

# Charlotte Grant - May 2017 - Personal Inquiry

## An Exploration of hand-keyed Facial Animation and Expression

### Annotated References -

Fleming, B, 1999. *Animating Facial Features and Expressions*. 1st ed. Rockland, MA: Charles River Media, pp.82 - 101.

“Animating Facial Features and Expressions” is a great guide for exploring the nuances of facial feature and expression. The book features breakdowns of the facial anatomy into simple forms and discusses in depth some techniques that can be used to explore facial movement. The book features an incredibly detailed ‘Distinguishing features’ section at the back, which analyses common expressions of the face, in depth. This book introduced me to the Foundation vs Modifier technique.

Osipa, J., n.d. *Stop staring*. 1st ed. Indianapolis, Indiana: Wiley Publishing, pp.4 - 30, 157 - 177.

Stop Staring is a complete guide to facial animation and rigging. It was the perfect for my inquiry as it deals, not only with the practical side of rigging and animation, but also with the acting, performance and subtleties side. The book focusses on common mistakes made when animating the face and explains how to counteract these. It also focusses on how certain parts of the face affect others, when moving, which I found useful to learn, particularly as I was looking at ways to simplify the face, but still have believable animation. The also book teaches you how to get the most out of the eyeline and facial posing to allow it to be easily readable.

Conroy, A., 2013. *Maya Tutorials: The Anatomy of an Expression for Facial Animation in Maya Tutorial: Pluralsight*. [online] Digitaltutors.com. Available from: <https://www.digitaltutors.com/tutorial/1166-The-Anatomy-of-an-Expression-for-Facial-Animation-in-Maya> [Accessed 25 May 2017].

The above tutorial was incredibly helpful to me and I feel I learned a lot from it. This tutorial teaches the Primary, Secondary and Reactionary technique for animating the face and introduces the basic underlying muscle structure of the face, which I was then able to research and learn more about. In the rest of the tutorial, Conroy takes us through his process of blocking the first pass of a facial expression change, to polishing it, over 7 or 8 lessons. I felt that watching his process was really beneficial to me, when learning how to better refine the facial animation after the blocking pass and add the subtleties that really make the animation pop.

## Bibliography -

- Aina, O., 2011. *Generating Anatomical Substructures for Physically Based Facial Animation*. PHD. Bournemouth University.
- AnimSchool, 2011. *Animation School - Animschool: Character Eye Blink*. [video] Available from: <https://www.youtube.com/watch?v=73jRo4fwU3I&t=68s> [Accessed 25 May 2017].
- Animation Mentor, 2014. *How to Get Great Expressions and Animate Faces*. [online] Animation Mentor Blog. Available from: <http://blog.animationmentor.com/how-to-get-great-expressions-and-animate-faces/> [Accessed 25 May 2017].
- Animation Mentor, 2016. *Facial Animation 101*. [online] Animation Mentor Blog. Available from: <http://blog.animationmentor.com/facial-animation-101/> [Accessed 25 May 2017].
- Animation Mentor, 2015. *10 Advanced Acting Performance Tips for Animators*. [online] Animation Mentor Blog. Available from: <http://blog.animationmentor.com/10-advanced-acting-performance-tips-for-animators/> [Accessed 25 May 2017].
- Anon, 2017. *ARTNATOMY/ARTNATOMIA - Home*. [online] Artnatomia.net. Available from: <http://www.artnatomia.net/uk/artnatomya.html> [Accessed 25 May 2017].
- Anon, 2017. *Facial Animation: Helpful Tips from RealTimeUK*. [online] CGSociety. Available from: <http://www.cgsociety.org/news/article/3274/facial-animation-helpful-tips-from-realtimenuk-> [Accessed 25 May 2017].
- Anon, 2017. *Facial muscles Anatomy*. [online] Kenhub. Available from: <https://www.kenhub.com/en/library/anatomy/the-facial-muscles> [Accessed 25 May 2017].
- Anon, 2017. *Tutorial: Facial Take*. [online] Navone.org. Available from: [http://www.navone.org/HTML/Tutorial\\_DashTake.htm](http://www.navone.org/HTML/Tutorial_DashTake.htm) [Accessed 25 May 2017].
- Anon, n.d. *Malcolm Rig*. USA: AnimSchool.
- Bloop Animation, 2017. *Eye Movement and Blinking Animation Tutorial*. [online] Bloop Animation. Available from: <https://www.bloopanimation.com/blinking-animation/> [Accessed 25 May 2017].
- Conroy, A., 2013. *Maya Tutorials: The Anatomy of an Expression for Facial Animation in Maya Tutorial: Pluralsight*. [online] Digitaltutors.com. Available from: <https://www.digitaltutors.com/tutorial/1166-The-Anatomy-of-an-Expression-for-Facial-Animation-in-Maya> [Accessed 25 May 2017].

