WHAT DO PEOPLE THINK ABOUT THINK?

BY

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ABSTRACT:

A new sense of the verb think has recently developed in the English language, new because think can now take a direct object that is a noun phrase, without requiring an object complement. The question addressed in this study was whether processing sentences with think + D.O. is more difficult than processing those with the older forms. The answer to this question seems to be a function of how acceptable this form of think is today, as determined by analyzing response times and subject evaluations. There was evidence that processing this form is indeed more difficult, though this is manifested only in relatively short sentences. The new think is thus somewhat accepted, but not completely so. Subject evaluations of better and worse think + D.O. constructions indicate that this form is common enough that people have definite restrictions on just what environments it can occur in. These restrictions further imply a distinct semantic meaning associated with the new think as compared to its older senses.
INTRODUCTION:

Background:

A relatively recent change in the English language has brought about a new sense of the verb think. Specifically, the way in which think can be used as a transitive verb has taken on new dimensions. In its new sense, when think takes an NP direct object it gives one the idea that a person can actually control his/her cognitive processes so as to focus them on a particular field or idea. It can also imply that the subject of think in its new sense is so obsessed with the concept expressed by the D.O., that this object permeates the most basic facets of his/her existence. This is linguistic evidence of a change in the psychological concept of cognitive processing. The novelty of the new sense of think will be examined as a function of response times in comprehension and processing of such constructions as well as peoples' evaluations of which constructions are better than others.

In its usual sense, think can be followed by an object clause (1a), an adverb (1b), a preposition that has an object (1c), or nothing at all (1d):

(1a) I_x think [that he is lying]_y.
    (I_x think [he is lying]_y.)
(1b) He thinks metaphorically.
(1c) She thinks of/about her history exam.
(1d) Quiet please, I'm thinking.

With an object clause, think is transitive, having the predicate argument structure (PAS) x<y=S> (Kegl, in press), where x is the external argument of a transitive verb and y is its direct object. In the most common sense of think, y must be a clause.

Charles Fillmore's Case grammar model is "based on the theory that the various noun phrases of a proposition (i.e. a sentence)
can stand only in a limited number of relations to the verb" (Baron 1974: 14). This model maintains that all NPs of a sentence must receive Case assignment, either from a preposition or from the conjugated verb of the clause in which the NP occurs. So when think has a clausal D.O. that has a conjugated verb as in (1a), it does not assign Case to any NP of that clause. Since think has traditionally only taken clauses as D.O.s, this verb is not typically recognized as a Case assigner. Such a conclusion, however, is not as straightforward as it appears.

In at least one sense, think behaves much like the verb believe. Believe is a member of the class of verbs that can exceptionally assign Case to the subject of a sentential object clause (McCloskey 1988). For example, she in (2a-b) receives Case from was of the object clause. But in (2c) the subject of the object clause (her) cannot be assigned Case from to be, since this verb is not conjugated. Instead, the her in (2c) must receive Case assignment from the only possible source: believe of the matrix clause. Believe likewise assigns Case to her in (2d):

(2a) I believed that she was honest.
(2b) I believed she was honest.
(2c) I believed her to be honest.
(2d) I believed her honest.

This same structure is possible with think:

(3a) I thought that he was clever.
(3b) I thought he was clever.
(3c) I thought him to be clever.
(3d) I thought him clever.

Note the restriction in the examples in (2) and (3) that the matrix verb, be it believe or think, must be in the past tense. According to traditional syntactic theory which recognizes subject to object
raising, him in (3c-d) would become the D.O. of think; though according to government and binding theory, him remains the subject of the infinitive clause and think governs this NP across clausal boundaries (McClosky 1988). Either theory maintains that think does assign Case, though the two theories differ on the question of whether think is transitive in such constructions. Still, the traditional ability of think to be transitive is shown in other occurrences of this verb.

The transitivity of think is evidenced by various, though seemingly infrequent, constructions in which this verb takes a direct object. The environments in which such constructions have occurred, however, have been limited to narrowly specified word combinations. Even within such combinations, though, think must again occur in the past tense. The BBI Combinatory Dictionary of English offers eleven definitions of think, two of which are transitive and are defined as meaning "to consider." One of these forms must occur in the passive, where think is followed by the infinitive of to be and an NP, as in (4a). Despite BBI's restriction, this construction could also be used in the active and still result in the acceptable sentence shown in (4b), where think is first followed by a D.O. (or the subject of the object clause), the infinitive of to be and an NP. An even briefer structure is shown in (4c).

(4a) He was thought to be a genius.
(4b) They thought him to be a genius.
(4c) They thought him a genius.

The other such form given by BBI requires that think be followed by a D.O. and an adjective, as in (4d), which is the same form as (3d) above:

(4d)
Both (4c) and (4d) contain obligatory object complements, so that these sentences are of the form Subject - Verb - Object Complement (Greenbaum, et al., 1988). These two sentences thus both share the PAS $x<y=S>$, meaning that the D.O. must be a clause. This PAS is therefore identical to that of (1a), though in (4c) and (4d) the object clauses are ellipted.

The verb think again behaves like believe in that neither takes an object with an additional complement, as a verb like persuade does. Thus while (5a), having the PAS $x<y=Sz>$, is fine with persuade, the same structure is not possible with believe or think, as shown in (5b) and (5c).

(5a) We $x$ persuaded her $z$ [that she should leave]$y$.  
(5b) *We believed her that she was being honest.  
(5c) *We thought her that she was elegant.

So the verb think until recently has only been transitive when used with certain specific structures. The her elegant of (4d) behaves like an ellipted or small clause, though it might be argued that think is the type of verb that requires another predicate if it takes a D.O., like render in (5d) (See Williams 1980). Example (5e), on the other hand, shows that render cannot occur in all the same constructions in which think can.

(5d) The crash rendered him unconscious.  
(5e) *The crash rendered him to be unconscious.

Unlike traditional transitive think constructions, however, there is a new use of think which can take an NP D.O. yet does not require any additional elements to form a sensible sentence. For example, it is a relatively new phenomenon in spoken English that think can take math as its object as in sentence (6a).  

Previously, such a sentence could only be used in highly restricted
contexts, most likely as an answer to the question *What's his favorite subject?* But now sentences (6a-e) have become common colloquially:

(6a) I think math.
(6b) I think math as much as possible.
(6c) I like to think math.
(6d) She thinks physics all day.
(6e) Coach thinks football during every waking moment.

