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Eye Movements When Looking at Print Advertisements: The Goal of the Viewer Matters

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SUMMARY

Viewers looked at print advertisements as their eye movements were recorded. Half of them were asked to rate how much they liked each ad (for convenience, we will generally use the term ‘ad’ from this point on), while the other half were asked to rate the effectiveness of each ad. Previous research indicated that viewers who were asked to consider purchasing products in the ads looked at the text earlier and more often than the picture part of the ad. In contrast, viewers in the present experiment looked at the picture part of the ad earlier and longer than the text. The results indicate quite clearly that the goal of the viewer very much influences where (and for how long) viewers look at different parts of ads, but also indicate that the nature of the ad per se matters.

Where do people look in print ads? This question has recently generated a fair amount of research activity to determine the factors that influence which aspects of an ad are salient in capturing a viewer’s attention (Goldberg, 1999; Pieters & Warlop, 1999; Pieters & Wedel, 2007; Pieters, Rosbergen, & Wedel, 1999; Radach, Lemmer, Vorstius, Heller, & Radach, 2003; Rayner, Rotello, Stewart, Keir, & Duffy, 2001; Wedel & Pieters, 2000). Given that eye-movement research has been so successful in illuminating how cognitive processes are influenced online in various information processing tasks (Rayner, 1978, 1998), such interest is not at all surprising. More recently, there have also been attempts to provide models of eye-movement control in scanning ads (Liechty, Pieters, & Wedel, 2003; Reichle & Nelson, 2003).

Although there was some research on eye movements while viewers examined print ads prior to the late-1990s (see Radach et al., 2003, for a summary), it tended to be rather descriptive and non-diagnostic. The more recent research endeavour has focused on more analytically determining how aspects of the ad and the goal of the viewer interact to influence looking behaviour and the amount of attention devoted to different parts of the ad. For example Rayner et al. (2001) asked American participants to imagine that they had just moved to England and that they needed to either buy a new car (the car condition) or that they needed to buy skin care products (the skin care condition). Half of the participants were in each condition, but both groups saw the same set of 24 British ads. Thus, participants in the car group saw eight critical car ads, but they also saw eight critical skin car ads and eight filler ads (showing a variety of products); participants in the skin care group also saw the same eight car ads, eight skin care ads and eight filler ads. But, obviously, the two different types of ads should have had differing amounts of relevance to the viewers. Indeed, viewers in the car condition spent much more time looking at car ads than at skin care ads or filler ads, while the viewers in the skin care condition spent much more time looking at skin care ads than car ads.

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Another interesting finding in the Rayner et al. study was that viewers quickly moved their eyes to the text part of the ad. That is, their eyes were usually in the text part of the ad within three fixations from initially viewing any given ad. Furthermore, they spent a considerable amount of time reading the text part of the ad, especially the ads that were relevant to their goals. Specifically, viewers in the car condition spent much more time reading the car ads than the other ads and viewers in the skin care condition spent much more time reading the skin care ads. The observation that viewers spent considerable time reading the ads goes against the conventional wisdom in the advertising field that people do not like to spend time reading the text part of the ad. Nonetheless, viewers did pay a lot of attention to the text when under the instruction that they should be looking to buy a given product (Rayner et al., 2001). In the present article, we further examine how the viewer's goals influence their looking behaviour with respect to print ads.