Farnsworth, B. and Farnsworth, B., 2016. *Facial Expression Analysis: The Complete Pocket Guide - iMotions.com*. [online] iMotions. Available from: <https://imotions.com/blog/facial-expression-analysis/> [Accessed 25 May 2017].

Fleming, B, 1999. *Animating Facial Features and Expressions*. 1st ed. Rockland, MA: Charles River Media, pp.82 - 101.

Figure 1. Ratatouille 2007. [Film/DVD] Directed by Brad Bird. USA. Walt Disney

Figure 2. Facial Breakdown image. Farnsworth, B. and Farnsworth, B., 2016. *Facial Expression Analysis: The Complete Pocket Guide - iMotions.com*. [online] iMotions. Available from: <https://imotions.com/blog/facial-expression-analysis/> [Accessed 25 May 2017].

Figure 3. Annotated Image: AnimSchool, n.d. *Malcolm Rig*. USA: AnimSchool.

Figure 4. Annotated Image: AnimSchool, n.d. *Malcolm Rig*. USA: AnimSchool.

Figure 5. Annotated Image: AnimSchool, n.d. *Malcolm Rig*. USA: AnimSchool.

Figure 6. Annotated Image: AnimSchool, n.d. *Malcolm Rig*. USA: AnimSchool.

Figure 7. Ratatouille 2007. [Film/DVD] Directed by Brad Bird. USA. Disney

Figure 8. Image from Agent 327:Anon, 2017. *Blender Brings Cult Comic 'Agent 327' to Life in 3D Animation*. [online] Animation World Network. Available from: <https://www.awn.com/news/blender-brings-cult-comic-agent-327-life-3d-animation> [Accessed 25 May 2017].

Figure 9. Inside Out 2015 [Film/DVD] Directed by Pete Docter. USA. Walt Disney

Figure 10. Inside Out 2015 [Film/DVD] Directed by Pete Docter. USA. Walt Disney

Figure 11. Minions 2015 [Film/DVD] Directed by Pierre Coffin. USA. Universal Pictures

Figure 12. Minions 2015 [Film/DVD] Directed by Pierre Coffin. USA. Universal Pictures

Figure 13. Shipp, C., 2016. *Extreme Beauty Up Close in 4k UHD*. [video] Available from: [https://www.youtube.com/watch?v=XWI\\_juPMXPE](https://www.youtube.com/watch?v=XWI_juPMXPE) [Accessed 25 May 2017].

Figure 14. Tangled 2010 [Film/DVD] Directed by Nathan Greno. USA. Walt Disney

Figure 15. Minions 2015 [Film/DVD] Directed by Pierre Coffin. USA. Universal Pictures

Figure 16. Frozen 2013 [Film/DVD] Directed by Chris Buck. USA. Walt Disney

Figure 17. Ratatouille 2007. [Film/DVD] Directed by Brad Bird. USA. Disney

Figure 18. Inside Out 2015 [Film/DVD] Directed by Pete Docter. USA. Walt Disney

Figure 19. Annotated Image: AnimSchool, n.d. *Malcolm Rig*. USA: AnimSchool.

Figure 20. *The Incredibles 2004* [Film/DVD] Directed by Brad Bird. USA. Walt Disney

Figure 21. *Tangled 2010* [Film/DVD] Directed by Nathan Greno. USA. Walt Disney

Figure 22. *Ratatouille 2007*. [Film/DVD] Directed by Brad Bird. USA. Disney

Figure 23. *Tangled 2010* [Film/DVD] Directed by Nathan Greno. USA. Walt Disney

Lander, J., 2000. *Read My Lips: Facial Animation Techniques*. [online] Gamasutra.com.

Available from:

[http://www.gamasutra.com/view/feature/131587/read\\_my\\_lips\\_facial\\_animation\\_.php](http://www.gamasutra.com/view/feature/131587/read_my_lips_facial_animation_.php)

[Accessed 25 May 2017].

Pluralsight, 2015. *12 Steps to Animating a Believable and Appealing Dialogue Shot*.

[online] Pluralsight.com. Available from:

<https://www.pluralsight.com/blog/film-games/12-steps-animating-believable-appealing-dialogue-shot> [Accessed 25 May 2017].

Osipa, J., n.d. *Stop staring*. 1st ed. Indianapolis, Indiana: Wiley Publishing, pp.4 - 30, 157 - 177.

Shipp, C., 2016. *Extreme Beauty Up Close in 4k UHD*. [video] Available from:

[https://www.youtube.com/watch?v=XWI\\_juPMXPE](https://www.youtube.com/watch?v=XWI_juPMXPE) [Accessed 25 May 2017].

*VTS29 Facial Animation Part 1*. 2007. [video] Directed by K. Lango. USA: Animation Clinic.