Still, (6a) is less acceptable than the others, indicating that longer sentences with this construction are better than shorter ones. This sense of *think* has the corresponding PAS *x<y=NP>*, which is new because now *y* is an NP.

That it is such a new phenomenon is revealed by the normal dictionary definitions given for *think*. Most of the definitions provided for this verb in *The Random House Unabridged Dictionary* call for a preposition to be used after *think*, forming phrasal predicates. The other definitions, which are transitive and do not have such a requirement, are of the object complement type. Though *Webster's Unabridged Dictionary*, on the other hand, supplies numerous occurrences of *think* itself taking a D.O., all of its examples are literary references and so focus on written, not spoken, English. Moreover, the examples in (7), taken from *Webster's*, reveal that older uses of *think + D.O.* were probably meant to have a dramatic effect, unlike the colloquial use of this construction studied here:

(7a) *Definition:* to form or have a thought in the mind
*Quote:* "think things not words" (O.W. Holmes, 1935)

(7b) *Definition:* to feel
*Quote:* "men should think shame to be less heroic"
(Gilbert Highet)

(7c) *Definition:* to create or devise by thinking
*Quote:* "the Almighty...thought the archetypes of all things and devised their variations" (William James)
The two prepositions that are most often provided in definitions of think as occurring with this verb are of and about. The juxtaposition of think with either of these prepositions results in two-word constructions that can be recognized as indivisible phrasal predicates having semantic and syntactic properties that are distinct from those of think alone. Thus both think of and think about have entries in Longman's Dictionary of Phrasal Verbs. In these verbs the preposition takes the NP following it as an object and permits transitivity.

With regard to think alone, the types of D.O.s that it can take are much more restricted than those following the prepositions. For example, it is not quite normal to say things like (8a) or (8b):

(8a) *She thinks a computer all day.
(8b) *Coach thought footballs during the game.

The new type of transitivity evident in think + D.O. constructions seems to refer not to an action being performed on the D.O., as transitivity is normally understood, but to a mental process that is described by the D.O. Many of the D.O.s that work with think are fields of study and modes of thinking. This construction is probably associated with mental preparation to accept and interpret incoming information, as implied in the following:

(9a) Every day at work she has to think computers.
(9b) Throughout the long test I thought history.

So when people think computers, they are really creating a state of mind in which they can communicate with computer language and about topics related to this field.

To the extent that think + D.O. might reflect such mental processes, the D.O.s themselves initially appear to be similar,
though certainly not identical, to cognate objects. In cognate object constructions, the noun head is closely related to the verb in meaning. Like the think D.O.s, cognate objects are not acted upon, but provide further description of the event (Greenbaum, 1988). They occur with verbs such as sleep and die, which are similar to think in that they do not normally take NP objects, yet they can take D.O.s in such instances as (10a) and (10b):

(10a) He slept a restful sleep.  
(10b) She died a painless death.  
(10c) He thinks dreadful thoughts.

Think itself can take an actual cognate object, as in (10c). The cognate verbs referred to here are distinct from the type represented by sing and dance, which can take objects that form a subclass of their normal cognate objects:

(10d) He sang a song.  
He sang a lullaby.  
(10e) She danced a dance.  
She danced a tango.

Unlike the cognate object thought, other think D.O.s describe a particular type of thinking, as opposed to simply emphasizing the act of thinking itself. They seem to refer to a particular field which is being approached cognitively. Moreover, there are different syntactic restrictions on the two types of objects. One difference is that while the D.O. of think cannot generally be preceded by an article, cognate objects can occur just as easily with or without an article. Further, cognate objects almost always require an adjective to describe the object while think D.O.s have no such requirement.

(11a) *She slept a sleep.  
(11b) She thinks computers.
So we would not be able to say (11a), yet (11b) is acceptable. In cognate object constructions, there is more of a tendency for the plurality of the object to match that of the subject than in think + D.O. constructions. Thus whether the subject is singular or plural in (11c) and (11d), it works better with a cognate object sharing the same plurality.

(11c) She slept a restful sleep.
   We slept restful sleeps.
   *He slept restful sleeps.
(11d) He died a dreadful death.
   We died dreadful deaths.
   ?They died a dreadful death.
(11e) She danced many dances.
   They sang a song.

The sentences that do not show this tendency, as in (11e), occur with the other type of cognate verbs described above. More generally, cognate objects are not of the generic type that characterize think D.O.s. Thus while think D.O.s might seem on one level related to cognate objects, they actually form a class of their own.

The think D.O.s that are considered acceptable belong to a subset of nouns that are generic. Most often these occur without articles. The plurality of the D.O. is a function of the type of noun it is. So mass nouns such as math or cake should work well with think, while count nouns, such as computer, need to be pluralized in this construction. The critical factor seems to be whether or not the noun is an NP. Keeping in line with an understanding of think + D.O. as describing a continuous process, it generally seems to be more acceptable in the imperfective than the perfective aspect.

A telling characteristic of these think + D.O. constructions is that in at least one instance think not only takes a D.O., but
it influences the ability of other verbs to do so. This ability might explain why it is more strange to have a sentence like (12b) than (12a):

(12a) Coach expects his team to eat, sleep and think football.  
(12b) *Coach expects his team to eat and sleep football.

In (12a) the presence of think allows sleep to take a non-cognate object, and eat to take an object that is semantically unacceptable, since it is not edible. This particular combination of eat, sleep, and think together implies that the subject is so obsessed with the D.O. of the sentence that this object enters into every aspect of his life. These three verbs represent some of the most basic facets of human behavior, revealing that the object has likewise become somewhat basic to the subject's existence. Other combinations of these verbs are, however, not as acceptable as the use of all three together. So sentences (12c) and (12d) might be considered just as weird as (12b):

(12c) *Coach expects his team to eat and think football.  
(12d) *Coach expects his team to sleep and think football.

The verb think in these cases behaves like breathe and live, which are also capable of licensing such a combination:

(13a) Coach expects his team to eat, sleep and breathe football.  
(13b) Coach expects his team to eat, sleep and live football.

