

Notes and Comment

Lexical guidance in sentence processing: A note on Adams, Clifton, and Mitchell (1998)

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Mitchell (1987) conducted a self-paced reading experiment that showed that people experienced difficulty reading a noun phrase when it immediately followed an intransitive verb. From this, he argued for a two-stage theory of parsing, in which verb subcategorization information is initially ignored. In response, Adams, Clifton, and Mitchell (1998) found no evidence to support this claim in an eye-tracking experiment and argued that Mitchell's segmentation procedure distorted the parsing process. We report an eye-tracking experiment, in which materials similar to those in Adams et al., but with longer noun phrases, were used, that showed a pattern of difficulty similar to Mitchell's findings. Hence, Mitchell's results did not depend on the use of an artificial method of presentation. The results cast further doubt on the adequacy of constraint-based accounts of parsing.

A central controversy within current theories of sentence comprehension is whether the parser immediately makes use of any available information or whether it initially ignores some potentially relevant sources of information. Theories of the first type are sometimes called *interactive* (e.g., Tyler & Marslen-Wilson, 1977); recent theories of this kind are often known as *constraint based*, since they assume that each source of information serves as a constraint whose impact is assessed at the same time as every other constraint (MacDonald, Pearlmutter, & Seidenberg, 1994; McRae, Spivey-Knowlton, & Tanenhaus, 1998; Trueswell, Tanenhaus, & Garnsey, 1994). Hence, they are sometimes known as *one-stage* accounts. Theories of the second type, in contrast, assume that initial parsing decisions are based on strategies dependent on certain sources of information alone. The best-known theory of this kind is the *garden path* theory (Frazier, 1979, 1987): It assumes that the parser initially pays attention to syntactic information and that some other sources of information, such as semantics, only have an

impact subsequently. Hence, such theories are sometimes known as *two-stage* accounts.

Here, we address one aspect of this debate: the use of verb subcategorization information. The verb *scratched* can take a noun phrase object, as in *the dog scratched the vet*. In contrast, the verb *struggled* cannot normally take such an object, so that *the dog struggled the vet* is not a good sentence. According to one-stage accounts, the processor draws upon this subcategorization information in a way that affects initial processing. But according to many two-stage accounts, such as garden path theory, initial parsing makes use of major category information (e.g., whether a word is a noun or a verb), but not of subcategory information (e.g., whether a verb is transitive or intransitive).

In fact, two versions of this position can be distinguished. A less extreme account claims that the parser ignores frequency information about subcategorizations. It only considers grammatical analyses, but it selects between grammatical analyses on the basis of their syntactic characteristics. For instance, it might employ the principle known as *late closure* (Frazier, 1979), under which new noun phrases are treated as arguments of the most recent verb, if possible. Consider (1) below:

1. While the pilot was flying the plane that had arrived stood over by the fence.

The verb *flying* is more commonly used intransitively than transitively. However, this account assumes that such information is ignored and that the parser follows late closure in initially treating *the plane* as the object of *flying*. Although some research suggests that information about subcategorization frequency is employed during initial parsing (Garnsey, Pearlmutter, Myers, & Lockett, 1997; Trueswell, Tanenhaus, & Kello, 1993), other studies suggest that frequency information need not be employed (Pickering, Traxler, & Crocker, 2000).

A more extreme account claims that the processor ignores subcategorization requirements, as well as subcategorization frequency. If this is the case, the parser initially treats a noun phrase as the object of a verb in a construction like (1) even if the verb *never* takes an object. To test this, Mitchell (1987) had participants read sentences containing verbs like *sneezed* or *visited*:

- 2a. After the child had sneezed the doctor prescribed a course of injections.
- 2b. After the child had visited the doctor prescribed a course of injections.

The verb *sneezed* is almost always intransitive, except in some rare constructions like *sneezed the sneeze*. The

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sentences were presented as two fragments, with the break occurring after *doctor*. Participants took longer to read *After the child had sneezed the doctor* than *After the child had visited the doctor*. However, no difference occurred when an adverbial phrase like *during surgery* appeared before *the doctor*. Mitchell interpreted these results as showing that participants initially treated *the doctor* as the object of *sneezed* (in the absence of an adverbial phrase) but that they then realized that this analysis was impossible. Reanalysis led to processing difficulty. Mitchell also found that the second region, *prescribed a course of injections*, was easier to process in (2a) than in (2b), suggesting that participants had already reanalyzed in (2a) and that they were surprised by the continuation in (2b) alone.

