

Why did Rubens add a parrot to Titian's "Fall of Man"? An eye tracking investigation reveals attentional focus while viewing Italian Renaissance paintings

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Abstract

We conducted a psychophysical and eye-tracking study aimed at quantifying gaze dynamics during the free viewing of Rubens' version of Titian's "Fall of Man," as well as during the viewing of other similar paintings. Rubens' copy of Titian's masterpiece is very similar to the original in many ways, and virtually identical in some regards. By comparing gaze behavior during viewing of the two paintings, presented on a computer screen, we assessed the effects of Rubens' changes to Titian's composition on the viewer's experience. An EyeLink 1000 was used to record gaze binocularly from 33 participants as they viewed each of the images for 45 seconds. We analyzed multiple gaze parameters, including fixation duration, saccade and microsaccade production, fixation consistency across subjects, and others, as well as the natural image statistics of each painting. We found that participants gazed for longer durations at Eve's face in the Rubens' version of the painting than in Titian's original. In addition, gaze positions were more dispersed for the Titian painting than for the Rubens painting, indicating different allocations of viewer interest for each painting. Our combined results suggest that the above differences in gaze behavior can be attributed to critical variations in composition between the two paintings.

Notably, Rubens changed the depicted characters' body arrangement and gaze direction, providing powerful joint attentional cues for viewers to focus their central vision on Eve's face. Thus, joint attention may be a key element in the viewer's experience of "The Fall of Man" as imagined by Rubens—though not by Titian.

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