
Contents

Foreword	ix
Yvette DEWOLF	
Chapter 1. Introduction: The Concept of a Desert	1
Fernand JOLY	
1.1. All about a word	1
1.2. Arriving at a definition	2
1.2.1. What is a desert?	2
1.2.2. Conceptual deserts: deserts that have been experienced	4
1.3. The world of deserts	5
1.4. Deserts of the world	7
1.5. To know more	9
Chapter 2. Conquering Deserts	11
Fernand JOLY	
2.1. Prehistoric times	11
2.2. The dawn of history	13
2.2.1. The Near and Middle East – Sahara	14
2.2.2. Central and East Asia	17
2.2.3. America	19
2.2.4. Southern Africa – Australia	21
2.3. Knowledge of deserts in prehistory	22
2.4. Antiquity	23
2.4.1. The Near East – Sahara	23
2.4.2. The Middle East	24

2.5. Deserts known to Antiquity	26
2.6. Deserts as corridors of migration	28
2.7. Deserts: the birthplace of religions	29
2.7.1. Polytheistic religions	30
2.7.2. Buddhism	31
2.7.3. Judaism	32
2.7.4. Christianity	33
2.7.5. Islam	36
2.8. Deserts and empires in the Middle Ages	38
2.8.1. The Arabs	38
2.8.2. The Turks	41
2.8.3. The Mongols	44
2.9. Deserts known at the end of the Middle Ages	46
2.9.1. Travelers and merchants	48
2.9.2. Medieval geography of deserts	52
2.10. To be continued	60
2.11. References	62
Chapter 3. Aridity	65
Fernand JOLY	
3.1. Where we examine semantics	65
3.2. Causes of aridity	67
3.2.1. Meteorological causes	67
3.2.2. Geographic causes	75
3.2.3. Human causes	84
3.3. Climatic factors and the numerical expression of aridity	86
3.3.1. Precipitation	87
3.3.2. Temperatures	95
3.3.3. Evaporation	99
3.3.4. Aridity indices	103
3.4. Nuances in aridity	109
3.4.1. Phytogeographic criteria	110
3.4.2. Hydrological criteria	110
3.4.3. Geomorphological criteria	111
3.4.4. Soil use criteria	111
3.4.5. Sub-desert aridity	111

3.4.6. Desert aridity	112
3.4.7. Hyper-aridity	114
3.4.8. Conclusion	115
3.5. Variations in climatic aridity over time	116
3.5.1. Variations on a geological scale	116
3.5.2. Climatic changes in the Quaternary period	123
3.5.3. Variations on a historic scale – droughts	133
3.6. Unusual phenomena caused by or promoted by aridity	140
3.7. Aridity and drought	144
3.8. References	145
List of Authors	151
Index	153