Adams, Clifton, and Mitchell (1998) suggested that this pattern of results may have been due to the way that the sentences were segmented. Having the split after *doctor* clearly supported an analysis in which the words in the first fragment formed a clause. If Mitchell's (1987) results were an artifact of the presentation method, the more radical account could be dismissed. Hence, Adams et al. repeated Mitchell's experiment but used eye-tracking during normal reading. They employed four conditions, with sentences like the following:

- 3a. After the dog struggled the vet took off the muzzle.
- 3b. After the dog struggled pathetically the vet took off the muzzle.
- 3c. After the dog scratched the vet took off the muzzle.
- 3d. After the dog scratched pathetically the vet took off the muzzle.

If subcategorization information is initially ignored and if the parser obeys late closure (or a similar principle), participants should initially treat *the vet* as the object of *struggled*. But they should then realize that this analysis is impossible and be disrupted. Hence, this account predicts difficulty reading *the vet* in (3a) versus (3b–d). But if subcategorization information is used immediately, no difficulty should emerge in (3a). In fact, Adams et al. found no sign of difficulty with (3a). The only significant effect was difficulty after disambiguation (i.e., *took off*) in (3c). All theories make this prediction, because *the vet* should be initially treated as the object of *scratched* and this is inconsistent with the disambiguation. Thus, Adams et al. concluded that Mitchell's dramatic findings did not generalize to more natural reading situations and should, therefore, not be used as evidence for the radical two-stage account.

However, this conclusion may well be premature. Adams et al. (1998) employed a fairly short noun phrase region (10.6 characters)¹ that was only two words long. Syntactic effects on eye movements often "spill over" and occur most strongly a word or two after the critical word (e.g., Pickering & Traxler, 1998; Pickering et al., 2000). Because the next word in Adams et al.'s experiment (e.g., *took*) disambiguated the sentence, they could not detect such spill-over effects. In addition, readers

sometimes pick up information on a word when they fixate toward the end of the previous word (e.g., Rayner & Pollatsek, 1987). Because processing difficulty occurred as soon as they encountered the disambiguating word *took* in (3c), reading times on the noun phrase in (3c) may also have been lengthened. Finally, Adams et al. did not report any regression-based measures. These measures often provide early indications of processing difficulty (e.g., Altmann, Garnham, & Dennis, 1992; Pickering & Traxler, 1998; Rayner, Carlson, & Frazier, 1983).

We therefore conducted an experiment that employed Adams et al.'s (1998) sentences, but with considerably longer noun phrases. We were concerned with the comparison of sentences containing transitive and intransitive verbs and thought that the adverbial presented a rather different precritical region in (3b) and (3d) than (3a) and (3c). Hence, we omitted the two conditions with the adverb. This allowed us to increase the power of our experiment, because we suspected that we might be investigating a fairly subtle effect.

METHOD

Participants

Twenty-six participants were paid to take part. All were native English-speaking students at the University of Glasgow and had normal vision. Some had taken part in other eye-tracking experiments.

Items

We constructed 24 pairs of items like (4) below (see the Appendix):

- 4a. After the dog struggled the vet and his new assistant took off the muzzle. The dog quietened down in the end and the vet gave it an injection. (*Intransitive*)
- 4b. After the dog scratched the vet and his new assistant took off the muzzle. The dog quietened down in the end and the vet gave it an injection. (*Transitive*)

All the items were direct modifications of those employed by Adams et al. (1998). The only changes were that the ambiguous noun phrase (e.g., *the vet and his new assistant*) was extended in length by several words and that a second sentence was added to increase readability and mask the experimental sentences.

Procedure

We constructed two lists of items, consisting of 12 items from each condition, with exactly one version of each item appearing in each list. Thirteen participants were randomly assigned to each list. Each list also contained 46 fillers: 22 sentences employing a range of grammatical structures, and 24 items from another experiment. The experimental items and fillers were placed in a single random order, with 5 fillers preceding the first experimental sentence.

The participants' eye movements were recorded with a Fourward Technologies Dual Purkinje Generation 5.5 eye tracker, which monitored the right eye (although viewing was binocular). The tracker had an angular resolution of 10 min of arc. A computer displayed the materials on a screen 77 cm from the participants' eyes. The screen displayed 3.8 characters per degree of visual angle. The tracker monitored participants' gaze location every millisecond, and the software sampled the tracker's output to establish the sequence of eye fixations and their start and finish times.

