understand a text (Hu & Nation, 2000).
Studies have generally shown a strong relationship between vocabulary size and reading comprehension scores (Aizawa & Iso, 2008; Iso & Aizawa, 2013; Mochizuki, 2010; Qian, 1999).

In an attempt to determine the size of vocabulary knowledge needed for satisfactory understanding of academic texts, Aizawa and Iso (2008) administered an original vocabulary size test and three TOEFL reading passages with comprehension questions to 175 Japanese learners of English. With reading passages in which 95% of the vocabulary were within 5500 frequency level, they discovered that vocabulary knowledge of 6500 or more words was needed to score 80% in the TOEFL reading comprehension section. Their study showed the importance of having large vocabulary for reading comprehension.

As for the automaticity of vocabulary, which is defined as rapid recognition of word forms and meaning retrieval, is also deemed important. It is important to note here that automaticity is defined as the speed of both word recognition and meaning retrieval. Admitting that automaticity of vocabulary knowledge entails not only speed of cognitive processing but characteristics such as being unconscious and uninterrupted (see DeKeyser, 2001 for more details), this study only deals with speed, or the amount of time needed to recognize the form and the meaning of a word, as it is the most noticeable and measurable trait of automaticity. For this reason, the term automaticity and lexical access time are used interchangeably in this study.

How is lexical automaticity important in reading? Grabe (2008) points out, automaticity of vocabulary reduces the amount of cognitive processing resources, which then can be utilized in other processes required for the actual comprehension of texts. This account of the role of lexical automaticity seems to make sense. It is not difficult to imagine a situation in which too much attention to unknown words compromise fluent reading. Other researchers also expressed the importance of lexical automaticity in reading (Akamatsu, 2008; Sato, Matsunuma, & Suzuki, 2013).

As seen above, in a task such as reading comprehension, the size of vocabulary and its automaticity seem important. In general, it is better to have a larger vocabulary size. It is also better to be able to recognize the form and meanings of words. A question arises here as to how having a large vocabulary affects the speed of lexical access? On the surface, larger vocabulary size may seem to interfere with lexical access, as words that are similar to the word in focus would be simultaneously activated when we our attention is drawn to a word. When a learner encounters a word, say, mouth, other words that shares orthographical or phonological features such as mouse, mouth, and moth could be activated in his/her mental lexicon. If that is the case, when the pool of words is smaller in numbers, lexical access time may actually be shorter. Unfortunately, there are no such studies that investigated on this issue as far as the present authors are aware. To gain insights on this matter, this study investigated the relationship between learners’ vocabulary size and lexical access time.
3. Present Study

3.1 Research Questions

The aim of this study was to investigate the relationship between learners’ vocabulary size and automaticity. For this purpose, the following research questions were asked:

(1) How strong is the correlation observed between the estimated vocabulary size and the automaticity index for each 1000-frequency band established in JACET8000?

(2) Are there differences in vocabulary size and automaticity index between learners with different proficiencies?

2.2 Participants

The participants in this study were 88 Japanese learners of English majoring in foreign languages. The results of the their overall English proficiency measured by TOEIC showed that there was quite a large range (minimum of 260 to maximum of 930), and the mean and the standard deviation were 599.29 and 124.67, respectively. The participants were divided into two proficiency groups according to their TOEIC scores with 470 points being the cutoff point. The number of participants, mean, and standard deviations for each group are shown in Table 1. A significant difference in the mean scores of the two groups was found by a t-test; \( t(22.06) = -8.16, p < .01 \).

3.3 Material

For the purpose of the study stated above, a new test called Lexical Access and Size Test (LAST) was developed to measure learners’ vocabulary size and lexical automaticity in a single test. The test consists of two phases; one that measures learners’ reaction times to non-linguistic stimuli, and another that measures learners’ lexical access time and semantic knowledge.

The non-linguistic reaction time phase serves two purposes. For the participants, this phase functioned as a practice session. LAST required the participants to hold down a mouse button to bring stimuli onto a computer screen, and doing so is an uncommon way to operate a computer mouse, except for ‘dragging’. Further, participants were asked to release the held-down mouse button as quickly as possible after seeing the stimuli in the non-linguistic phase as well as retrieving the meaning of target words in lexical access phase. Since the speedy operation of the mouse button was an important aspect of the test, it was decided that the participants needed a

<table>
<thead>
<tr>
<th>Proficiency</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher</td>
<td>21</td>
<td>599.29</td>
<td>126.96</td>
</tr>
<tr>
<td>Lower</td>
<td>67</td>
<td>367.61</td>
<td>51.00</td>
</tr>
</tbody>
</table>
practice session.

