

Contents

Preface	ix
<i>Karsts of Home. A Word About Hydromythology. A Word About Ecodaimons. Greek Karst and Hydromyths. Acknowledgements.</i>	

PART I INTRODUCTORY MATTERS

1 Evolution of an Idea: From Geomythology to Hydromythology	3
<i>Vitaliano's Conception, Then and Now. Karst, the Geomythological Wallflower. From Geomythology to Karstomythology to Hydromythology.</i>	
2 About This Book: A Few Words from the Author and Editor	13
<i>Arrangement of Chapters. Words and Interpretations. Editorial Matters.</i>	

PART II HISTORICAL AND INTERPRETIVE WALLPAPER

3 In a Really Old Nutshell: Ancient Greece Before Its Dark Age	27
<i>Second Millennium BC in Mesopotamia, Canaan, and Egypt. Minoans. Mycenaean. Hittites. Troy. Collapse of Mycenaean Civilization.</i>	
4 The Glory Days: Ancient Greece from Homer to Pausanias	37
<i>Balkan and Aegean Geography. Three Regions of Ancient Greece. Anatolia. Greek Ionia. Phoenicia and the Land of Israel During Greek Dark Age. Greek Archaic Period: Colonization, Culture, and Barbarians. Assyria, Judah, and Persia During Greek Archaic Period. High Classical, Hellenistic, and Greco-Roman Periods.</i>	

- 5 **Somebody Get a Pen: Greek Myth from Oral to Written** 51
Living Memories and Truths of Myth. Writing Down Old Stories. Homer and Hesiod. Other Ancient Writers of Greek Myth.
- 6 **Everybody's a Commentator: Truths and Dyes Behind Myth** 63
Early Analysts of Myth. Early Nature Writers. Extended Discussion of MUREX and Its Purple Dye.

PART III SPIRITS OF THE FRESHWATER ENVIRONMENT

- 7 **Ecodaimons Defined: Nymphs and Nature Spirits** 83
Some Eco-Definitions. Introduction to Ecodaimons. Nymphs. Procreation, Body, and Prerogative. Respecting Boundaries. One Body, One Daimon. The Importance of Place. Ecodaimon Worship. A Focus on Water. Water-Related Metamorphoses: Pirene, Byblis, Cyane, Arethusa, Selemnus, Heliades, Lotis, Syrinx, Daphne.
- 8 **Ecodaimons of the Lower Sky: Waters of Clouds, Rains, and Winds** 101
Nephelaic Cloud Containers. Oceanid Cloudwaters and Rainfall. Male Winds and Stormwinds. Aeolus, Island Master of Stormwinds. Prerogative Conflict with Poseidon. Harpies and Volcanic Gas Emissions. Demoting the Harpies to Hades.
- 9 **Freshwater Origins: The Water Cycle from Oceanus to the Underworld** 111
Greek Cosmology. Oceanus as Fatherly Source of All Waters. The Family of Oceanus. Hydrologic Cycle in Myth. Hydrogeological Hell. Connecting Oceanus and Tartarus. Fountains of the Great Deep. Plato's Tartarus and Its Breath-Like Oscillations. Hades and Its Waters. Hydrogeological Hell as a Karstic Pit. Karst, Volcanism, and Hydrothermalism. Reimagining Tartarus. Tartarean Hell: From Water to Fire.
- 10 **Rivers Are Man's Work: Flows, Floods, and Chasms** 133
Rivers in the Greek World. River-Related Siltation. River Gods in Myth. Achelous and Heracles. The Flood of Deucalion. The Chasm-Making of Heracles and Poseidon: Vale of Tempe, Orontes River, Cephissus River, Vouraikos Gorge.