Clearly, ads differ in many ways, yet there may be some underlying principles with respect to how viewers inspect them. First, Rayner et al. (2001) found that many viewers quickly move their eyes to the text in ads, especially the large text (the *headline*). Second, Radach et al. (2003) found that viewers spend more time on implicit ads in which the pictures and text are not directly related to the product than they spend on explicit ads. Third, Wedel and Pieters (2000) found that although brand names tend to take up little space in an ad, they receive more eye fixations than text or pictures. Fourth, viewers tend to spend more time looking at the text portion than at the picture portion of the ad, especially when the amount of space taken up is taken into account (Rayner et al., 2001; Wedel & Pieters, 2000). Rayner et al. (2001) found that viewers did not alternate fixations between the text and the picture part of the ad, but they tended to read the headline or large print, then the smaller print and then they looked at the picture (although some viewers did an initial cursory scan of the picture). However, Radach et al. (2003) found that viewers looked back and forth between different elements (often scanning back and forth between the headline, the text, and the picture). Radach et al. (2003) argued that the difference was due to the fact that the tasks they used were more demanding than those used by Rayner et al. (2001). This brings us to the fifth important point, and the focus of the current experiment: we suspect that the goal of the viewer very much matters in terms of where people look in ads. The studies by Rayner et al. (2001) and Radach et al. (2003) certainly imply this, but here we more systematically examined task differences.

In the experiment reported here, we further examined how viewers' goals or strategies influence their looking behaviour of ads. Specifically, we used the same ads as Rayner et al. (2001), but in the present study we asked half of the participants to make a judgment about how much they aesthetically liked each ad that they viewed, while the other half were asked to evaluate how effective they thought each ad was. While our main goal was to compare these two groups, these viewers may also be compared with the earlier viewers of the same stimuli whose task was to imagine that they needed to actually buy one or more of the depicted products (Rayner et al., 2001).

Before we move to the actual experiment, it is instructive to note that the type of experiment reported here is of interest not only with respect to the specific issue of how viewers' goals influence their looking behaviour of ads, but also with respect to two more general issues regarding (1) how task demands influence eye movements and (2) how viewers integrate text and pictures in the comprehension process (Rayner et al., 2001). With respect to the first issue, the classic work of Yarbus (1967) clearly demonstrated that the goal of the viewer influenced eye movements in looking at a scene. More recent work by Hayhoe and Ballard (2005), Land and Hayhoe (2001), and Underwood and Foulsham (2006) has also clearly demonstrated that the goal of the viewer influences eye fixation times and eye-movement patterns. With respect to the second issue, while there is a considerable amount of research on eye movements while reading and while looking at scenes (Rayner, 1998; Rayner & Castelano, 2007), there is

relatively little eye-movement data available regarding the complex processes involved in integrating text and pictures (see Carroll, Young, & Guertin, 1992; Hegarty, 1992; Underwood, Crundall, & Hodson, 2005; Underwood, Jebbett, & Roberts, 2004 for some notable exceptions). We will return to discuss this issue of how text and pictures are integrated in the Section 'General Discussion', along with the implications of the present results for how people look at ads and distribute their attention to critical parts of print ads.

METHOD

Participants

Twenty-four members of the University of Massachusetts community with normal or corrected to normal vision were paid to participate in the experiment. Half of them were males and half were females. They were all naïve with respect to the purpose of the experiment.

Apparatus

Eye movements were recorded via an SR Limited Eyelink 2 head-mounted eyetracker. Although viewing was binocular, only movements of the right eye were monitored. Infrared video based technology is used by the system to monitor gaze position on a display in spite of head movements. Eye positions were sampled at 250 Hz. The headband was fitted to each participant, and the system was calibrated and checked until the average error in eye position was less than half a degree. Participants in the experiment were seated such that the distance between the video monitor and their eyes was approximately 79 cm. At this distance, the headline print in the ads was typically about two letters per degree, and the small print was usually about four letters per degree. The system is equipped with software from SR Ltd, as well as our own custom designed software, to calculate numerous eye-movement indices.

Materials

The stimuli were the same¹ as that used by Rayner et al. (2001), with the exception that participants saw 48 ads in the main part of the experiment (half of these had appeared as the studied items in Rayner et al. and half had served as lures in a recognition test). These 48 ads consisted of full-page (8.5 inch [22 cm] × 11.5 inch [29 cm]) colour ads taken from popular British magazines. A variety of products were represented in these ads: 10 cars, eight skin care products, eight watches, four shaving products, four food products, two stereos, laundry detergent, a washing machine, a pen and a variety of other personal care products and clothing. Each ad was scanned and saved in a 256 colour bitmap with 1600 × 1200 resolution.

