

## **Depth expression and semantic clarity of pictograms**

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**Abstract:** Taking a canonical perspective of an object provides rich information about its 3D structure. Furthermore, this detail has been suggested to enhance cognitive processing of the object. Following this logic, the pictogram, a descriptive symbol used to illustrate information, should be designed in 3D form. However, pictograms must also be designed simply, without shading or fine lines, in order to serve as a clear and representative example. To determine whether pictograms should be designed in 2D or 3D form, participants rated the semantic clarity and canonical view quality of 2D pictograms and 3D pictograms. Results indicate that semantic clarity significantly correlated with view canonicality of objects in pictograms. Also, both semantic clarity and canonical view quality of 2D pictograms are better than 3D pictograms. These results suggest that 3D pictograms may be difficult to understand and they should be redesigned.