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SHORT AND SWEET

"It's time to take a stand": Depicting crosshairs can indeed promote violence

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Abstract. There is abundant evidence that people derive meaning from signs (Krippendorff, 1989 *Design Issues* **5** 9 – 39) and that signs influence attitudes (Landau et al, 2010 *Psychological Bulletin* **136** 1045 – 1067). We put to a test whether the use of crosshairs in a map can be viewed as representing violence. In a fictive scenario describing a plague of foxes, members of a Dutch household panel were confronted with a map that showed inflicted areas either by crosshairs or by neutral markers (plain circles). Respondents indicated the extent to which they favoured two solutions: killing-by-shooting or capturing-and-relocating. The results show that crosshairs indeed shape people's attitudes more towards the violent solution of shooting the foxes. Therefore, especially when used in heated public debates, the possibly violence-inducing effect of such visual metaphors should not be underestimated.

For the 2010 midterm-elections, Mrs Sarah Palin published a map of the USA along with the names of House Democrats who had voted in favour of the health-care bill. This map was criticised widely for its violent imagery, particularly in the aftermath of the 2011 Tucson shooting, as the House Democrats' districts were singled out with crosshairs. There is abundant evidence that people derive meaning from signs (Krippendorff 1989) and that signs influence attitudes (Landau et al 2010). We put to an empirical test whether the use of crosshairs induces violence—a concern that had been raised months prior to the shooting by Mrs Gabrielle Giffords, one of the later victims (Egan 2010). In our study we confronted respondents ($N = 168$, mean age = 47.00 years, SD = 14.40 years, 56% female), drawn randomly from a Dutch household panel, with a fictive but realistic scenario describing a plague of foxes in the Dutch province of Utrecht. The plague hotspots were indicated on a map by crosshairs (as used by Palin) for one experimental condition and by neutral markers (plain circles) for a second experimental condition (figure 1). Respondents were asked to indicate the

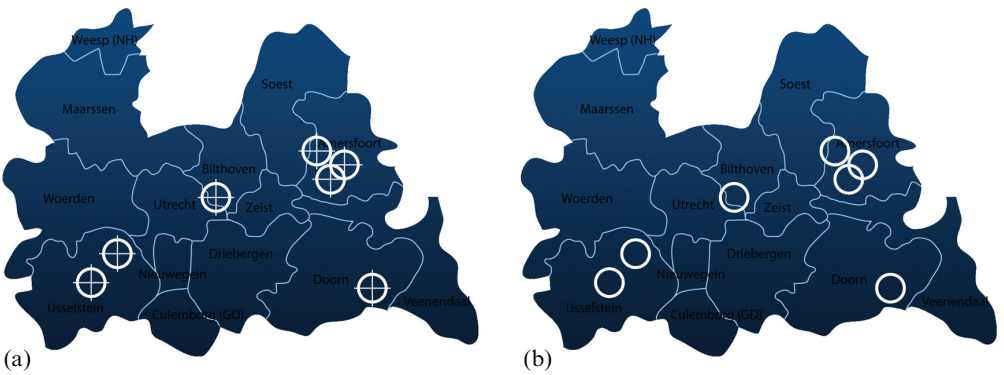

Figure 1. [In colour online, see http://dx.doi.org/10.1068/p6942] Map of the Dutch province of Utrecht, with (a) crosshairs or (b) neutral markers indicating the areas affected by the fictive fox plague. Map design: Silje Dehli.

extent to which they agreed with different solutions, that is (a) killing-by-shooting or (b) capturing-and-relocating, to decrease the local population of foxes. An additional twenty-one respondents in a control condition were asked to indicate the severity of violence of the solutions (on 7-point scales: 1 = not very violent, 7 = very violent). As expected, the killing-by-shooting option was perceived to be the more violent solution (median = 6.00) compared to the capturing-and-relocating solution (median = 1.00, $T = 0.00$, $z = -3.94$, $p < 0.001$). To test our hypothesis, respondents in the two experimental groups were asked to indicate to what degree they favoured these two solutions on 7-point Likert scales (1 = disagree strongly, 7 = agree strongly).

Respondents familiar with the map of Palin (31.5% of the total sample) were excluded from the analysis to control for the influence of previous media exposure. The results show that respondents exposed to the crosshairs ($n = 58$, median = 1.00) were much more likely to favour the violent solution to the fox plague than respondents exposed to the neutral marker ($n = 57$, median = 3.00), $U = 1356.00$, $z = 1.67$, $p < 0.05$ one-tailed, $r = -0.16$. The distribution of gender and age in the two groups did not differ. The medians are based on a difference score between the two solutions; the lower the score, the more respondents favoured the violent solution of killing-by-shooting. These results coincide with earlier findings that the use of visual symbols may influence attitudes and behaviour (Bateson et al 2006; Landau et al 2010). The crosshairs metaphor seems to shape people in a more violent direction; of course, crosshairs are closely linked specifically to the act of shooting. Based on the setup of our experiment we cannot specify the extent to which the violence-inducing effect of crosshairs will generalise to other solutions. However, since killing-by-shooting was clearly rated to be a rather extreme measure, it is very likely that people will also agree more with other violent, but slightly less extreme, solutions—solutions that are typically more accepted based on social norms. Allusions to violence, even when made as subtle visual metaphors, can increase preferences for violence in matters of public debate. Violent reactions towards animals are unleashed by these metaphors, and the kinds of thinking they encourage may be considered dangerous or, in the last consequence, lethal within heated disputes (Krugman 2011).

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