Procedure

Participants were randomly assigned to one of the two instructional conditions (with the constraint that there was an equal number of males and females in each group). Those in the *like* group were told that they would view a sequence of ads and after viewing them, they would be asked to rate on a five-point scale how well they liked the ad (with 1 being really disliked it and 5 really liked it). Those in the *effectiveness* group were told the same thing except that after each ad they should rate how effective (again on a five-point scale with 1 being very ineffective and 5 being highly effective) the ad was. For both rating scales, viewers provided a verbal numerical rating from 1 to 5.

After the eye-tracker had been calibrated and the participants were given their task, the experiment began. A circular figure appeared on the video monitor and participants were asked

¹Actually, 46 of the ads were identical to those used by Rayner et al. Two ads, one of them a car ad, had to be replaced due to the relatively poor quality of the reproduction. The car ad that was replaced was very similar in layout to its replacement. For convenience, we will refer to the set of ads in the two studies as being the 'same'.

to fixate in the centre of the figure. Then after fixating the centre of the figure, an ad appeared on the screen and remained visible until the participant pressed a button to erase it. At that point, subjects provided a rating and the circular fixation figure appeared for the next trial. Two practice trials began the sequence, and then each participant viewed all 48 ads in a different random order.

RESULTS AND DISCUSSION

Ratings of effectiveness and liking

The mean rating of effectiveness was 3.00 ($SD = 1.26$), and the mean rating from participants who were asked how much they liked the ads was 2.85 ($SD = 1.22$). We also examined the correlations between viewers' ratings of any given ad with how much time that they looked at the ad. One might expect that ads that were judged particularly effective or which were rated highly in terms of liking would receive more attention or looking time. However, the correlations between the ratings and amount of time looking at a given ad were non-significant (and ranged between -0.03 and 0.01).² As a result, we did not consider the magnitude of the ratings in any subsequent analyses of the eye movements.

It is perhaps not that surprising that there was no correlation between the ratings and the looking time. Given that the ads were taken from magazines and were somewhat variable in terms of both the amount of text/picture in the ad and the content of the ad, it is probably the case that how much time was devoted to each ad was largely determined by the content of the ad.

Eye-movement data

Analyses of (1) the total amount of time spent looking at different parts of the ads, (2) location of the initial fixation in the ads, (3) fixation duration measures, and (4) saccade length measures are reported. In all cases, 2 (Gender) $\times$ 2 (Task: like versus effectiveness) $\times$ 2 (Ad: text versus picture) analyses of variance (ANOVA) were carried out on the data. There were some hints in the data that male participants spent more time looking at the ads (both the picture and the text) than female participants, but none of the main effects or interactions were significant so we will not discuss gender further. Table 1 shows the data as a function of task and ad.

Because the stimuli were real print ads, they were highly variable in their design and informational content. Thus, we utilized three different methods to analyse the eye-movement data. First, the ads were divided up into different regions as in the Rayner et al. (2001) study. This procedure, which we will refer to as the *Original Analysis*, consisted of drawing rectangles around the headline, small text, and product portions of the ad; in some ads, this left areas of blank space (which viewers rarely fixated). Second, the ads were divided into different regions via colour coding. This procedure, which we will refer to as the *Colour Analysis*, consisted of colour coding each and every segment of the ad. All parts of an ad that were of a particular colour, such as yellow, were thus treated as being part of the same 'region'. After the ads had been coded via this procedure, it became apparent to us that while this method resulted in higher accuracy in defining the picture components of the ad (including the pictures of specific products), it was not a good measure of the time spent reading the text portions of the ad because the occurrence of particular colours was not restricted to text (the text colours could also appear in the pictures). Third, a *Pixel Control* analysis, which controlled for the amount of space actually taken up by various parts of the ad, was included. This was accomplished by dividing the ad into critical regions (pictures vs. text, using the Original Analysis) and then making

²When correlations were computed separately for each group of participants, they were still quite modest (ranging from -0.08 to 0.08) and non-significant.

appropriate adjustments for how long participants looked at each part of the ad by dividing by the number of pixels in that region.

