reading effort. But very long lines, with more than 100 or 132 characters, may produce difficulties in locating the next line, which might be prevented by increasing interlinear spacing. In contrast with this finding is the result that readers often report to prefer shorter lines. Probably they do not know what is best for them.

(Leo Lentz)

R. Tourangeau, M.P. Couper, F. Conrad (2004), **Spacing, position, and order. Interpretative heuristics for visual features of survey questions.** *Public Opinion Quarterly*, *68*(3), 368–393.

Web surveys, self-administered standardised questionnaires filled out through websites, consist of verbal language as well as of many visual cues, such as symbols (arrows, boxes), graphical features (font size, bold facing) and pictures. Little systematic knowledge is available yet about the implications of these visual cues for the answers obtained. The starting point of this article is the assumption that respondents use five simple heuristics for the inferences they make based on visual cues about the meaning of a question. Among these five interpretative visual heuristics are: (1) Middle means typical (respondents will see the middle option as representing the typical or mean value for the population), (2) Left and top mean first (the leftmost or topmost response option is supposed to be one of the endpoints of the scale, the next options are expected to follow in some logical order), (3) Near means related (questions that are physically near to each other on the screen or page are expected to be related conceptually).

For each heuristic, various experiments are reported that test the implications of such an interpretative rule. For the first heuristic, for example, experiments were conducted in which two versions of a survey were conducted with different visual midpoints of the scale (by adding several non-substantive response options;

or by changing the spacing in between scale points). As expected, the answers shift due to these manipulations, showing that respondents do use the midpoint as a benchmark representing the most typical response, and that the visual rather than the conceptual midpoint serves as a point of reference for responding. Hence, the heuristics respondents use for interpreting visual stimuli in surveys can lead to systematic misinterpretations of the intended meaning of those questions.

(Bregje Holleman)

M.P. Couper, R. Tourangeau, K. Kenyon (2004), **Picture this! Exploring visual effects in web surveys.** *Public Opinion Quarterly, 68*(2), 255–266.

One of the possibilities offered by web surveys is to include images. Sometimes these images play an essential role in questions, e.g. in brand recognition questions. But in many questions, images serve as motivational add-ons, as illustrations of the meaning of the question, or they can just provide an attractive background. In those cases, it may not be clear to respondents whether the image is a task or a style element. This could cause unintended inferences that lead to misinterpretations of the verbal information.

An experiment is reported from a national web survey about activities such as travel, leisure behaviour and shopping, among 50.000 households in the US. For each behaviour four versions were constructed: one without a picture, one with a low frequency picture example of the behaviour in question, a version with a picture of a high frequent example of the behaviour, and a version that displayed both pictures. It turns out that the addition of images does not influence respondents' motivation: the satisfaction respondents report with the survey itself, or the perceived burden of the survey, does not differ across versions. Respondents use pictures as task elements, as images are shown to systematically influence the answers

to survey questions. Obviously, they clarify the meaning of questions, broadening the definition of target categories or reinforcing a narrow one.

The authors advice caution in adding images in surveys: they do not boost respondents' motivation and do affect the interpretation of the question in ways not yet fully understood.

(Bregje Holleman)

Design

R. Butters (2004). **How not to strike it rich: Semantics, pragmatics and semiotics of a Massachusetts lottery game card.** *Applied Linguistics*, *25*(4), 466–490.

One Sunday afternoon in Boston, John O'Hara was unusually happy because he just had 'scratched and played' a lottery card and concluded that he had won $ 1 million. One of the numbers on the card was 11, and in the instruction one could read: 'Get a 7 or 11 in any spot, win that prize automatically'. His demand for payment was denied on the grounds that the claim was based upon a misreading of the instructions on the card. In this essay Ronald Butters presents the lottery card and analyzes these instructions from a semantic, pragmatic and semiotic perspective. He clearly shows that a strict linguistic perspective will be severely and unnecessarily restricted, because the legal discussion on the topic relies greatly on the design of the lottery card and thus on semiotic indicators such as colour and space. The meaning of the words 'in any spot' can not be determined without notifying the specific location of this instruction and the division of the card in two columns, which might

emphasize a division into two separate games on one card. The number '11' was on the wrong side of the card.

Butters shows that the design of the lottery card leads to ambiguous interpretations, and that John O'Hara had good reasons to feel so happy after scratching his one.

(Leo Lentz)

W. Hong, J. Thong, K. Tam (2004). **Designing product listing pages on e-commerce websites: An examination of presentation mode and information format.** *International Journal of Human-Computer Studies*, *61*(4), 481–503.

Nowadays it is not necessary to leave the house to buy books, or a new computer. Everything one can think of is for sale online, and even more than that. However, putting all these things on offer on the Internet is not enough, web-users have to be able to find the products, and find them interesting, and eventually purchase them. To influence more traffic and increase sale, web designers have tried to put a finger on the design features that do the trick.

Even though many different design metrics are at work at once, most studies in the area focus on only one design feature. The authors of this article went beyond a single feature and focused on two attributes of both presentation mode (text-only versus image-text) and information formatting (list versus array) of products in a commercial website. They tested the efficiency of the search (search time), and effectiveness (recall of brand names) as well as users' attitude towards the screen design and the websites.

The experiment was built on two theories about processing; the dual coding theory (DCT) and the proximity compatibility principles (PCP). According to the DCT images involve parallel processing, unlike the sequential processing of text only, hence making the process faster and easier for the memory load. PCP