In all these combinations, the verbs of this "licensing subclass" must occur last in the string to make the best sentence. Compare to (13c) and (13d):

(13c) ?Coach expects his team to breathe, eat and sleep football.  
(13d) ?Coach expects his team to eat, live and sleep football.
That language is "conceptual and communicative" mandates that it be approached as a cognitive system as well as a grammatical one (Bever, 1970). The focus of this investigation thus aims to reveal both the psychological and linguistic realities involved in the phenomenon under examination. A new understanding of the verb think is quite conducive to such an approach, for the obvious reason that this verb names the most basic cognitive process. It is entirely plausible that the new sense of think is an offspring of the eat, sleep, and think combination already discussed. As such, think + D.O. would likewise imply a type of obsession with the particular object involved. Interestingly, for either of the other verbs (eat and sleep) to stand alone in such a construction would result in a much less acceptable sentence. So (14a) is much better than either (14b) or (14c):

(14a) Coach expects his team to think football.
(14b) *Coach expects his team to eat football.
(14c) *Coach expects his team to sleep football.

Because it means something so abstract as cognitive processes, the construction of think + D.O. can have a much more abstract meaning than either eat or sleep. Indeed, upon hearing (14b), one imagines that the player physically eats the football. In (14c) it is difficult to imagine any meaning, concrete or abstract. With think there is no alternative concrete explanation, so the abstract sense in (14a) is readily understood. Also contributing to (14a) being much better than (14b-c) is that within the three-verb combination, think, must always occur last, so that it is the verb closest to the D.O. Such proximity might have influenced the acceptability of the new use of think with these types of D.O.s as opposed to eat and sleep. Further, that the obsessive characteristic of the
eat, sleep, and think combination is carried over into think + D.O.
constructions is easily recognizable when one considers the
examples in (15):

(15a) He thinks sex night and day.
(15b) All he can think is money, money, money.

Despite its wide acceptance today, think + D.O. is a new
addition to the English language that will probably not be
processed as readily as the more traditional uses of think.
Cognitively, people normally take an active role in sentence
comprehension. Perceiving language is a specific case of more
general psychological perception (Bever, 1970). So what people
already know about language structure influences how easily they
process a novel sentence. As a person begins to read a sentence,
the first structures to be processed shape the person's
expectations as to what comes next in the sentence. This
phenomenon is outlined by Bever's "garden path" theory. This
time holds that if people's expectations of what comes next in a
sentence are not met, that sentence will be a relatively difficult
one to process. Bever points out that the perceptual problem
inherent in The horse raced past the barn fell is a result of the
fact that race can have both transitive and intransitive senses.

Although the problem studied here is quite different, the
effect of transitivity is just as crucial a factor, because the
transitivity exhibited by the new sense of think is atypical for
this verb. On the other hand, research on the transitivity
question has not always found "garden path" effects. In testing
the sentence The turkey cooked in the oven stank, Richard Kayne
found no problem with processing, even though the structure is
initially ambiguous with respect to transitivity (Napoli, personal
communication). Apparently structure is not the only issue in garden path processing. Rather, the nature of the lexical items in the sentence and how they are normally used, are also involved.

Frazier and Fodor have argued that garden path processing is quite narrowly defined (Frazier and Fodor 1978). They would suggest that when a person reads a sequence of words in the order NP-VP-NP, automatic closure of that sentence occurs in processing it. So any additional VPs or NPs would result in a garden path effect. But Ford, Bresnan and Kaplan point out that this argument does not take into account the lexical items involved and their properties, in particular the verb and its argument structure (Ford, Bresnan and Kaplan 1981). They propose instead that the argument structure most frequently associated with a given verb is crucial in determining what additional elements people expect when reading a sentence with that verb. So a construction that does not conform to the usual PAS of a particular verb will be more difficult to process than one that does conform to the usual PAS.

With respect to think, the usual PAS is x<y=S>. That y must be a sentence means that any NP following think signals the reader to expect another element or elements after that NP to close off the clause y. The first such element would most likely be a VP, but could possibly be an NP or Adjective that could be the Complement of a copular verb that is missing (as in an ellipted clause). When no such element is present, the effect is one of "non-closure." Whereas "garden path" implies that sentence closure occurs too soon and people must backtrack to process the sentence, "non-closure" means that no closure occurs and the reader is left hanging. Though what happens in non-closure is opposite to what happens in garden path processing, the effect of each on disrupting
sentence processing, and therefore lengthening processing time, is the same.

Hypothesis:

The experimenter's hypothesis is thus that people normally look for an object clause, an adverb, or a preposition following think. If reaction times are longer for reading sentences with think + D.O. than for sentences with normal think constructions, an effect of non-closure processing is probably involved. This is particularly true when think + D.O. is compared to think + object clause constructions, which are more complex, meaning that processing an object clause should be more difficult than a D.O. Because this construction is new to the English language, speakers might still be learning to accept think as an NP complement-taking verb on its own. Recognizing the older sense of think, people probably first look to another source for Case assignment on the NP. This source would normally be a Preposition before the NP or the Verb of the object clause in which the NP occurs. But after finding no such possible source, some people "backtrack" and see think as a transitive verb taking an NP object. Others will reject this use of think and therefore consider the sentence bad.

That there is relative difficulty in processing new linguistic forms stimulates one to ask why such a language change occurs. Increasing economy of language tends to compensate for whatever adjustment is needed to integrate the new form. Greenbaum, et al. (1988) note in reference to ellipsis, "Other things being equal, language users will follow the maxim 'reduce as much as possible'." So language gradually evolves just as humans do. Regarding the semantic changes that accompany the think phenomenon, it is not
evident whether a change in meaning helped cause the syntactic change or was simply a byproduct of it.

Although it is by now evident that there are subtle differences in meaning between think of/think about and think, these two phrasal predicates are very close in meaning to each other and to think alone. For this reason, these were the phrasal verbs that were contrasted with think in the experiment. Although think physics and think of physics are semantically different, both make logical sentences and, keeping sentence length constant, were reasonable elements for comparison. Also in this study, long and short sentences were tested separately in order to determine if shorter sentences show more "non-closure" effect, as the experimenter expects.

Whether or not non-closure processing is involved, there are definite restrictions on the type of D.O.s that think can take. These restrictions will be determined on the basis of how subjects evaluate the acceptability of sentences with think and different types of D.O.s on a seven-point continuum, ranging from MOST NORMAL to MOST WEIRD. Restrictions to be examined on the D.O. itself will be the presence of articles and whether the D.O. is an NP or not. Restrictions to be studied with respect to think will be tense and imperfective v. perfective. More general restrictions will consider sentence length and context clues provided within the sentence that make the construction more or less sensible.

METHODS:

Subjects: Subjects were 22 undergraduate Swarthmore students, 16
women and 6 men, who voluntarily participated in both parts of the experiment.