In general, the three different analysis measures yielded very similar results, though there were a few exceptions which we will note. Although in the present case, the results are consistent across the different analysis measures, it is also obvious to us from undertaking these analyses that differing results could in principle easily be obtained for different ads using these different procedures. Specifically, careful examination of the resulting data using the *Original Analysis* and the *Colour Analysis* suggested that for more global aspects of the data (related to determining the amount of time viewers spent looking at the text and picture regions of the ads), the *Original Analysis* was more useful. However, for analyses dealing with more local aspects of the data (average fixation duration and saccade length), the *Colour Analysis* was more revealing. Thus, in the analyses reported below, the total time, number of fixations, and location of initial fixation measures are based on the *Original Analysis* and the fixation duration and saccade size measures are based on the *Colour Analysis*.

Total viewing time and number of fixations—Viewers spent more time looking at the picture portion of the ad (5715 milliseconds) than the text portion of the ad (3642 milliseconds), $F(1,20) = 52.15$, $p < 0.01$. This result is in direct contrast to the Rayner et al. (2001) study, in which it was found that viewers spent more time reading the text part of the ad than they spent looking at the picture portion of the ad. The current finding of longer viewing times on the picture than the text also held when the *Pixel Control Analysis* was used, though the effect was not statistically significant, $F(1,20) = 2.54$, $p = 0.125$. A large part of the difference in looking time was due to the fact that viewers made nearly twice as many fixations on the picture portion of the ad (22.69 fixations) than on the text (14.67 fixations), $F(1,20) = 62.58$, $p < 0.01$. While the liking task yielded numerically longer viewing times, and more fixations than the effectiveness task, these effects were far from significant ($F_s < 1$).

Initial fixation location—Again in direct contrast to the Rayner et al. (2001) study, viewers' initial fixations away from the central fixation point targeted the picture portion of the ad more frequently (69% of the time) than the text (16%), $F(1,20) = 498.43$, $p < 0.01$.³ Rayner et al. found that in addition to the initial fixation often being directed to the text portion of the ad, most of the time viewers were in the text region within three fixations. This did not happen in the present study. Furthermore, as is apparent in Table 1, the nature of the task influenced the location of the initial fixation, as viewers in the liking task were more likely (0.73 versus 0.65) to go immediately to the picture than those in the effectiveness task, $F(1,20) = 8.76$, $p < 0.01$.

Fixation duration—Viewers tended to have longer fixations on pictures (251 milliseconds) than text (234 milliseconds), $F(1,20) = 26.28$, $p < 0.01$. This finding is typical (e.g. Rayner, 1998; Rayner et al., 2001) and is generally attributed to the fact that information from a wider area can be processed per fixation in scenes than in text (Rayner, 1998). Consistent with this assumption, the *Pixel Control Analysis* revealed the opposite effect. That is when the sizes of the picture and text regions are taken into account, viewers' fixations were longer on text regions than picture regions, $F(1,20) = 707.13$, $p < 0.01$. This makes sense in that the text regions are more densely packed in terms of content. Also consistent with the Rayner et al. (2001) study, fixation duration varied as a function of the size of text: fixations averaged 216 milliseconds for the headline text and 251 milliseconds for the small print, $F(1,20) = 104.78$, $p < 0.01$.

³The values do not sum to 1.0 because about 10% of initial fixations went to parts of the ad that were not classified as picture or text and about 5% were excluded because the initial fixation was less than 80 milliseconds.

Saccade size—Viewers made larger saccades (4.05 deg.) in the picture part of the ad than in the text part of the ad (3.07 deg.), $F(1,20) = 114.35, p < 0.01$, replicating Rayner et al. (2001). Furthermore, and again consistent with the earlier study, saccades were longer for the headline text (3.52 deg.) than for the small print (2.62 deg.), $F(1,20) = 47.55, p < 0.01$. However, when converted to character spaces, saccade sizes were larger for the small print (10.5 characters) than the large print (seven characters).