Each participant was run individually. The experimenter told the participant to read the sentences carefully in order to understand

them, but to read at his or her normal rate. Bite bars and head restraints were used to minimize head movements. Next, the participant completed a calibration procedure. Before each item or filler, a calibration check was performed, and the calibration was repeated, if necessary. Each item was presented on two lines. If the line break was in the first sentence, it occurred just before or in the final region (see below for the region definition). After reading the sentence, the participant pressed a button, which led to the presentation of a comprehension question on about half the trials (with half requiring a *yes* response, half a *no* response) or of the next trial. The experiment took about half an hour.

Analyses

The participants made 13% errors in response to the comprehension statements. Prior to all analyses, trials with major tracker losses were excluded. This eliminated 3% of the trials. If a fixation was shorter than 80 msec and within one character space of the previous or next fixation, it was assimilated to this fixation. All remaining fixations shorter than 80 msec were excluded (3% of all fixations). Following Rayner and Pollatsek (1989), we assume that readers do not extract much information during such short fixations. We also excluded fixations longer than 800 msec (0.2% of all fixations).

We divided experimental items into seven regions, indicated by slashes below:

7. After the dog/ struggled/ the vet/ and his/ new assistant/ took off/ the muzzle.

These regions corresponded to (1) the subject noun phrase, (2) the subordinate verb, (3) the determiner and noun following the verb (known as the *critical region*), (4) the two words following the noun (known as the *postcritical region*), (5) the remainder of the noun phrase, (6) the main verb, plus the next word if the verb was shorter than seven characters (the *disambiguating verb region*), and (7) the final words of the sentence and the period. Regions 1–3 and 6–7 were identical to the regions in Adams et al. (1998). The space between words was included with the following word. We did not analyze the second sentence, since we made no predictions about it.

For each region, five eye-tracking measures were calculated. *First fixation* is the duration of the first fixation in a region. *First-pass time* is the sum of all fixation durations, starting with the reader's first fixation inside a region until the reader's gaze leaves the region (either to the left or to the right). For regions consisting of a single word, first-pass time corresponds to *gaze duration* (Rayner & Duffy, 1986). We employed two regression-based measures. *First-pass regressions* is the percentage of leftward eye movements that cross the region's left boundary initiated immediately after a first-pass fixation in the region. *Regression-path time* (Konieczny, Hemforth, Scheepers, & Strube, 1997; Traxler, Bybee, & Pickering, 1997; cf. Duffy, Morris, & Rayner, 1988) is the sum of all fixation durations, starting with the reader's first fixation inside the region until he or she fixates to the right of the region. It is also called cumulative region reading time by Brysbaert and Mitchell (1996) and go-past time by Clifton, Bock, and Radó (2000). Thus, the regression-path time for a region includes first-pass time for that region plus time spent fixating on earlier regions if these fixations follow a first-pass regression from that region (e.g., if a reader makes six fixations, on Regions 1, 2, 3, 1, 3, 4 in that order, the regression-path time for Region 3 is the sum of the third to fifth fixations). Finally, *total time* is the sum of all fixations in a region.

For all time measures, the data for a particular region was excluded if the reading time for that region was zero (i.e., the region had been skipped). For first fixation, first-pass time, first-pass regressions, and regression-path time, we also excluded the data for a region if a reader fixated a subsequent region before the region

under consideration. First-pass regression data for a region was excluded if first-pass time was excluded. On average, these procedures eliminated 7% of the data (16% maximum for any region) from first-pass time, first-pass regressions, and regression-path time. Three percent of the data (8% maximum for any region) was discarded from total time. In addition, if reading times for two or more consecutive regions were zero in a measure, the regions following them were excluded from that measure. We assumed that the participants could not have processed the sentence completely if this was the case. This resulted in less than 1% of exclusions in any of the measures.

RESULTS

Table 1 presents the mean reading times and percentage of first-pass regressions by condition. For each eye-tracking measure and each region, we conducted two analyses of variance (ANOVAs), one with subjects and one with items as the random factor (F_1 and F_2 , respectively). The ANOVAs contained transitivity as a within-subjects and within-items factor. We also included subject/item group as a between-subjects and between-items factor in order to eliminate the variance caused by random differences between groups (Pollatsek & Well, 1995). Table 2 presents the results of these analyses. We first report all measures of initial processing (first fixation, first-pass time, regression-path time, and first-pass regressions) and then total time, since this measure also includes rereading.

