Introduction	V
Publisher	
Who is the author?	VI
Aim of the work	VI
How the work is structured	VI
Style guidelines	VI
DVD-Rom contents	VI
Principles and methods	VII
V-Ray certification for users	VIII
V-Ray Certified Professional	VIII
5SRW Certification for V-Ray	VIII
Minimum hardware requirements for V-Ray	IX
The ideal V-Ray workstation	IX
Who is Chaos Group?	IX
Who is 3DWS?	IX
Who is DesignConnected?	X
Who is Arroway Texture?	X
CHAPTER 01 - First steps in V-Ray	1
The 5-Step method	2
Details about the 5-Step method	3
The right version	4
Activating V-Ray 🔯	6
What is V-Ray RT?	6
How to activate V-Ray RT?	7
CHAPTER 02 - Compensation using the Gamma Curve	9
Gamma compensation	
Setting up 3ds Max for compensation	
Applying gamma compensation to the scene, but not to textures	
Compensation Part 1 – Preventing Gamma application to textures	
Compensation Part 2 – For each new file	
Exercise: How to compensate an image 🔯	
V-Ray frame buffer 🔗	
The exposure of a 32 bit render	
The exposure of an 8 bit render	

CHAPTER 03 - Global illumination and Irradiance Map	21
Introduction to Global illumination	
Irradiance map	23
How to set up Indirect illumination	23
What the five Global illumination settings mean	24
What are prepasses?	
The metaphor of a painter	26
The relationship between Prepasses and Scenes	27
How to save a render's settings 🐼	28
CHAPTER 04 - The DSLR camera in V-Ray	29
A comparison between the DSLR camera and the V-Ray Physical Camera	
The basic properties of a DSLR camera	
How the focal length affects composition	
The rule of thirds	
Depth of field	36
Exercise: How to simulate depth of field 🔯	
Extreme depth of field: Tilt Shift	
The bokeh effect	
White balance in exteriors	40
White balance in interiors	42
Exercise: How to balance an interior	43
What's in the V-Ray Physical Camera?	44
Framing in tight spots	45
The Clipping Plane option	45
CHAPTER 05 - Light balancing	47
Types of lighting	
What are bank lights?	
Light sources that can be simulated with V-Ray	49
The V-Ray light parameters	50
The Store with irradiance map option	51
Size-Intensity relationship	53
Basic lighting scheme	54
Simulating part of an interior like an object	55
Classic three-point lighting	56
Chromatic contrast	
How to balance using three-point lighting 🔯	57

Balancing an interior	58
How to balance an interior 🔯	59
	0.1
CHAPTER 06 - Simulating materials	
Introduction to using materials	
Reflections on shiny and rough surfaces	64
Refraction	
Index of refraction (IOR)	
General guidelines for analysing materials	
The Material Editor	
How to implement the seven questions in VRayMtl	
Setting up a material and optimizing	
How to interpret the materials tables	
Table: Glossy red plastic	
Table: Varnished wood / polished marble	75
A trick for obtaining good chromed metal	
Improving the chromed metal	76
Table: Chromed and brushed metal	77
Table: Opaque blue plastic	78
Table: Natural wood	
Suggestions for good glass	80
Table: Glass / frosted glass	81
Table: Coloured glass	82
Table: Gold	83
Optimizing material rendering time	84
The Use Light Cache for Glossy Rays option	85
The Use interpolations option	85
The Max Depth option	87
A word about glass and reflective objects	87
Color bleeding	
How to create a materials library 🔯	89
Creating materials for a scene	
Exercise: How to create materials and launch a render	90
CHAPTER 07 - Exposure	05
The reality button	
Research, visualization and rendering	
The eye vs the camera	97

PHOTOGRAPHY & RENDERING with V-RAY

The three types of exposure	98
Technical aspects of exposure	99
Tone compression or Color Mapping	99
Color Mapping: Reinhard	101
Color mapping without V-Ray (after rendering)	102
Greater compression, less contrast	102
Exercise: How to manage the exposure in your render 🛭	. 106
CHAPTER 08 - Exterior rendering	.111
The characteristics of exterior rendering	
Framing	
How to avoid distortion in V-Ray	
Light/shadow balancing	
Shadows cast	
Realistic sky/background	
Absence of the horizon	
Vegetation	
Considerations about night renders	
CHAPTER 09 - V-Ray Sun System	.121
Light in exterior simulation	122
Exercise: How to use the V-Ray Sun light	. 123
V-Ray Sun	124
How to set a precise place, day and time	126
V-Ray Sky	127
How to control the V-Ray Sky	128
Exercise: How to replace the VRaySky with a sky in Post-Production	. 129
Exercise: How to simulate a night render 🔯	. 131
O 10 Cimulating vagatation and taytiles	101
CHAPTER 10 - Simulating vegetation and textiles	
ntroduction to Bumping and Displacement	
Displacement as channel or modifier	
Considerations about the VRayDisplacementMod modifier	
Simulating grass and carpets (short strands)	
Displacement of 3D objects	142
Displacement of 3D objects	142 144

Simulating ivy 🔯	147
Memory problems? V-Ray Proxy	148
How to create and import a Proxy object	148
Exercise: How to create the curtain effect $lacktriangle$	150
CHAPTER 11 - The 5SRW method in interior rendering	153
Introduction to the 5SRW method	154
Step-1: Analysis of the 3D model	155
Step-2: Light balancing	155
Ambient shadows	158
Creating a soft light in an interior	160
Shadowed areas	163
V-Ray Light Lister	167
Step-3: Assigning materials	168
Parquet material	169
Carpet material	170
Lighting fixture	171
Step-4: Cleaning the image	172
Antialiasing	173
Irradiance map	174
Light Cache	175
Noise threshold	176
Various subdivisions	176
Other sky models	177
CHAPTER 12 - Other lights and HDRI	179
Other types of V-RayLights	180
Sphere light mode	180
How to create a V-Ray Light Mesh	181
Dome light mode	181
V-Ray Light Material for self-illuminated objects	182
V-Ray IES and the IES file 🖾	
How is a HDRI created?	184
Characteristics of the HDRI map in V-Ray	185
Exercise: How to light an exterior with a HDRI	186
Exercise: How to simulate a night scene with a HDRI	188
Exercise: How to create an Alpha channel with IBL	190

CHAPTER 13 - White balance and contrast	. 193
The perfect image	
Color Correction and Color grading	
White balance	
White balancing with Lightroom 🚨	195
Exercise: How to achieve white balance using Photoshop 🔯	. 197
The histogram	199
Exercise: How to control the contrast using curves and unsharp mask	200
Chapter 14 - Optimizing rendering time	. 205
Dedicating time to research	
Settings for draft rendering	207
Store with irradiance map	208
Using render region and bucket	208
V-Ray scene converter	209
Disabling Trace Reflections	210
Global switches 🛜	211
Dimensions and Irradiance map for large-sized renders	212
Light cache as a preview	213
Render previews with V-Ray RT	214
Comparing images using VFB History	214
Exercise: How to compare renders using VFB History 🚫	. 214
CHAPTER 15 - SOS: How not to freak out	. 217
Introduction to technical problems	
Splotched walls	
Spotty surfaces	
Grainy areas	220
Insufficent memory for huge renders	221
Framing in narrow spaces 🔯	222
High intensity lights with jagged edges	223
Corners of displaced objects opening up	224
Blurred final render	224
Bleached image after saving	225
Mistakes when saving!	225
Light leaks	226
White pixels (Sun)	227
Image blurred when saved as a Jpeg	227

Gallery	228
Index	230
Acknowledgements	232