Comparison with Rayner et al. (2001)

The results of the present study contrast quite markedly with those we reported previously. Specifically, in the Rayner et al. (2001) study, participants viewed ads under the guise of needing to buy either a new car or skin care products. Viewers in the car condition spent much longer looking at car ads than skin care ads, while those in the skin care condition spent much longer looking at skin care ads than car ads. But, more critically, under the set of instructions that led viewers to act as if they were interested in buying a particular product, viewers spent proportionally more of their time reading the text portion of the ad than looking at the picture portion of the ad.

In contrast to the earlier study, viewers in the present study, who were instructed to rate either the effectiveness of the ads or how much they liked the ads, spent more time looking at the pictures than the text. Furthermore, and what is quite striking, is that the distribution of their looking time varied dramatically across the two studies. This can be seen very clearly in Table 2, in which we show the overall looking times for the text and picture regions of the ads in both studies. Since there were no significant differences between the viewers in the liking group and those in the effectiveness group in the present study, we have collapsed across those two groups in the table. However, as there were clear differences between groups in the Rayner et al. study, the data in Table 2 from that study preserve whether viewers were looking for a specific type of ad or not. Thus, the data labelled ‘intended’ are the combination of viewers’ looking times for car ads (when they were instructed that they needed to buy a car) and their looking times for skin care ads (when instructed that they needed to buy skin care products), while the data labelled ‘unintended’ represent the data from when the viewers were looking at ads other than those specified as of particular relevance to them (the car buyers looking at skin care ads and the skin care buyers looking at car ads).

Are the differences that are obvious in Table 2 due to the instructions that participants received or due to differences in the ads? Fortunately, within the present experiment, participants looked at a set of ads that heavily overlapped with the ads that were given to the participants in the Rayner et al. That is every participant in the present study looked at 16 car and skin care ads (8 of each type) that with one exception were identical to those in the Rayner et al. study. We therefore analysed looking time patterns on those 16 ads to determine if the pattern was the same as with the overall set of ads. If the eye-movement patterns are the same in the car and skin ads as in the overall analysis just described, then we can be fairly sure that the difference in looking behaviour between the studies is caused by the different instructions given to participants. After all, the Rayner et al. (2001) study used the same car⁴ and skin care ads, but different instructions, and found a different pattern of eye movements. On the other hand, if the pattern of results with the car and skin ads mimics the original Rayner et al. study (but not the overall pattern observed here) then it would be evident that the different pattern of looking in the current study is due to the different ads we selected. Interestingly, the analysis of the subset of ads did not come out completely consistent with either of these extreme alternatives.

⁴An analysis that included only the seven car ads that were identical in the two studies (see footnote 1) yielded a pattern of results that was identical to that shown in Table 3.

Rather, the analyses suggest that both the nature of the instructions and the ads themselves have an influence on looking behaviour.

Table 3 shows the overall looking time and number of fixations⁵ for the different sets of stimuli. The first two lines separate the car and skin care ads from the others in the current set, collapsing across the liking and effectiveness instructions. The third row of Table 3 shows the data for all stimuli in the present study (i.e. combining rows 1 and 2 and then averaging them). Finally, the looking times and number of fixations for the car and skin ads in the Rayner et al. study (2001, combining the intended and non-intended data⁶) are shown in row 4; these numbers may be compared directly to those in the first row.

Perusal of Table 3 clearly reveals that the car and skin care ads in the present study did not yield looking time values (or number of fixations) that were fully consistent with either the other ads used in the present study or with the data reported in the Rayner et al. study. Indeed, for the car and skin care ads in the present study, viewers spent approximately the same amount of time looking at the text and picture portions of the ad (with an ANOVA yielding no difference between the two parts of the ad). Consequently, the observation that viewers spent more time looking at the picture portion of the ad than the text was stronger in the other 32 ads in this experiment (line 2 of Table 3). What this suggests is that both the ads themselves and the nature of the task instructions influenced how long subjects looked at various ads. While the ads themselves clearly had an influence, we would argue that the instructions also played a substantial role.

