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An assessment of the application of the robotics theory of the Uncanny Valley (Bukimi no Tani) by Masahiro Mori to the study of realistic human facial animation in computer-generated 3D characters

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Abstract

This report is an analysis of the applicability of the robotics theory *Bukimi no Tani* or the *Uncanny Valley* to the field of CGI. The focus is on whether Mori's proposal is a useful model for the analysis of photo-realistic 3D facial animation. The paper investigates the transfer of the model from the field of robotics to CGI with a study of various films featuring 3D animated human or humanlike characters. These films include two case studies *Final Fantasy: The Spirits Within* (2001) and *The Curious Case of Benjamin Button* (2009). The analysis covers the methodology employed in these and other films to understand the mechanisms which contribute to their success or failure. In evaluating the methods used in the films the report seeks to evaluate the applicability of Mori's theory of *Bukimi no Tani* or the *Uncanny Valley* to the field of CGI.