*Equipment used for Part I:* To record response times, a BASIC program was used that was designed by the experimenter and Tsung Dow Huang, a computer consultant for private businesses and formerly a computer science professor at Fairleigh Dickinson University. The code to access the computer's clock was provided by Cynthia Fischer, currently a graduate psychology student at University of Pennsylvania. The experiment was run on an IBM portable PC, Model # 5155, which had a screen size of 21 cm. diagonally. Subjects were about 1 1/2 feet away from the screen.

**Procedure:**

**Part I:**

The first part of the experiment involved a reaction-time test in which subjects were shown sentences one at a time on a computer screen, and indicated when they read each sentence. None of the sentences was longer than a single line of text. A sentence would appear on the screen accompanied by a beep, and the subject had to press the space bar on the keyboard as soon as he/she read the sentence. Then the sentence disappeared and was replaced by the question "Does this sentence make sense?", also accompanied by a beep. The subject had to indicate whether or not it was a sensible sentence by pressing a key marked "Y" or "N". Next the question disappeared and a word appeared in the middle of the screen. The subject had to indicate whether or not the word was in the sentence by again pressing a key marked "Y" or "N".

These last two procedures were used as a control to make sure
the sentences were being read. (If a subject made more than 25% errors on the word-decision task, his/her data were discarded. As it turned out, none of the subjects made that many errors.). For each sentence there were three possible words that could be shown, one that was in the sentence, one that was semantically related to the sentence, and one that was spelled similar to a word in the sentence. For the test sentences, these words were regularized according to word frequency. They all had a frequency in the range of 30-299 in the Kucera and Francis Word Frequency Count (which was classified as "Common" in the WordNet (Miller, et al., 1988) Program). The BASIC program randomly generated one of these three choices, and then determined if the subject gave the correct response. For the reaction times measured for both sentence comprehension and word choice, the timing mechanism began when the text appeared on the screen and stopped when the appropriate button was pressed. The program recorded for all the sentences the reaction time for reading the sentence, the subject's decision as to the sensibility of the sentence, whether or not the subject's answer regarding the word was correct, the amount of time needed for the subject to decide whether the word was in the sentence, and the actual word chosen by the computer. The directions for this part, which were read to each subject, are included in Appendix B. This part took each subject 25-30 minutes to complete.

The corpus consisted of 100 sentences that were presented in four sets of 25. Eighty of these were filler sentences, 32 of which were designed as nonsense sentences, so that the subject would have to comprehend each sentence and make a decision each time as to whether it made sense. The other twenty of this corpus were test sentences. Half of the test sentences had what seemed
(to the experimenter) acceptable think + D.O. constructions. These were complemented by the other half of the test sentences, which were almost identical in wording, except that they contained traditional think constructions. Half of all the pairs were 11 syllables long; half were 16 syllables long. The 10 pairs were divided among four sets of 25 sentences. The pairs that were 11 syllables long occurred in two 11 syllable sets. Those that were 16 syllables long occurred in two 16 syllable sets. The test sentences for this part are given in Appendix A.

Part II:

The second part of the experiment was subject evaluation of another body of 70 sentences (14 test sentences) on a seven point continuous scale, the endpoints of which were marked MOST NORMAL and MOST WEIRD. These judgments were used to determine a wider range of what restrictions occur on the think + D.O. structure. The directions for this part, which were read to each subject, are included in Appendix B. This part took each subject 5-10 minutes to complete.

These data consisted of sentences that were more questionably acceptable than those in the first part of the experiment. The test sentences were pairs that could later be compared with each other. The data were again interspersed among a larger corpus, though here the length was not regularized. Within the larger corpus, sentences that were abnormal to varying degrees other than the think constructions were included to prevent the subject from knowing what was being tested. The actual list that was given to each subject is provided in Appendix C.
Analyzing the Data:

All the t-tests performed for data from both parts of the experiment were done using the **Wormstat** program used in introductory statistics classes. These and the other statistical tests were accomplished with the help of Professor Gudmund Iversen, who was consulted on which tests were appropriate and, when necessary, how to perform them.

**Part I:**

The ten 16-syllable sentences were analyzed separately from the ten 11-syllable ones. These sets were further divided in half, each having five **think + D.O.** constructions and five traditional **think** constructions. For each subject, averages of the response times were taken for each group of five. Additionally, averages of the times needed to decide whether or not a word was in the sentence were likewise correlated. For all of these, t-tests were performed separately for the 16- and 11-syllable sets to determine if the differences were significant. Each t-value has a corresponding value p, which is the probability that t is further from zero than it actually is. For a t-value to be statistically significant, its p must be less than 0.05.

Further, using the same breakdown of data as above, the number of times a test sentence was said to be not sensible was recorded for each set. The percentages of these occurrences were then compared using the following statistical formula which determines whether the difference between two proportions is significant. In it, \( P_1 \) and \( P_2 \) are the percentages found for the **think + D.O.** sentences and the other **think** sentences respectively, and \( n \) is the total number of times the sentences from each set of five could
possibly be found to be not sensible. The value of \( z \) must be greater than 1.96 to show significance:

\[
 z = \frac{P_1 - P_2}{\sqrt{\frac{P_1(100-P_1)}{n} + \frac{P_2(100-P_2)}{n}}}
\]

**Part II:**

The seven pairs of sentences, each designed to test a specific restriction on `think` + D.O. constructions, were considered separately. For each pair, the evaluations made by subjects for both members of the pair were recorded. The evaluations were made on the following seven-point scale, where the "X"s near or on a notch were assigned that number, and those closer to the midpoint between notches were assigned a number to the nearest 0.5.

<___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ |___>

MOST NORMAL

MOST WEIRD

Separate t-tests were performed to determine which pairs had significant differences.

**RESULTS:**

**Part I:** With regard to the response times (RTs) for responding to the sentences, neither the longer (16 syll.) sentences nor the shorter (11 syll.) ones showed a "non-closure" effect for reading `think` + D.O. as opposed to `think` with a Preposition or `think` followed by an object clause.

The t-value found for the short sentence data was \( t=-0.1157 \), with \( p=0.4525 \), meaning that this \( t \) is not significant at any level
of probability. For the long sentence data the effect was likewise not significant: \( t=0.9677, p=0.3269 \).