In measures of initial processing, no effects reached significance by subjects and items in Region 1 or 2.² In Region 3, the critical region, no significant differences were obtained in first fixation and first pass, in accord with Adams et al. (1998). However, regression-path times clearly showed that the intransitive condition took longer to read than did the transitive condition. First-pass regressions showed a similar pattern, but the effect was not significant by items.

A similar pattern occurred in Region 4, the postcritical region. Regression-path times were longer in the intransitive than in the transitive condition. Similarly, there were more first-pass regressions in the intransitive condition. Neither first-fixation nor first-pass time showed an effect. In Region 5, regression-path time showed an effect that was significant by subjects only. No differences emerged in first fixation, first-pass time, and first-pass regressions.

After disambiguation, the difficulty associated with the two conditions was reversed. In Region 6, the disambiguating verb region, all measures showed that the transitive condition was harder to process than the intransitive condition, in accord with Adams et al. (1998). In Region 7, with the exception of first-fixation time, the measures indicated that the transitive condition was harder than the intransitive condition.

Finally, with the exception of Region 3 and the by-items analysis in Region 2, analyses of the total-time data showed that the transitive condition was harder to process than the intransitive condition. Since many of

Table 1
Means

Condition	Region						
	1 After the dog	2 struggled/scratched	3 the vet	4 and his	5 new assistant	6 took off	7 the muzzle.
First-fixation times							
Intransitive	160	286	277	270	255	259	247
Transitive	170	276	280	265	252	283	259
First-pass times							
Intransitive	583	319	378	336	409	318	708
Transitive	588	317	356	339	398	367	659
Regression-path times							
Intransitive	583	377	492	430	551	354	1,041
Transitive	588	370	424	356	500	563	1,450
First-pass regressions							
Intransitive		9.8	20.5	14.4	18.6	9.0	24.5
Transitive		12.1	16.0	4.3	18.3	20.6	37.6
Total times							
Intransitive	744	472	557	440	557	386	912
Transitive	822	522	558	548	672	598	1,047

Note—First-fixation, first-pass, regression-path, and total times are reported in milliseconds; first-pass regressions are reported as the percentage of saccades leaving the region to the left after a first pass fixation.

the early regions showed the reverse pattern on some or all of the measures concerned with the early stages of processing, these results indicate that the disruption with the transitive condition after disambiguation affected sentence rereading.

DISCUSSION

Regression-path times for the critical region and first-pass regressions and regression-path times for the postcritical region indicated that readers experienced more difficulty immediately after intransitive verbs than after transitive verbs. These results provide good evidence that Adams et al.'s (1998) conclusions should be questioned. In particular, Mitchell's (1987) results do not appear to be an artifact of the presentation method. Thus, readers appear to have difficulty with a noun phrase following an intransitive verb in a subordinate clause, relative to a transitive verb.

Our results demonstrate the importance of regression-based measures. We observed significant effects in regression-based measures in both the critical and the postcritical region, but not in first-fixation or first-pass times. It is likely that Adams et al. (1998) failed to find disruption at the ambiguous noun phrase because they did not use such regression-based measures. In addition, because Adams et al. did not include the equivalent of our postcritical region, they could not detect spill-over effects. Readers may also have processed the disambiguating verb while fixating on the noun phrase, which would have obscured any real effects at the noun phrase. Notice, however, that the syntactic disambiguation in Region 6 did result in significant first-fixation and first-pass time effects. This suggests that syntactic disambiguation effects are reflected in different eye movement patterns than are subcategorization effects. This contrast

may be related to findings in Pickering and Traxler (1998) and Pickering et al. (2000), who observed that syntactic disambiguation resulted in different eye movement patterns than did semantic disambiguation.

The results suggest that subcategorization information is ignored during initial processing. It is possible that the difficulty in reading the ambiguous noun phrase in the intransitive condition does not reflect reanalysis but, instead, reflects the difficulty that readers have in starting a new clause (Holmes, Kennedy, & Murray, 1987). However, there is clear evidence that difficulty occurs at the end of a sentence-internal clause, rather than at the start of a new clause (e.g., Rayner, Kambe, & Duffy, 2000; Rayner, Sereno, Morris, Schmauder, & Clifton, 1989). For example, Rayner et al. (2000) found that in sentences that were otherwise identical, reading times for a phrase were longer when it ended a clause than when it began a new clause. Thus, the difficulty in the intransitive condition appears to be the result of misanalysis.

