Annotated Bibliography

McDermott, W., 2017. *The Comprehensive PBR Guide by Allegorithmic - vol. 1* [online]. Ohio: Algorithmic Group.

Available from:

https://www.allegorithmic.com/system/files/software/download/build/PBR_Guide_Vol.1.pdf [Accessed 29 April 2017].

This PDF guide describes what Physically Based Rendering (PBR) is and the benefits of it. It breaks down the components of PBR, talking about how light is scattered and absorbed in real life and how this related to specular and diffuse parameters of metals and non-metal shaders. It then explains other facets of PBR, such as energy conservation, the Fresnel effect and roughness and what this means in terms of creating realistic metal and non-metal shaders. This provided the theory behind the practices and experiments I conducted in Vray.

Delalla, S., 2017. *Look Development with Vray for Maya* [MOV]. California: The Gnomon Workshop

Available from:

https://www.thegnomonworkshop.com/tutorials/look-development-with-v-ray-for-maya [Accessed 30 April 2017].

This video tutorial explains how to create realistic shaders using Vray for Maya. Specifically, it shows the basic setup for a creating a Vray material shader for a metal, exploring the main parameters that need completing, then going on to explain how to make coloured metals and how to use Open Shading Language (OSL) to make metal renders more realistic. I used this as the basis for beginning my own shaders.

Ankersmit, B. and Griesser-Stermscheg, M., and Selwyn, L. and Sutherland, S., 2016. *Basic care – Recognizing metals and their corrosion products* [online]. Canada: Government of Canada.

Available from:

http://canada.pch.gc.ca/eng/1454530344807 [Accessed 5 May 2017].

This webpage is designed for staff looking to preserve historical artefacts in museums. It explains common uses of copper, iron, silver, lead and tin and their

alloys, describing the sorts of corrosion and tarnishing they can be subject to. It describes the conditions necessary for such corrosion and the visible evidence of this corrosion, with pictorial examples. This helped me understand and identity tarnishing and corrosion on my own examples of metal.

Bruce. R.W., 2012. *Handbook of Lubrication and Tribology, Volume II: Theory and Design* [online]. London: Taylor and Francis.

Available from:

https://books.google.co.uk/books?id=7eRMBgAAQBAJ&pg=SA35-PA4&dq=types+of+metal+wear&hl=en&sa=X&ved=0ahUKEwiIgsLwp4vUAhWCKsAKHRk9C94Q6AEIJDAA#v=onepage&q=types%20of%20metal%20wear&f=false

[Accessed 6 May 2017].

This book describes the main types of wear in metals, in context of roller bearings and tribology. In particular, it goes into detail on erosion, abrasion, fatigue and corrosion, specifying the conditions necessary for each one, how the processes develop over time and mitigating circumstances for each. It explains the visual evidence of each type. This aids my understanding of which metals, under which conditions will be subject to which kind of wear, helping me to identify these types of wear when creating shaders from reference, but also how I might go about predicting what sort of wear a metal surface may evidence when I don’t have a reference.

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https://www.saylor.org/site/textbooks/General%20Chemistry%20Principles,%20Patterns,%20and%20Applications.pdf [Accessed 15 May 2017]

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