However, an effect of the think + D.O. construction on processing time is evident in the RTs that subjects exhibited when deciding whether or not a word was in the sentence. Moreover, this effect occurs only with the short sentence data, implying that sentence length is a factor in processing difficulty. The short sentence data show that the time for responding to a word is significantly greater in the think + D.O. sentences than in the "normal" think sentences, with \( t=4.0537 \) at \( p=0.0003 \). On the other hand, no such effect occurred in the long sentence data, where \( t=1.2017 \), which is not significant since \( p=0.1208 \). The results for Part I so far are summarized in Table 1.

<table>
<thead>
<tr>
<th>Data Examined</th>
<th>t-Value</th>
<th>( p ) (level of sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. RT for reading Short Sentences</td>
<td>-0.1157</td>
<td>0.4525</td>
</tr>
<tr>
<td>2. RT for reading Long Sentences</td>
<td>0.9677</td>
<td>0.3269</td>
</tr>
<tr>
<td>3. RT for deciding whether a word was in Short Sentences</td>
<td>4.0537</td>
<td>0.0003</td>
</tr>
<tr>
<td>4. RT for deciding whether a word was in Long Sentences</td>
<td>1.2017</td>
<td>0.1208</td>
</tr>
</tbody>
</table>

Table 1: T-values and associated levels of significance \( (p) \) in comparing RTs in two conditions. Only #3 shows a significant difference in RTs, since its \( p < 0.05 \).

Additional analysis of the data revealed that the number of times subjects found think + D.O. sentences to be non-sensible was significantly greater than that for the other think constructions. Using the formula given in the Analysis of Data section, \( z \) was found to be 5.39 for the short sentence data and 5.93 in the long sentence data.
Part II: Evaluations for all seven pairs of sentences had significant differences at least at the p=0.05 level. As each pair was designed to test a different issue regarding acceptable think + D.O. constructions, the results are given in order of most significant t-value to least, to demonstrate which issues were more or less important in evaluating these constructions. All pairs in this section are listed with the first sentence, (a), having been judged to be the weirder of the two.

1. The most significant difference was apparent in contrasting a perfective sentence with an imperfective one. The sentences used were:

(a) At 9:53 pm I thought geometry.
(b) All through the night I thought algebra.

The t-value was 5.1496, which is significant at p=0.0000 (the program only calculated the values to four decimal places).

2. This pair examined whether an article could precede a D.O. following think. The sentences used were:

(a) She thinks the snow in winter.
(b) She thinks snow in winter.

The t-value was 4.8693, which is significant at p=0.0001.

3. This pair examined the effect of context on the goodness of the sentence. The sentences used were:

(a) I think chocolate cake when I write papers.
(b) I think chocolate cake when I enter a bakery.

Here t was 4.1377, at p=0.0003.

4. This pair was intended to determine the effect of length on the evaluation of think + D.O. The sentences used were:

(a) Mom thinks apples.
(b) Mom thinks apples every time she decides to bake a pie.
The t-value was 3.5205, at p=0.0010

5. This pair tested whether the D.O. had to be a complete NP. The sentences used were:

(a) ?My friend thinks computer all the time.
(b) My friend thinks computers all the time.

Here t=2.7393, and p=0.0059.

6. This pair was intended to find whether tense was a factor in making the think + D.O. constructions better. The sentences used were:

(a) ?They think metaphors.
(b) They thought metaphors.

The t-value was 2.4853, at p=0.0103.

7. This pair tested the importance of think in the three verb combination eat, sleep, and think. The sentences used were:

(a) ?The coach expects his team to eat and sleep football.
(b) The coach expects his team to eat, sleep and think football.

Here the t-value was 1.8408, with p=0.0383.

The results of Part II are summarized in Table 2.

<table>
<thead>
<tr>
<th>Effect Studied</th>
<th>t-Value</th>
<th>p(level of sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perfective v. Imperfective</td>
<td>5.1496</td>
<td>0.0000</td>
</tr>
<tr>
<td>2. Presence of an article (the)</td>
<td>4.8693</td>
<td>0.0001</td>
</tr>
<tr>
<td>3. Context</td>
<td>4.1377</td>
<td>0.0003</td>
</tr>
<tr>
<td>4. Length</td>
<td>3.5205</td>
<td>0.0010</td>
</tr>
<tr>
<td>5. Noun Phrase</td>
<td>2.7393</td>
<td>0.0059</td>
</tr>
<tr>
<td>6. Tense</td>
<td>2.4853</td>
<td>0.0103</td>
</tr>
<tr>
<td>7. Combination</td>
<td>1.8408</td>
<td>0.0383</td>
</tr>
</tbody>
</table>

Table 2: The significance of particular effects studied in the evaluations made of the sentences are listed in order from most significant to least.
DISCUSSION:

The original hypothesis that responding to a think + D.O. sentence should take longer than responding to other think sentences (of equal length) was found to be statistically false. However, this may be simply because the nature of the hypothesis itself was inappropriate for this experiment. The ease of sentence processing can be revealed in various ways, and the time it takes for one to respond to a sentence may not be as valid as other indicators. After all, one can read a sentence and indicate that he/she has done so, yet not have completely processed the sentence mentally until after the sentence has (as in this experiment) disappeared from the screen.

Complete processing of a sentence might only occur after a person is forced to think about that sentence in another way. For this reason, the response times for people to indicate whether or not a word was in the sentence were analyzed to find if there was a significant difference between the two types of test sentences. The decision regarding the word was made after the subject judged the sentence to be sensible or not. Therefore, there was a short interruption between reading the sentence and seeing the word, so to make the word decision, subjects had to "rethink" the preceding sentence. As the results show, the differences between the word-decision RTs were significant with the shorter sentences, but not with the longer ones. At least with respect to the shorter sentences, processing was indeed more difficult for the think + D.O. constructions than for other think constructions. That this effect was not evident in the longer sentences indicates that length is an important determinant of whether relative processing difficulties will be revealed. Perhaps sentences that contain more
information than others will more easily conceal any structural inconsistencies that would be apparent in shorter counterparts. On the other hand, maybe memory constraints for longer sentences make processing of either type of sentence difficult, so that no difference between the two is observed.

An unexpected result was that, while only some filler sentences were designed as being not sensible so that the question of sensibility could be used as a control, a significant percentage of subjects rated the think + D.O. test sentences not sensible, so much so that it was statistically relevant compared to the other think sentences. This happened even though all these test sentences appeared (to the experimenter) to be acceptable. Moreover, this effect was true for both short and long sentences. This indicates that, processing times aside, people do not so readily recognize this new construction as appropriate when it occurs in an isolated sentence without any contributing context.