Hence, following Mitchell (1987), the results suggest that readers initially treat a noun phrase as the object of an intransitive verb, thereby ignoring the verbs' subcategorization properties. However, there are two alternatives that we need to consider. First, Corley and Haywood (1999) noted that almost any verb can be followed by a noun phrase adjunct. Although their corpus count showed that such adjuncts are extremely rare, they hypothesized that readers may process the noun phrase following the subordinate verb as a noun phrase adjunct, as in *though the young swimmer sulked the whole morning . . .*, and that they experience difficulty when they discover that the phrase does not make a good adjunct. However, there is no evidence that readers use such a strategy: When they controlled for other factors, Corley and Haywood failed to observe a preference for adjuncts. Furthermore,

Table 2
Analysis of Variance Results by Region for Effect of Condition

Measure	$F_1(1,24)$	MS_e	$F_2(1,22)$	MS_e
Region 1				
First-fixation times	4.70*	202	3.06	328
First-pass times	<1.00		<1.00	
Regression-path times	<1.00		<1.00	
Total reading times	11.26 [†]	6,943	8.02*	7,956
Region 2				
First-fixation times	1.20	900	2.55	355
First-pass times	<1.00		<1.00	
Regression-path times	<1.00		<1.00	
First-pass regressions	<1.00		1.06	31
Total reading times	4.27*	8,174	2.57	9,288
Region 3				
First-fixation times	<1.00		<1.00	
First-pass times	3.74	1,664	1.56	4,001
Regression-path times	11.24 [†]	4,832	11.14 [†]	5,411
First-pass regressions	5.72*	37	2.29	125
Total reading times	<1.00		<1.00	
Region 4				
First-fixation times	<1.00		<1.00	
First-pass times	<1.00		<1.00	
Regression-path times	8.76 [†]	10,307	6.97*	6,936
First-pass regressions	11.46 [†]	140	32.48 [†]	32
Total reading times	9.94 [†]	14,090	11.40 [†]	13,468
Region 5				
First-fixation times	<1.00		<1.00	
First-pass times	1.47	1,452	<1.00	
Regression-path times	4.45*	7,911	3.33	10,618
First-pass regressions	<1.00		<1.00	
Total reading times	11.32 [†]	13,906	18.22 [†]	8,614
Region 6				
First-fixation times	8.10 [†]	997	7.92*	849
First-pass times	10.11 [†]	2,350	13.97 [†]	1,920
Regression-path times	11.81 [†]	39,078	25.65 [†]	19,268
First-pass regressions	11.12 [†]	137	18.20 [†]	94
Total reading times	40.99 [†]	12,969	35.47 [†]	14,384
Region 7				
First-fixation times	1.49	1,145	1.34	1,169
First-pass times	4.51*	7,339	3.33	9,993
Regression-path times	17.00 [†]	129,468	23.41 [†]	85,691
First-pass regressions	15.27 [†]	149	10.97 [†]	186
Total reading times	9.68 [†]	23,760	16.31 [†]	11,611

* $p < .05$. [†] $p < .01$.

this explanation is inconsistent with experimental findings that show that arguments are preferred over adjuncts (e.g., Liversedge, Pickering, Branigan, & van Gompel, 1998; Schütze & Gibson, 1999).

More important, Adams et al. (1998) raised the concern that in some cases, so-called intransitive verbs (including some of the present verbs) do take a direct object. Thus, a gangster can die a painful death, a baby can sleep a deep sleep, and a ship can drift its way around the world. These cases are extremely rare and appear to be highly lexically constrained (e.g., requiring modified cognate objects or idiomatic constructions such as “one’s way”). The existence of these constructions makes it impossible for us to conclude that people initially ignore subcategorization restrictions, because it is possible that readers might have initially assumed that the supposedly intransitive verb actually took a direct object as part of one of these rare constructions.

