

# Contents

<b>Preface</b> .....	vi
<b>1 It Comes to Us All</b>	1
1.1 Want to know more? .....	11
<b>2 A Rich Bag of Goodies - The Human Body as a Source of Nutrients</b>	13
2.1 What Types of Tissues Are Present in My Body?.....	14
2.1.1 Epithelial Tissue – Keeping It All Together.....	15
2.1.2 Connective Tissue – Our Support System .....	18
2.1.3 Muscle Tissue – Standing and Moving.....	18
2.1.4 Nervous Tissue – “I’ve Got a Feeling” (Thanks to The Beatles).....	20
2.2 But What Are All These Tissues Made Up Of? .....	20
2.2.1 Small Is Beautiful, But Big Is Also Very Important.....	24
2.2.2 Structures of the Main Macromolecules in Humans .....	25
2.2.3 Where Are Macromolecules Found in Human Tissues?.....	29
2.3 How Available to Microbes and Insects Are the Nutrients Present in the Human Body? .....	37



2.4	And then, Of Course, We Shouldn't Forget That Brown, Smelly Stuff .....	38
2.5	Want to Know More? .....	40
<b>3</b>	<b>Our Life-Long Microbial Companions – Who Are They and What Do They Get Up to While We're Alive?</b>	<b>42</b>
3.1	What Are Microbes? .....	43
3.1.1	What Is the Definition of a Microbe? .....	43
3.1.2	So, How Are These Six Types of Microbes Different From Each Other? .....	43
3.1.3	They're So Small, So They Must Be Very Simple Creatures? .....	44
3.1.4	How Do We Identify the Various Types of Microbes? .....	45
3.1.5	Meet My Best Friends - My Microbiota .....	51
3.1.6	How Many Microbes Live on Me? .....	51
3.1.7	Do All Parts of My Body Have the Same Microbes? .....	53
3.1.8	Which Microbes Live in My Gut? .....	56
3.1.9	Which Microbes Live on My Skin? .....	76
3.1.10	Which Microbes Live in My Respiratory System? .....	82
3.1.11	What About the Microbes That Live at Other Body Sites? .....	84
3.2	How Do We Manage to Co-Exist With Our Microbiota? .....	85
3.3	Want to Know More? .....	88
<b>4</b>	<b>Not a Pretty Picture – Our Appearance After Death</b>	<b>91</b>
4.1	How Can We Find Out What Happens to a Body After Death? .....	92
4.2	The Decomposition of a Human Corpse Follows a Predictable Pattern .....	94
4.3	What Are the Various Stages Involved in Decomposition? .....	98
4.3.1	The Fresh Stage – 0 to 3 Days After Death .....	98
4.3.2	The Bloat Stage – 2 to 6 Days After Death .....	100
4.3.3	The Stage of Active Decay – 5 to 11 Days After Death .....	101



4.3.4	Advanced Decay (or Post-Decay) Stage - 10 to 25 Days After Death .....	102
4.3.5	Skeletal Decay Stage. >25 Days After Death .....	102
4.4	The Smell of Death - “I think, I think, I smell a stink, it comes from y...o...u” .....	107
4.5	Factors That Affect the Rate of Decomposition.....	108
4.6	Where’s My Mummy? .....	111
4.7	Want to Know More? .....	115
<b>5</b>	<b>The Great Betrayal – Our Own Cells and Our Symbionts Turn Against Us</b> .....	<b>117</b>
5.1	It All Starts With Autolysis – the Damage Is Self-Inflicted .....	118
5.2	And Now the Microbes Can Take Over .....	122
5.3	It All Comes Down to Ecology .....	124
5.4	Ch...Ch....Ch....Changes (With Thanks to David Bowie).....	126
5.5	Mass Migration – A World (or, At Least, a Corpse) Without Borders .....	128
5.6	Knock, Knock – Who’s There?.....	130
5.6.1	A General Overview – The Broad-Brush Approach.....	132
5.6.2	What Happens to Specific Organs?.....	136
5.6.3	Come on in, It’s Now Open House – The Invasion of the Body-Eaters .....	158
5.7	Want to Know More?.....	163
<b>6</b>	<b>From the Micro to the Macro – Now the Big Guys Move In</b> .....	<b>167</b>
6.1	What Is an Insect?.....	169
6.2	What Goes on Above Ground – Who’s First and Who’s Last?.....	171
6.2.1	The Fresh Stage .....	173
6.2.2	The Bloat Stage.....	178
6.2.3	The Active Decay Stage.....	185
6.2.4	The Advanced Decay Stage .....	188
6.2.5	The Skeletonisation Stage.....	191
6.2.6	Wave Upon Wave of Insects – “Help, I’m Not Waving But Drowning” .....	194



6.3 And Now for What's Going on Down Below ..... 195

6.3.1 Early Arrivals ..... 196

6.3.2 Now for the Late-Comers ..... 200

6.3.3 And Last, But Not Least ..... 200

6.4 Want to Know More? ..... 205

**7 And What About the Rest of the Big, Wide World?**

**Corpse Decomposition and the Environment** ..... 208

7.1 What Are the Ways in Which a Corpse Affects the Environment? ..... 209

7.1.1 Let's Start With the Sensual ..... 211

7.1.2 Now for the Chemical ..... 212

7.1.3 The Biological Impact ..... 218

7.2 Final Thoughts ..... 235

7.3 Want to Know More? ..... 237

**Appendix I. Glossary** ..... 240

**Appendix II. Descriptions of Microbes Mentioned in the Book** ..... 246

**Appendix III. Images of Corpses and Other Items That Some Readers May Consider to Be Unpleasant or Disturbing** ..... 258

**Index** ..... 266