In the second part of the experiment, specific issues regarding what made these sentences better or worse were examined. The single most important effect that had a bearing the acceptability of a think + D.O. sentence was that people judged a sentence to be worse when it was in the perfective rather than the imperfective aspect. This implies that people see this construction as describing a continuous process rather than a single definable event. This characteristic of think seems to have already existed in its old transitive sense.

(16a) I thought him selfish.
(16b) I thought he was a jerk.
(16c) *At 9:53 pm I thought he was a jerk.
(16d) When our eyes met I thought him the nicest man on earth.

So (16a) would imply a general feeling about someone, the beginning
and end of which are not obvious. This factor might also be inherent in think when it expresses a belief and is transitive with an object clause. Thus (16b) means that this belief was held by the subject for some undefinable time and, more importantly, was not a sudden act that happened and then ended. This is why (16c) is not as acceptable a sentence. Yet even the old transitive can plausibly occur in the perfective aspect, as in (16d), though this seems to require a longer, more descriptive sentence.

In its new transitive sense, however, think is not nearly as acceptable in the perfective. This is in line with the idea that this sense of think implies a cognitive obsession with its object. It is not as normal to imagine an obsession that suddenly starts and ends as it is to view it as a continuous process that affects its subject in various ways over a period of time.

The process of an obsession is likewise related to the next most significant issue: whether it is acceptable to have an article (in this case the) before the think D.O. The object in question here can be an NP both on its own and when joined with the (snow or the snow). That think snow creates a much better sentence than think the snow makes sense when one considers that the obsession described is cognitive, and so refers to concepts rather than things. By putting the article the before the D.O., one is specifying which object is being discussed. Instead, this construction is more sensible with an unspecified object, which is an abstract reference to the concept of that object.

The next issue that figured prominently in people's evaluations was that of context to make a sentence more sensible. It was expected that any "weirdness" found in an unlikely think + D.O. combination would be lessened if an appropriate context for the
construction was given. The main clause of both members of this pair was purposefully strange (I think chocolate cake...) to see if the additional information in the subordinate clause would make a difference. The expected effect was found, since the subordinate clause when I enter a bakery made a much better sentence than when I write papers. Particularly in strange think + D.O. constructions, the contribution of related lexical items is crucial in making the sentence acceptable.

While the next pair was intended to test the effect of sentence length on how the sentences are evaluated, the significance found is questionable because context also plays a role in these sentences. When lengthening a sentence to compare it to a shorter one, the additional elements in the longer sentence (in this case an adverbial clause), must be contextually related to make a good sentence. If a longer sentence were made with elements that were not contextually related, it would remain undetermined whether the effect was one of length or one of inappropriate context. Fortunately, the length issue has already been recognized as a factor in the results of Part I. It is interesting to note, however, that the significance for the length pair is not as great as that for the context pair. This implies that unrelated lexical items are just as important for making a sentence bad as related contextual items are for making a sentence good.

The pair designed to test whether the D.O. following think had to be an NP elicited some important results that again confirm the obsessiveness implied in this construction. In general, all sentence positions that require a nominal to fill them, whether it is Subject, D.O., or I.O., also require that the nominal be a complete NP to form an acceptable sentence. Because of this
generality, the think pair that contrasted an NP D.O. with a non-NP D.O., was expected to show the most significant difference effects (highest t-value). However, this effect is only fifth on the list of significance. Apparently in reading these sentences people are not so concerned with structure as with meaning. Because a non-NP nominal (in this case computer), can still get the sense of the object across, these structures are good enough for describing the cognitive process that is involved.

This cognitive process model is confirmed once again by the significant effect of tense on the evaluations. In comparing two short sentences which differed only in the tense of think (the simple present v. the simple past) the past tense form was the better of the two. First of all, the simple present does not seem to be as common, nor does it sound as normal as other tenses. This is apparent even in verbs other than think:

(17a) ?I eat dinner.  
    (I am eating dinner.)
(17b) ?She buys a new coat.  
    (She bought a new coat.)

Though the simple present can be used to describe habitual action, it requires additional information to make a good sentence:

(17c) I eat dinner in Sharples.  
(17d) She buys a new coat once a year.

No such additional information was provided in the think tense pair. That the past tense form was judged as better can further be explained by considering how people conceptualize past actions, as opposed to present ones. A sentence in the simple present (compare to the present progressive) may imply a sense of suddenness or urgency related to the action of the verb. On the other hand, an undefined past may be considered as taking place in a longer, more
continuous time span.

The final specific issue approached in this experiment is consistent with the explanation given in the Introduction for the think + D.O. phenomenon: that perhaps it was derived from the more general expression eat, sleep, and think. While, as was pointed out, eat or sleep alone cannot occur in many of the constructions in which think can occur, even eat and sleep preceding a D.O. is not as good as the three verb combination. Still, that the effect in this instance is not as strong as for the other phenomena discussed, might imply that the combination eat and sleep is also recognized as a derivation of a larger expression, and so is to some extent acceptable.

CONCLUSIONS:

There is thus a new sense of think with a correspondingly new PAS and meaning as well. This think + D.O. phenomenon is a relatively recent, and therefore not quickly processed, addition to the English language. Significant response time differences between these and other think constructions show that, at least for shorter sentences, processing the new sense of think is more difficult than processing the older senses. That people often judged the new think as being not sensible as compared to its other senses confirms that many still do not recognize this think as an understandable element in the language.

This question of sensibility may illustrate an important difference between the non-closure effect exhibited in this new use of think and Bever's garden path effect found in other constructions. In the garden path condition, people are in a
position to backtrack to an earlier point in the sentence to make the structure comprehensible, so that even if processing is more difficult and takes longer, it can still be achieved. With non-closure, however, people are expecting an element that never appears, so in this case there are too few elements rather than too many. If people are not capable of reformulating their expectations with respect to think, they will find the non-closure sentence to be unacceptable. People thus would probably consider a think + D.O. sentence to be bad much more readily than they would a garden path sentence.

The effect of context thus turned out to be an important factor in subject evaluations of such constructions, in that it can make otherwise unacceptable sentences much more understandable. Particularly with D.O.s that would not be expected after think, the effect of context is quite noticeable.

While seven separate issues were examined in the subject evaluation part of the experiment, most of these were related in that they could be explained in terms of the meaning of the new sense of think. They supported the idea of think + D.O. as describing an obsessive and continuous process, directly related to cognition and modes of thinking. The better forms were those that gave a sense of the think D.O. as something abstract, emphasizing concepts instead of concrete things.