Another function of the non-linguistic reaction time phase was to calculate participants' base reaction time, so that the base reaction time was subtracted from the reaction time for the target words. In other words, to measure lexical access time as purely as time dealing with target words, the time needed to operate a mouse without linguistic cognitive processing had to be calculated and subtracted from the reaction time for target words.

During the non-linguistic reaction time phase, the participants were instructed to hold down a mouse button. After a randomly determined interval of several hundred milliseconds, a circle appeared in the center of a computer screen. The participants were to release the mouse button as soon as they saw the stimulus. The latency between the onset of the stimulus appearance and the release of the mouse button was measured. After repeating this ten times, the longest and the shortest latencies were discarded to minimize noise in the data, the eight instances of reaction time were averaged, and the result was stored within the test program.

The lexical access time phase consisted of two sequential components. During the first component, the participants were first presented with each target word to recognize and retrieve the meaning of one at a time. The test instruction on the computer screen asked the participants to hold down the mouse button until a word appeared on the screen, and then to release the button as soon as they were able to retrieve the meaning of the word. When the participants could recognize the word but not be able to retrieve the meaning, they were to treat the word in question as unknown.

The participants were further instructed on how to deal with unknown words and pseudo-words, for which you will see an explanation below. In such cases, the participants were advised to release the mouse button as soon as they realized that they did not recognize the words.

In the subsequent semantic component, the participants were asked to choose the meaning of the target words they saw during the preceding reaction time task. Accompanying one correct answer, two other Japanese words were given as distractors (See Figure 1). These distractors were translations of English words that were in the same frequency band as those in the target words. Moreover, the number of letters as well as the first letter of those non-target English words were the same as the target words so as to make the distractors equally attractive.

The target words used in the lexical access time phase were 240 randomly selected words from JACET8000. It was comprised of 30 words from each of the 8 frequency bands of JACET8000. There was a dilemma in deciding the number of the target words, as measuring reaction times for that many words seemed to be rather daunting for the participants. At the same time, using a larger number of words would improve estimation of participants’ vocabulary size. Therefore, by randomizing the question sequence during the test to minimize the unwanted fatigue effects, it was decided to keep the number of the target words to 240.

Of the 30 words within each frequency band, ten words were transformed into pseudo-words by changing first or second vowel into another. The resulting pseudo-words were highly
a. b. c. d.

Figure 1. The participants were first instructed to click and hold down the mouse button on the "start" button as seen in (a) and (c) to display the target words. They were asked to release the mouse button as soon as they recognize the displayed target word and retrieve the meaning of the target word. Subsequently, the participants were shown a screen and were asked to choose the meaning of the word they have seen on the previous screen.

similar to the real words in terms of word form. The reason behind the use of pseudo-words was to include a lexical decision process so as to prevent participants from falsely telling the computer program that they know the meaning of the word even when they actually do not, simply to minimize lexical access time. This problem was suspected to have occurred in Iso, Aizawa, and Tagashira (2012) in which all the target words were existing English words.

As mentioned above, one-third of the target words were pseudo-words. In such cases, there were no correct answers to choose from among the three choices displayed on the computer screen. In this case, the participants were told to press a button labeled ‘Not a Word’. Further, if they were not sure of their choice, they were told not to take a guess but to choose ‘I don’t know’ as their answer. It is important to note here that the reaction time data for the pseudo-words were not included in the calculation of the overall mean lexical access time.

There were several types of data gathered and stored in LAST.

(1) Raw reaction time data for non-linguistic stimuli: As mentioned above, these data were used to calculate each participants base reaction time, which was the mathematical average of eight middle values.
Table 2
The Descriptive Statistics of the Tests

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>Max</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary size (words)</td>
<td>88</td>
<td>4209.09</td>
<td>856.37</td>
<td>6600.00</td>
<td>1700.00</td>
</tr>
<tr>
<td>Lexical access time (ms.)</td>
<td></td>
<td>963.51</td>
<td>553.46</td>
<td>4002.25</td>
<td>102.75</td>
</tr>
</tbody>
</table>

(2) Raw reaction time data for real target words: To calculate each participant’s lexical access time, the base reaction time was subtracted from each of the real word reaction times.

(3) Lexical access time: Each lexical access time was stored only when the meaning of the real target words was correctly chosen. This means that the lexical access time was not calculated for pseudo-words.

(4) Binary (correct/incorrect) data of semantic task: When the correct meaning of a real target word was chosen, the answer was recorded as 1 (correct). All the other cases, namely a wrong choice, ‘Not a word’, and ‘I don’t know’, were recorded as 0 (incorrect). The data were used to calculate the estimated vocabulary size for each participant.