However, our results do indicate that the processor initially ignores extremely strong subcategorization preferences. This conclusion is compatible with the results of Pickering et al. (2000), who manipulated the plausibility of an infrequent and ultimately incorrect analysis and found that processing was disrupted when this analysis was implausible. Because the plausibility of the ultimately correct analysis was held constant, their results indicated that initial choice of analysis is not directed by subcategorization preferences. The present experiment allows us to draw stronger conclusions: Even when the transitive analysis occurs only in a few idiomatic constructions, the processor still appears to adopt it initially. Hence, our results provide further problems for frequency-based accounts of sentence processing, such as constraint-based accounts (Garnsey et al., 1997; MacDonald et al., 1994; Trueswell et al., 1994; Trueswell et al., 1993).

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NOTES

1. Adams et al. (1998) report *vet* in the appendix, although they use *veterinarian* in their example in the text. We assume that they used *vet* in the experiment.

2. First-fixation times on Region 1 were significant on the subjects analysis only. This must be spurious, since the conditions did not differ at this point.

APPENDIX
Experimental Items

In the following, the word before the slash appeared in the intransitive condition, and the word after the slash appeared in the transitive condition. Questions follow those items that had them.

Shortly after the gangster died/shot his wife and young daughters burst into hysterics. They had to be calmed down by a friend, who called the police.

Did the gangster have more than one daughter?

After the dog struggled/scratched the vet and his new assistant took off the muzzle. The dog quietened down in the end and the vet gave it an injection.

Did the vet and his assistant take off the dog's collar?

As the ship drifted/sailed the waters of the Atlantic Ocean remained blue and calm. There was no change in the weather for the next few days.

Though the young swimmer sulked/phoned the coach who was very strict refused to permit him to join the team. This was a mistake, because the team lost the relay.

Did the coach make a mistake?

After the pilgrims prayed/begged the Indians who were sitting by the fire lit the peace pipe. In fact, the encounter was not as dangerous as it first appeared.

While the baby slept/kicked the babysitter who had just arrived took a nap. The parents came back early and were very unhappy with the situation.

Did the babysitter stay up all night?

While the crowd gaped/cheered the magician holding the mysterious wand sawed the woman in half. Of course this was all an illusion and the woman got up at the end.

After the students gossiped/gobbled the desserts that looked so delicious were taken away by the waiter. They then had a cup of coffee each and went back home.

When the teacher talked/taught the visitors from the other school lost interest in the lesson. They were more concerned with what was happening outside the window.

Did the teacher manage to keep the attention of the visitors?

Although her baby daughter squirmed/clutched the woman and her new partner stayed until the end of the program. They didn't pay any attention to the child at all.

Although the audience yawned/booed the comedian who imitated a French accent continued telling very bad jokes. Some of these were really quite offensive.

Did the comedian imitate a French accent?

After the patient coughed/probed the nurse who was always very caring told her that the doctor would be in shortly. In fact, the patient had to wait quite a while.

Did the nurse tell the truth?

After the lifeguard smiled/visited the swimmers who had been waiting jumped into the pond. They swam for a few minutes but got out when they started to feel cold.

After the rooster crowed/awoke the farmer and the young farm-hand went to the hen house to gather eggs. They found quite a few and took them into the house.

As the teenager daydreamed/contemplated the teacher of the physics class asked him a direct question. He had to think a long time before he managed to give an answer.

Was the teenager attending a history class?

While the woman gardened/decorated the pot that had a broken handle boiled over on the stove. She realised that it had made a considerable mess in the kitchen.

Did the woman notice the mess?

When the customer complained/interrupted the manager who was in the shop changed the wording of the advertisement. The new wording turned out to be a great success.

While the bachelor mused/smoked his pipe containing his favorite tobacco fell to the floor and started a fire. He got up and stamped his foot on the flames.

While the prisoners fasted/heckled the guards who were in charge refused to discuss their grievances. Most guards weren't concerned with the prisoners' well-being.

Did the guards stand up for the prisoners?

As long as the king prevailed/governed his subjects and faithful followers hoped he would have a son. Unfortunately, he was unable to have any children.

After the host disappeared/interrupted the conversation about TV programs became interesting and educational. Some people thought TV programs were becoming more commercial.

Did the conversation become more interesting?

After the woman emerged/dressed her children and her husband thought she looked lovely. Everyone who saw her that day had the same opinion as her family.

Did the children like the way their mother looked?

After the soldier fainted/saluted the doctor who attended the exercise demanded the end to the military drill. However, the lieutenant continued the drill nonetheless.

While the new guard dozed/bluffed the thieves who were wearing masks filled their bags with money. They ran away, and the police were not able to catch them.