Moreover, think is not alone in taking D.O.s with this type of meaning, but instead belongs to a subclass of verbs in English that can do so. So we can not only think math, but we can live math, breathe math, and talk math. Of course some of these forms are better than others. In these cases think seems to be the best of all. While all of these verbs name processes basic to living (even
living itself), think refers to cognitive processes, which are most
directly related to approaching fields of study and also to
conceptualizing objects.

Though this experiment was effective in conducting a preliminary
investigation of the new sense of think, there are a variety of
other important issues that could not be addressed in a study of
such limited scope. Regarding tense differences, many other tenses
could be examined with this construction (other than just simple
present and simple past) to find out which ones work best and
possibly why. Perhaps people could be questioned as to what they
think such constructions mean to get a better idea of the semantic
sense of this new verb. Moreover, the recency of this phenomenon
might be even more evident if subjects from different age groups
were tested and compared. While this study used all college age
subjects and elicited many significant findings, it is probable
that using subjects from an older age group would give even more
highly significant results; a comparison between the two groups
might reveal generational differences in conceptualizing cognitive
processes.

The results of this study reveal that many of the subjects did
not consider the think + D.O. construction acceptable, according
the their judgments regarding which sentences were not sensible.
If a similar experiment were to be conducted, then, a modification
could be to pretest potential subjects to find out which ones feel
that this construction does make sense, and then use only these
subjects for the actual study. This way, the issue of
acceptability would be controlled for and the results might be more
accurate as to whether processing is indeed more difficult for
those who accept these sentences.
I would like to thank the following people who generously offered their time and support to help me with this experiment:

Donna Jo Napoli, my advisor, for keeping me interested in all aspects of linguistics, and for suggesting the topic I addressed in this paper.

Judy Kegl, who showed me how psycholinguistics was distinct from either psychology or linguistics alone, and who, specifically, helped me design the experiment.

Tsung Dow Huang, Ph D., for his invaluable help in creating the computer program that was used in the experiment.

Cynthia Fischer, who provided me with the means of accessing the clock on my computer, so that response times could be measured.

Gudmund Iversen, whose help was crucial in determining which statistical tests I should use and what results were significant.

The 22 subjects, who must remain anonymous, but who each gave 40 minutes of time at a busy point in the school year, voluntarily and without compensation.
REFERENCES


Short (11 syllable) Sentences:

My best friend's sister thinks computers all day.
Her best friend's brother thinks computers are fun.

Throughout the six-page long test I thought failure.
Throughout the hour long test I thought I would fail.

He thinks chemistry primarily in lab.
She thinks of chemistry mostly during lab.

If you seriously think snow, you'll get some.
If we try to think of snow, then we'll get some.

The masses are widely thinking anarchy.
The masses largely think anarchy is good.

Long (16 syllable) Sentences:

He thinks Freudian psychology when he analyzes dreams.
He thinks Freudian psychology is not very efficient.

If you really want to win the race, you have to think victory.
If you really want to beat the rest, you have to think that you can.

The coach wants us to think soccer even while we are studying.
The coach wants us to think about soccer even while we study.

Since she is now a designer, she must constantly think fashion.
Since she's now a designer, she must constantly think of fashion.

My old professor thought physics without any difficulty.
My old professor thought physics was the most important subject.
APPENDIX B: DIRECTIONS

Part I

Directions: For this part of the experiment, rest your hands lightly on the keyboard as if you were about to type. When you start the program, a sentence will appear on the screen accompanied by a BEEP. Read the entire sentence and as soon as you have finished press the SPACE BAR with your thumb. Some of these sentences are sensible while others are not. After you press the space bar, the question "Does this sentence make sense?" will replace the sentence. Press your right index finger for "Yes" and your left for "No" (these keys have been marked on the keyboard and "yes" and "no" prompts will be given on the screen). After this a word will appear on the screen and you will have to decide whether or not it was in the sentence by again pressing your right index finger for "yes" and your left for "no".

There are four sets of sentences, but first you will be given a smaller set of practice sentences to familiarize yourself with the keyboard. Press "G" to begin the practice set, and the computer will stop you and inform you how to restart after each set. If you have any questions now or after the practice set, feel free to ask.
APPENDIX B: DIRECTIONS

Part II

Directions: For this part of the experiment you are given a list of 70 sentences. Please read each one and as you do so, evaluate each sentence by marking an "X" on the Scale of Normality provided.

eg.  <__ | ___ | ___ | ___ | ___ | ___ | ___ >

MOST NORMAL

MOST WEIRD

Notice that the left side of the scale is marked MOST NORMAL while the right side is MOST WEIRD. Once you have marked an answer, please do not change it. Thank you.
1. I'm not making any headway on this problem.

   <_______|______|_______|_______|_______|_______|_______|

   MOST NORMAL          MOST WEIRD

2. Like dancing was what she felt.

   <_______|______|_______|_______|_______|_______|_______|

   MOST NORMAL          MOST WEIRD

3. She thinks the snow in winter.

   <_______|______|_______|_______|_______|_______|_______|

   MOST NORMAL          MOST WEIRD

4. He looked his friend at the eye.

   <_______|______|_______|_______|_______|_______|_______|

   MOST NORMAL          MOST WEIRD

5. I know not under the couch is where my book is at.

   <_______|______|_______|_______|_______|_______|_______|

   MOST NORMAL          MOST WEIRD

6. They snuck a look while no one else was aware.

   <_______|______|_______|_______|_______|_______|_______|

   MOST NORMAL          MOST WEIRD

7. To tell the truth, I don't really believe he will make them through.

   <_______|______|_______|_______|_______|_______|_______|

   MOST NORMAL          MOST WEIRD

8. My friend thinks computers all the time.

   <_______|______|_______|_______|_______|_______|_______|

   MOST NORMAL          MOST WEIRD

9. He feels logarithmic.

   <_______|______|_______|_______|_______|_______|_______|

   MOST NORMAL          MOST WEIRD
10. She knows what to step over to knock down under.
   \[ <____|____|____|____|____|____|____|____|____| > \]
   MOST NORMAL                       MOST WEIRD

11. It was so many they didn't even want to look at it.
   \[ <____|____|____|____|____|____|____|____|____| > \]
   MOST NORMAL                       MOST WEIRD