3.4 Analysis

To calculate each participant vocabulary size, the number of correctly answered questions was counted for each frequency band. The number was divided by 20, which was the number of real target words, then multiplied by 1000, the number of words contained in one frequency band. This procedure was repeated for all the eight frequency bands, and the numbers were added together to yield an overall estimated vocabulary size.

Overall mean lexical access time for each participant was calculated by adding the lexical access time for words of which a participant correctly chose the meaning and dividing it by the number of correctly answered words in the semantic task. A participant’s mean lexical access time for each frequency band was calculated in the same way, except for the scope of the calculation was within one frequency band.

4. Results

Table 2 shows the descriptive statistics of the tests for all the groups combined. The reliability (Cronbach’s alpha) for LAST based on the binary data for the semantic task was high (α = .91) and satisfactory to proceed with further analyses.

To answer the research question 1, which asked the degree of correlation, overall vocabulary size and lexical access time for each frequency band were calculated. As can be seen in Table 3, vocabulary size showed a tendency to decrease as the frequency became lower. A similar opposite tendency was observed for lexical access time, where the latency for lexical
access became longer as the frequency level became lower. This was an expected outcome. The correlation coefficient of frequency level and vocabulary size and that of frequency level and lexical access time were very high \((r = -0.96, p < .01; r = 0.95, p < .01, \text{ respectively})\). Further, the correlation coefficient between overall vocabulary size and lexical access time was calculated, and it was found that there was also a strong correlation between them \((r = -0.94, p < .01)\).

This tendency was confirmed when mean vocabulary size and lexical access time at different frequency bands were compared. The ANOVA and multiple comparison test for vocabulary size data showed that the mean vocabulary size significantly decreased continuously from 1000 level up to 7000 level: \(F(7, 609) = 374.66, p < .01, \eta^2 = .66\). As for the lexical access time, significant increases in lexical access time observed from the 1000 level to 3000 level and the 4000 level to 5000 level: \(F(7, 609) = 47.17, p < .01, \eta^2 = .12\). Interestingly, the lexical access time for 8000-level words was shorter than that of 7000-level words.

<table>
<thead>
<tr>
<th>Vocabulary Size</th>
<th>Lexical Access Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>-0.03</td>
</tr>
<tr>
<td>2000</td>
<td>0.07</td>
</tr>
<tr>
<td>3000</td>
<td>-0.09</td>
</tr>
<tr>
<td>4000</td>
<td>-0.07</td>
</tr>
<tr>
<td>5000</td>
<td>-0.06</td>
</tr>
<tr>
<td>6000</td>
<td>0.08</td>
</tr>
<tr>
<td>7000</td>
<td>-0.13</td>
</tr>
<tr>
<td>8000</td>
<td>-0.14</td>
</tr>
</tbody>
</table>

Table 3
The Correlation Coefficients Between Lexical Access Time and Vocabulary Size at Each Frequency Level

<table>
<thead>
<tr>
<th>Frequency Level</th>
<th>1K</th>
<th>2K</th>
<th>3K</th>
<th>4K</th>
<th>5K</th>
<th>6K</th>
<th>7K</th>
<th>8K</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS(^1)</td>
<td>907.95</td>
<td>731.82</td>
<td>607.95</td>
<td>501.14</td>
<td>447.73</td>
<td>411.93</td>
<td>290.34</td>
<td>310.23</td>
</tr>
<tr>
<td>LAT(^2)</td>
<td>619.75</td>
<td>752.06</td>
<td>818.01</td>
<td>848.77</td>
<td>1068.84</td>
<td>1048.3</td>
<td>1354.39</td>
<td>1197.95</td>
</tr>
</tbody>
</table>

1: vocabulary size
2: lexical access time

Table 4
The Mean Vocabulary Size and Lexical Access Time for Each Frequency Band
However, when individual participant’s mean vocabulary size and lexical access time were examined, the observed strong relationship between mean vocabulary size and lexical access time for the entire group of participants disappeared. As seen in Table 4, the correlation coefficients at each frequency level remained rather weak and not significant.

Additionally, each learner’s estimated vocabulary size and overall lexical access time were entered into a correlational analysis. The result shows that there was no strong correlation between them: $r = .02$, n.s.