Another issue addressed by Rayner et al. (2001) was the question of whether viewers eye fixations alternated between the text and the picture regions of the ads. Their conclusion was negative: viewers' fixations did not jump back and forth between the text and picture portion of the ad. Indeed, viewers in that study tended to look at the text first, and then, depending on their goal (buying a car or skin care products), spent differential amounts of time reading the text (more on relevant than irrelevant ads). In contrast, in the present study (including the car and skin care ads), early fixations tended to be on the pictures; the text was considered later in the sequence. Did viewers alternate their fixations in the present study? To answer this question, we calculated how frequently the eyes remained in either the picture part of the ad or the text part of the ad given that the viewers had fixated in a given region. For the picture part of the ad, given that the eyes were focused on the picture, the next fixation remained on the picture 78% of the time; for the text part of the ad, the next fixation was also on the text 77% of the time. Replicating Rayner et al. (2001), these data provide no evidence that subjects jumped back and forth between picture and text: once a viewer looked at a particular part of the ad, they tended to remain there (though, of course, at some point there was a switch to the other part of the ad).

GENERAL DISCUSSION

It is clear from this study that the goal of the viewer very much influences where they look in ads. Furthermore, it is also apparent that the nature of the ad *per se* can influence where viewers look in ads. With respect to the first point, in contrast to the Rayner et al. (2001) study, viewers in the present study (who rated the ads either for effectiveness or how much they liked the ad) spent more time looking at the picture part of the ad than the text. Viewers in the Rayner et al. study, under the instruction that they should consider themselves potential buyers of a product,

⁵Since the fixation duration and saccade size data related to looking at the picture or text portion of the ad remained consistent with the overall analyses, those data are not discussed here. The pixel control analyses yielded results that were consistent with the total looking time results reported here.

⁶It seems reasonable to collapse across the intended and non-intended data sets since the pattern is exactly the same in the two situations in terms of percentages (see Table 2).

spent more time reading the text than looking at the pictures in the ads that were relevant for their purported purchase. The general conclusion that the goal of the viewer matters when looking at an ad is also consistent with results recently reported by Pieters and Wedel (2007), who found that instructions (memorization of the ad versus brand learning) influenced how much attention viewers allocated to the text or picture portion of the ad.

With respect to the second point, the differences we observed in the sub-analysis involving the car and skin care ads clearly suggest that the nature of the ad *per se* influences looking patterns. Specifically, while the overall pattern in the data from the present study was that viewers looked more at the picture part of the ad than the text, with the car and skin care ads we obtained a pattern wherein viewers spent about the same amount of time looking at the text and the picture part of the ads. Generally, it was the case that the car and skin care ads contained more text than the other ads in the set, so perhaps it is not too surprising that with these ads there was more attention to the text.

In some ways, the sub-analyses on the car and skin care ads make apparent the dangers (in terms of full control over the stimuli) that are inherent in doing research with real ads (as opposed to ads that are experimentally generated to have greater control over stimulus properties). Nevertheless, using real ads affords greater generalizability (to real world advertising) and the results of the present study (including the sub-analyses) make it clear that the goal of the viewer matters, the ad *per se* matters, and the viewers themselves matter in terms of how much attention is allocated to a given ad.

The fact that we did not obtain much in the way of differences between the two rating tasks employed in the present study is quite interesting. One might have expected that these two tasks (rating an ad for effectiveness vs. rating an ad for likeability) would yield different patterns of looking time behaviour, but they did not. It appears that the type of task difference that is necessary to obtain differences in looking patterns is more substantial than the subtle differences inherent in the rating task. Thus, task differences apparently need to be at the level of viewing an ad in anticipation of buying a product (Rayner et al., 2001) vs. memorizing the ad or learning brand names (Pieters & Wedel, 2007) vs. engaging in some type of rating task (the present study).