PART IV SPRINGING SWEET AND SPECIAL

- 11 Water Ladies of Rock, Ground, and Coast: Naiads of Springs** **149**
How and Where Springs Occur. From Mountain to Sea. Changes in Springflow. Suppliers and Receivers. Naiads on Islands. Kapuzbasi Springs. The Place of Water. Placid Pools and Wetlands. Naiads in Myth and Geographical History. Abductees and Abductors.
- 12 Hot, Healing, and Hermaphroditogenic: Springs with Special Properties** **161**
Gases and Minerals. Travertines. Pamukkale–Hierapolis. Hot Springs. Volcanism. Changing Water Temperature. Healing Springs. Curative Springs of Elis. Ill-Famed Salmacis. True Hermaphroditism.
- 13 Oracular Gases: The Castalian Spring at Delphi** **181**
Python and the Pythia. Python as a Post-Deluge Pestilence. Apollo’s Priestess. Oracular Vapors from a Cleft. From Old Debunking to New Belief. Nearby Levadia. The Carbon Dioxide Candidate. Meanings of “Sweet.” Oracular and Prophetic Water.

PART V THE BEAUTEOUS AND MONSTROUS SEA

- 14 Ecodaimons of the Sea: Saltwater Gods and Spirits** **197**
Poseidon and Amphitrite. The Trident Dominion. A Few Male Sea Daimons: Triton, Glaucus, Tritones, Palaemon, Proteus, Nereus. A Few Female Sea Daimons: Idothea, Tritia, Nereids, Thetis.
- 15 Reefs, Rocks, and Currents: Dangerous She-Monsters of Seacoasts** **209**
Far West. Graeae. Echidna. Gorgons. Medusa and Perseus. The Cetus. Petrifications. Mediterranean Red Coral.
- 16 In the Karstic-Volcanic Neighborhood: Scylla, Charybdis, and the Sirens** **225**
Volcanic Backdrop. Scylla. Charybdis. A Charybdis Geyser. Sirens.
- 17 Coastal Marshes and Monstrous Microbes: The Lernaean Hydra** **239**
The Coastal Setting. Monstrous Attributes Related to Gases and Twofold Self-Regeneration. Heracles Kills Hydra. Hydra’s Poison Gets Revenge. Heracles Killed by a Necrotizing Bacterial Infection.

PART VI KARST ORIENTATION

- 18 Karst Concisely: Rocks That Live and Change** 251
What is Karst? The Famous Kras Plateau. The Reka–Timavo System. Karst Development. Karsts Known To Ancient Greeks. Living Waters, Living Rocks, Living Karst.
- 19 From Little Dissolutions, Great Hydrosystems Emerge: Basic Karstology** 265
Sinkholes and Swallowholes. Bathtub Analogy. Strategic Sinkholes. Karst Springs. Submarine Groundwater Discharge. Karst Groundwater Systems: Breaking Boundaries. Stream Piracy. Two Rivers Asopus. Curiosities of Karst Flows.
- 20 The Hollow Underground: Caves and Their Waters** 281
Carbonate Karst Caves. Cave Development. Freshwaters in Caves. Nonkarstic Sea Caves. A Sea-Cave Collapse. Freshwater and Seawater. A Disappearing Sea in Cephalonia. The Real Myth of Melissani.
- 21 Mediterranean Mix: A Karst Medley** 293
The Heaven and Hell Pits of Cilicia. Barley-Cakes in a Water-Filled Sinkhole. Rheiti: Sea-Rivers Falling into a Lower Sea. Greek Cyrene and Cyrenaica. Cyrenaican Karst. Seabed Springwaters in Ancient Coastal Phoenicia. Pitch Wells on Zacynthus.