The answer to the second research questions was sought by analyzing the data according to the two different proficiency groups. Table 5 shows each group’s means and standard deviations of vocabulary size as well as lexical access time at eight frequency levels. An ANOVA was conducted to see if there were significant differences between the two proficiency groups. With regard to the vocabulary size, there was a significant main effect of proficiency: $F(1, 86) = 14.44, p < .01, \eta_p^2 = .14$. Multiple comparisons showed that the mean vocabulary size of the higher proficiency group was significantly larger than that of the lower proficiency group at all frequency levels except for the 1000 level. As for the lexical access time, there were no significant differences observed between the two groups at any frequency levels: $F(1, 86) = 0.52$, n.s., $\eta_p^2 = .01$.

5. Discussions

The current study has discovered that there was a high correlation between the frequency level and the vocabulary size as well as between the frequency level and the lexical access time. The results seem to agree with our intuition as well as findings in earlier studies, especially in...
terms of the vocabulary size. The learners appear to know larger amount of frequent words than less frequent words. This was in accordance with our expectations. In the same manner, the learners lexical access time seems to become slower as words' frequency becomes lower. Again, this was an expected result. Taken together, these results provide tentative evidence toward the validation of LAST as a measurement of lexical automaticity and vocabulary size.

However, upon closer inspection of individual data, the relationship between vocabulary size and lexical access time at a given frequency level was not observed. The results seem contradictory to the high correlation discovered among frequency level, vocabulary size, and lexical access time. What these results indicate is that at any given word frequency level, the amount of words one knows has nothing to do with how fast he/she can recognize the form and the meaning of a word. How can the two contradictory findings be explained?

One possible explanation is the individual differences. Each individual learner differs in the degree of carefulness. Some learners approach the task with the goal of speed, while others prioritize accuracy. Although such difference seemed to be affected by frequency level of words they are faced with, the effect might be too small to override a personal trait.

Another possibility is that the semantic aspect of vocabulary knowledge and the speed of recognizing the word simply are two different types of vocabulary knowledge. The findings in this study indicate that the amount of words known has little to do with how automatically they are accessed. Even when a learner's vocabulary is limited and thereby being familiar with limited number of words, it does not mean the known words were accessed quickly. Furthermore, knowing a large mount of words does not seem to interfere with the speed of word recognition, even though it is possible for words that are similar in form to act as an obstruction during word recognition and meaning retrieval.

Even so, it is premature to draw a conclusion at this time for two reasons. The first reason is that the target words in this study were randomly selected from the source. What this means is that the chance of similar looking words being chosen as target words was scarce. The second reason lies in how lexical access time data was deemed useful. As explained in the preceding analysis section, the lexical access time data used in this study were stored only when the meanings of the target words were correctly chosen during the subsequent semantic task. The latency data for incorrectly answered target words and pseudo-word were discarded from the analyses. Analyzing the latency data for such words might provide insight regarding the issues that have just been discussed.

When the participants were divided into groups by their English proficiency measured by TOEIC, the estimated vocabulary size showed significant differences at most of the frequency levels, although such differences were not observed in terms of the lexical access time. The differences observed in vocabulary size were not surprising. However, the lack of significant differences of the two proficiency groups in lexical access time was unexpected. The results in this study contradicted those in earlier studies (Iso, 2012; Iso et al., 2012), where the effect of
proficiency was observed with almost identical tasks. The differences between this study and earlier studies were the use of pseudo-words, the frequency levels of the target words, and the limited time allotted for semantic task. Among these differences, it is suspected that the source of the contradiction stems from the use of pseudo-words. Through the present researcher’s casual observation during the test administration, it was noticed that a large number of participants took considerably longer recognizing the target words. One possible explanation for this is that the use of pseudo-words made the word recognition task more challenging. Whereas the participants in the earlier studies knew all the words would be real English words, the participants in this study was forced to make lexical judgments, which could lead to a longer latency for all the target words no matter how frequent they are. In fact, less frequent words can be expected to suffer latency to a greater degree due to the fact that they are less familiar to learners. This could cause the differences among learners with different proficiency to be too small to be observed.

The use of words of different frequency level may also have affected the results in this study. As mentioned above, this study analyzed only the lexical access time data of words that were correctly matched with their meanings. It is not unlikely that a learner with higher proficiency takes a longer time to recognize and retrieve the meanings of ten lower-frequency words, while a learner with limited proficiency simply chooses “I don’t know this word” and only tries to answer the meaning of one lower-frequency word that is very familiar. The mean lexical access time for the higher proficiency learner would probably be longer. It is highly possible that this problem minimized the differences between the two proficiency groups.