The results of the present study are also quite consistent with the classic study by Yarbus (1967) in which participants were presented with the same scene (the 'unexpected visitor' painted by the Russian artist Repin) several times, with a different inspection instruction for each presentation. Yarbus demonstrated that a different pattern of eye movements was exhibited for each inspection instruction. Yarbus' study revealed what is known in much more detail today; namely, that patterns of saccades and fixations provide a very good online measure of the cognitive processing associated with different tasks. The present study also demonstrates that different looking patterns are associated with different goals or task instructions (see also Hayhoe & Ballard, 2005; Land & Hayhoe 2001; Underwood & Foulsham, 2006).

Finally, as we noted at the outset, although the present study, like the Rayner et al. (2001) study, was specifically focused on how people look at ads, it also provides useful information on how viewers integrate pictorial and textual information. The results of the present study clearly demonstrate that the goal of the viewer very much influences how they look at the picture and the text; given their goals they might either look more at the picture (as in the present study) or at the text (as in the Rayner et al. study). But, it also appears to be the case that in neither case do they do a lot of jumping back and forth between the picture and the text. Rather, viewers tend to go to that part of the ad that is maximally informative for their goals and then they tend to either scan the picture (as in the present study) or read the text (as in Rayner et al.) depending on what is most functional for their goals. Although there is relatively

little information on the complex processes involved in integrating text and pictures (though see Carroll et al., 1992; Hegarty, 1992; Rayner et al., 2001; Underwood and Foulsham, 2006; Underwood et al., 2004, 2005) across the studies that do exist (including the present study), the evidence seems to be that viewers tend to sample either the picture or the ad quite efficiently and that they do not move their eyes back and forth between the two parts of the array. Thus, depending on the task, it appears that viewers sample the pictorial information and then use the text for confirmation, or they read the text and then sample the pictorial information for confirmation.

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Table 1
Mean viewing time, number of fixations, first fixation location probability, mean fixation duration and mean saccade size for text and picture parts of ads as a function of task

		ViewT (milliseconds)	NFix	1stFix	FixDur (milliseconds)	SacSize (deg.)
Effective	Text	3581	14.54	0.19	233	3.07
	Picture	5368	21.31	0.65	250	4.04
Like	Text	3703	14.81	0.13	235	3.06
	Picture	6062	24.08	0.73	253	4.05

Table 2

The viewing time (in seconds) and the number of fixations on the text or the picture part of the ad in the present study and the Rayner et al. (2001) study

	Viewing time		Number of fixations	
	Text	Picture	Text	Picture
Present study	3.64 (39%)	5.72 (61%)	14.7 (39%)	22.7 (61%)
Rayner et al.				
Intended	5.61 (73%)	2.12 (27%)	25.2 (72%)	9.8 (28%)
Non-Intend	3.60 (71%)	1.50 (29%)	16.4 (70%)	6.9 (30%)

The values in parentheses indicate the percentage of time and the percentage of fixations in a given part of the ad. For the Rayner et al. study, Intended refers to the conditions in which viewers were looking for a car or skin care products to buy while Non-Intend refers to the other ads.

Table 3

The viewing time (in seconds) and the number of fixations on the text or the picture part of the ad for the eight car and eight skin care ads in the current experiment (line 1), the other 32 ads used in the experiment (line 2), all stimuli in the current experiment (line 3) and the eight car and eight skin care ads with data from the Rayner et al. (2001) study

Stimulus set	Viewing time		Number of fixations	
	Text	Picture	Text	Picture
Car/skin (current study)	5.14 (50%)	5.07 (50%)	20.8 (51%)	20.0 (49%)
Others (not car/skin)	2.89 (32%)	6.05 (68%)	11.6 (33%)	24.1 (67%)
Complete set	3.64 (39%)	5.72 (61%)	14.7 (39%)	22.7 (61%)
Car/skin (Rayner et al.)	4.61 (72%)	1.81 (28%)	20.8 (71%)	8.4 (29%)

The values in parentheses indicate the percentage of time and the percentage fixations in a given part of the ad.