PART VII KARST AND GREEK MYTH

- 22 Some Karsts of Legends: Arcadia and Argolis** 305
Waterless Above, Well-Watered Beneath. Alpheus, Ladon, and the Feneos Sinkhole. Karstic Subterranean Flows from Arcadia to Gulf of Argos. Encrypted Karstology: The Danaids, Poseidon, and Amymon. Lernaean Springs. Lake Lerna.
- 23 Swallowtales: How Subterranean Karst Gulps More Than Water** 315
Earth: She Who Swallows. Hades and Persephone. Sinking Waters (And Other Items). People Go Down the Drain. Sinking Streams. Karst Lakes and Their Disappearances. Lake Stympthalus and Its Birds. Lake Copais.
- 24 Four Natural Events: The Seven Against Thebes Setting** 329
Boeotian Floodplains of Ismenus and Asopus. Peat, Lignite, and Karst. Hippomedon Kills Crenaeus. Ismenus Batters Hippomedon. The Physical

Changes in Ismenus. Earthquake Effects in Karstic Boeotia. Swallowing of Amphiaraus. A New River Flows in the Underworld.

- 25 Submarine Travels: Karstic Rivers in the Seabed** 347
Crossing an Anatolian Bay. Westward Across the Aegean. Interconnected Waters. Tracing Water Flow. A Mammoth Spring and Grand Gulf. Divergent Subterranean Flows. Under the Sea: Arethusa's Fresh Springwaters. Alpheus's Pursuit. An Arethusean Dye Test: A River in the Seabed. Skeptics. Factual Principles. Expanding the Karstic Horizon.

PART VIII ARGONAUTS IN COASTAL LIBYA

- 26 Some Forewords: Setting up the Argonaut Story** 367
Location of Lake Tritonis (Part One). Terminology: Lagoon, Island, Marine Sabkha, Wadi. Setting for a Northern Gale. The Syrtis and its Hazardous Navigation. Lotus Eaters.

- 27 And Then: The Argonauts Far Within the Syrtis** 379
Winds and Currents in the Gulf of Sirt. The ARGO Grounded Near Ras Lanuf, Libya. Portage to Bight of Brega. Orphan Tsunami, Sneaker Wave, or Maybe a Seiche. Cyrenaican Garden Oasis of the Hesperides. The Hesperidian Garden as a Terrestrial Karst Gulf. Location of the Garden. Heracles' Quake Yields a Syrtic Spring. Triton Guides the ARGO to Sea. The ARGO Heads Toward Crete.

- 28 Considering Sabkha Ghuzayyil: Lake Tritonis in Coastal Cyrenaica** 397
My View of Physical Lake Tritonis. Maze of Shoals. The Wadi Triton. Submerged Wadi as a Navigable Outlet to the Sea. Mythographic Overlaps: Perseus, Medusa, and a Volcanic Pall. Location of Lake Tritonis (Part Two). Sailing from Marsa Brega to Phycus Promontory. A Sirtian Sabkha Like Ghuzayyil. Hills Versus Mountains. Fire From the Earth. An Earthquake Drains Lake Tritonis.

PART IX ENDING WITH A BANG

- 29 Blowing its Top: The Thera Eruption** 415
Tranquil Appearance of a Violent Past. A Colossal Event, Bigger Than Krakatoa. Thera's Impacts. Do Ancient Writings Recall Thera? Thera and the Minoan Decline.

30 Inhuman Fire and Seething Waters: A Volcanic Event in the Troad	429
<i>The Titanomachy Shakes Heaven and Earth. Sounds Like a Volcano.</i>	
<i>Typhon Versus Zeus. Typhon's Far Reach. The Burnt District of Mysia.</i>	
<i>The River Scamander. Hephaestus (Fire) and Scamander (Water).</i>	
<i>Was Hephaestus's Attack Related to Earthborn Fire? Did a Volcanic Vent Open on Ancient Mount Ida?</i>	

LIST OF MAP FIGURES

Figure 1. Modern Countries of Europe, Mediterranean North Africa, and West Asia	450
Figure 2. Modern Southeast Europe and Vicinity	451
Figure 3. Ancient Anatolia and Vicinity	452
Figure 4. Ancient Central and Southern Mainland Greece	453
Figure 5. Ancient Troad and Vicinity	454
Figure 6. Modern Italy and Vicinity	455
Figure 7. The Syrtis and Coastal North Africa	456
Glossary	457
Selected References	467
Index	473
About the Author	502