6. Limitations

As seen in the discussions above, there are several limitations to this study. Firstly, the data to be analyzed in the future studies need to be reconsidered. There are some types of data discarded from this study, such as the latency for incorrectly answered target words and that for the pseudo-words. As suggested in the discussion, such data might hold useful information for deeper insights into the relationship between vocabulary size and lexical access time. Secondly, the use of pseudo-words should be reevaluated. It will be an interesting study to compare the latency data of two lexical access time tests: one that uses pseudo-words and the other that does not. With such a study, the role that pseudo-words play in lexical access time tests will certainly be illuminated.

References


Iso, T. (2012). Examining the validity of the lexical access time test (LEXATT2). *Vocabulary Learning and Instruction, 1*(1), 78–82. doi:10.7820/vli.v01.1.iso


Appendix: List of target words

**1000 Level**
goal
hole
program
discussion
example
mark
rain
card
progress
manager
information
lady
last
plan
serious
change
fine
sign
scientist
waste
spread
*sdrw
*atteck
*stap
*gexest
*route
*greit
*foce
*secreit
*dri
*repartment

**2000 Level**
perception
championship
observe

**3000 Level**
grammar
bitter
dioxide
angle
racial
brick
translation
foundation
ash
tank
psychologist
transform
admire
*concel
*accant
*leap
*core
*historic
*opponent
*struct
*uncynomial
*lifetime
*initial

**4000 Level**
liver
stability
incidence
borough
lifespan
complaint
cite
spin
limited
identical
reception

**4000 Level**
crystal
rent
plot
relevance
assistance
insert
enhance
radical
liable
*terrece
*consaderation
*assurance
*catalogue
*publisher
*collcctor
*aweit
*dispuase
*spectacular
*dynomic

**5000 Level**
memorandum
lecturer
barn
confirmation
legacy
array
spontaneous
dilemma
repetition
handful
rod
purple
embarrass
morality
scrap

**5000 Level**
constituent
brass
guardian
supervise
flick
*blidder
*prescober
*depaect
*stayn
*duil
*strind
*riged
*valvo
*dependig
*racesm

**6000 Level**
underestimate
sewage
authorize
manifest
boiler
plasma
purse
hostage
retired
hardship
contention
bowlr
hurricane
celebrity
fountain
drainage
premature
fragile
detain
<table>
<thead>
<tr>
<th>Stroll</th>
<th>Leukemia</th>
<th>Adventurer</th>
<th>Authoritarian</th>
<th>Stormy</th>
</tr>
</thead>
<tbody>
<tr>
<td>*sanctuary</td>
<td>Crust</td>
<td>Stalk</td>
<td>Barrow</td>
<td>Obsessed</td>
</tr>
<tr>
<td>*spelleng</td>
<td>Bout</td>
<td>Shriek</td>
<td>Infirmary</td>
<td>Unjust</td>
</tr>
<tr>
<td>*domunation</td>
<td>Regression</td>
<td>*retreeval</td>
<td>Sensibility</td>
<td>Rustle</td>
</tr>
<tr>
<td>*consustency</td>
<td>Temperament</td>
<td>*memair</td>
<td>Linkage</td>
<td>Salvage</td>
</tr>
<tr>
<td>*detantion</td>
<td>Impetus</td>
<td>*stoit</td>
<td>Elector</td>
<td>*resoration</td>
</tr>
<tr>
<td>*irruspective</td>
<td>Bathe</td>
<td>*luxerious</td>
<td>Thwart</td>
<td>*artwork</td>
</tr>
<tr>
<td>*exchiquer</td>
<td>Definitive</td>
<td>*rateonality</td>
<td>Forefront</td>
<td>*consorvatism</td>
</tr>
<tr>
<td>*armcheir</td>
<td>Deceased</td>
<td>*transplunt</td>
<td>Sage</td>
<td>*soathing</td>
</tr>
<tr>
<td>*repeited</td>
<td>Incompatible</td>
<td>*blossem</td>
<td>Agitate</td>
<td>*stetionary</td>
</tr>
<tr>
<td>*problamatic</td>
<td>Endorsement</td>
<td>*pickat</td>
<td>Obscene</td>
<td>*briofcase</td>
</tr>
<tr>
<td>7000 Level</td>
<td>Arsenal</td>
<td>*faelty</td>
<td>Airborne</td>
<td>*haso</td>
</tr>
<tr>
<td>Geology</td>
<td>Plump</td>
<td>*unsore</td>
<td>Nostalgia</td>
<td>*metra</td>
</tr>
<tr>
<td>Lawsuit</td>
<td>Forensic</td>
<td>8000 Level</td>
<td>Shortcoming</td>
<td>*metionless</td>
</tr>
<tr>
<td>Scripture</td>
<td></td>
<td>Hawk</td>
<td>*pravocative</td>
<td></td>
</tr>
</tbody>
</table>