12. The man felt a pain in the hospital.
   \[ <____|____|____|____|____|____|____|____|____| > \]
   MOST NORMAL                       MOST WEIRD

13. They thought metaphors.
   \[ <____|____|____|____|____|____|____|____|____| > \]
   MOST NORMAL                       MOST WEIRD

14. He knew as if which one it were.
   \[ <____|____|____|____|____|____|____|____|____| > \]
   MOST NORMAL                       MOST WEIRD

15. Having made amends, we got along much better.
   \[ <____|____|____|____|____|____|____|____|____| > \]
   MOST NORMAL                       MOST WEIRD

16. I know every rumor in school.
   \[ <____|____|____|____|____|____|____|____|____| > \]
   MOST NORMAL                       MOST WEIRD

17. We feel less.
   \[ <____|____|____|____|____|____|____|____|____| > \]
   MOST NORMAL                       MOST WEIRD

18. All through the night I thought algebra.
   \[ <____|____|____|____|____|____|____|____|____| > \]
   MOST NORMAL                       MOST WEIRD
19. He looks even better than he smells.

<___|___|___|___|___|___|___|>

MOST NORMAL

20. I'm not aware of too many things.

<___|___|___|___|___|___|___|>

MOST NORMAL

21. I feel under what's happened the past two days.

<___|___|___|___|___|___|___|>

MOST NORMAL

22. At midnight he made a point of minding his own business.

<___|___|___|___|___|___|___|>

MOST NORMAL

23. Mom thinks apples.

<___|___|___|___|___|___|___|>

MOST NORMAL

24. The bench looked like it needed a paint job.

<___|___|___|___|___|___|___|>

MOST NORMAL

25. Amends were gladly made by the fighting couple.

<___|___|___|___|___|___|___|>

MOST NORMAL

26. Look top and you can't see low.

<___|___|___|___|___|___|___|>

MOST NORMAL

27. I will make an effort to get it done on time.

<___|___|___|___|___|___|___|>

MOST NORMAL
APPENDIX C: LIST FOR SUBJECT EVALUATION

28. I think chocolate cake when I enter a bakery.
   <___|____|____|____|____|____|____>
   MOST NORMAL MOST WEIRD

29. Aptly felt agony is always anxiously awaited.
   <___|____|____|____|____|____|____>
   MOST NORMAL MOST WEIRD

30. A scene was in the making when they argued in the restaurant.
   <___|____|____|____|____|____|____>
   MOST NORMAL MOST WEIRD

31. The coach expects his team to eat and sleep football.
   <___|____|____|____|____|____|____>
   MOST NORMAL MOST WEIRD

32. They look it can have wood.
   <___|____|____|____|____|____|____>
   MOST NORMAL MOST WEIRD

33. You don't even know what the score is.
   <___|____|____|____|____|____|____>
   MOST NORMAL MOST WEIRD

34. He feels articulated to jump.
   <___|____|____|____|____|____|____>
   MOST NORMAL MOST WEIRD

35. To know is what if outside information is empty.
   <___|____|____|____|____|____|____>
   MOST NORMAL MOST WEIRD

36. They think metaphors.
   <___|____|____|____|____|____|____>
   MOST NORMAL MOST WEIRD
37. She has to make rounds before she can go home.
   <______________________________>
   MOST NORMAL       MOST WEIRD

38. We look but at nothing.
   <______________________________>
   MOST NORMAL       MOST WEIRD

39. You don't know paper if due.
   <______________________________>
   MOST NORMAL       MOST WEIRD

40. Headways weren't made at all on the problem.
   <______________________________>
   MOST NORMAL       MOST WEIRD

41. Look over here.
   <______________________________>
   MOST NORMAL       MOST WEIRD

42. Like dancing was how she felt.
   <______________________________>
   MOST NORMAL       MOST WEIRD

43. He knows which worms will wiggle wildest.
   <______________________________>
   MOST NORMAL       MOST WEIRD

44. At 9:53 pm I thought geometry.
   <______________________________>
   MOST NORMAL       MOST WEIRD

45. They made the happiness of all with their decision.
   <______________________________>
  MOST NORMAL       MOST WEIRD
46. You seem to feel resentful at my success.

MOST NORMAL

47. She knew only what she didn't know.

MOST NORMAL

48. Looking through weather is always more disastrous than seeing clear.

MOST NORMAL

49. I felt drowsy after all that driving.

MOST NORMAL

50. She thinks snow in winter.

MOST NORMAL

51. He knew until after this response was wrong.

MOST NORMAL

52. The bench looked intensely at the people walking by.

MOST NORMAL

53. I feel already obligatorily constrained in this condition.

MOST NORMAL

54. I think chocolate cake when I write papers.

MOST NORMAL
APPENDIX C: LIST FOR SUBJECT EVALUATION

55. It's not how you feel it's how you look.
   <___|____|____|____|____|____|____|>
   MOST NORMAL

56. He finally made some amends to please his family.
   <___|____|____|____|____|____|____|>
   MOST NORMAL

57. They knew shoes even though they couldn't get them.
   <___|____|____|____|____|____|____|>
   MOST NORMAL

58. The coach expects his team to eat, sleep and think football.
   <___|____|____|____|____|____|____|>
   MOST NORMAL

59. Students feel at ease talking to this professor.
   <___|____|____|____|____|____|____|>
   MOST NORMAL

60. They made their point perfectly clear.
   <___|____|____|____|____|____|____|>
   MOST NORMAL

61. You look of maybe stress at work.
   <___|____|____|____|____|____|____|>
   MOST NORMAL

62. I know what I know if you know what I mean.
   <___|____|____|____|____|____|____|>
   MOST NORMAL

63. My friend thinks computer all the time.
   <___|____|____|____|____|____|____|>
   MOST NORMAL
64. They feel necessarily strained during this trying period.

<________>  MOST NORMAL  MOST WEIRD

65. He looked completely disheveled when he arrived.

<________>  MOST NORMAL  MOST WEIRD

66. Indeed up they made when they finally calmed down.

<________>  MOST NORMAL  MOST WEIRD

67. Mom thinks apples every time she decides to bake a pie.

<________>  MOST NORMAL  MOST WEIRD

68. Try not to make a scene.

<________>  MOST NORMAL  MOST WEIRD

69. We feel activated to admire on looking your work.

<________>  MOST NORMAL  MOST WEIRD

70. He knew well expect the worst.

<________>  MOST NORMAL  MOST WEIRD