

Facial expressions as dynamic events:  
when a smile isn't a smile

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**Abstract**

*It is clear that grief involves a gloomy and joy a cheerful countenance. There are characteristic facial expressions which are observed to accompany different conditions of mind, such as anger, fear, erotic excitement, and all the other passions.*

*- Aristotle*

Facial expressions can be fleeting and subtle, and yet the clearly signal to others our emotional and cognitive state: fearful, understanding, dubious. Research on facial expressions has largely been restricted to the six “universal” emotional expressions: anger, fear, disgust, happiness, sadness, surprise. Furthermore, these have been studied using high-emotional intensity static images. In this work, we study expressions as dynamic events, using functional data analysis to explore expression trajectories.