

West Coast

ALSO BY JOHN S. COMPTON

The Rocks & Mountains of Cape Town

Human Origins: How diet, climate and landscape shaped us

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West Coast

A Natural History

John S. Compton



To my students



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Figure 1. Points of interest on the West Coast.

Preface

The West Coast (Weskus) is a region defined by wet cool winters and dry windy summers, distinct landscapes and many unique forms of life that together set it apart from other regions of southern Africa. The bounds of the West Coast depend on who you ask. For many it is the stretch of coast that extends from the Cape Peninsula north to where the Olifants River empties into St Helena Bay. For others it extends further north to the Orange River to include the coastal regions of Namaqualand and Namibia. From the coast, some consider its inland extent to reach as far as the Cederberg Mountains, or even beyond to the Tankwa Karoo and the Great Escarpment (Fig. 1). Still others associate the West Coast with a state of mind more than a physical place, a state of mind linked to its specific features but in ways that are difficult to define.

Whether you have lived here all your life or happen to be just passing through, the many facets of the West Coast leave an imprint, which for each of us forms a 'sense of place' – the integrated sum of all that we take in through our senses – from the distal arched horizon out at sea to the jagged mountains and expansive rolling hills of the coastal plain.¹ To these vistas are added the scattering of sunlight, the agitation of the wind, the aroma of plants and the sea, and the hint of iron in water drunk from a local well. Our sense of place builds upon memories, and draws from local as well as more distant places. Whether we are conscious of doing so or not, we develop an attachment to the landforms, the plants, the air we breathe. It is a sensual bonding that provides emotional attachment, a sense of belonging to a place, a place we call home.²

When I first arrived, there was much about the West Coast that reminded me of where I grew up in California. Initially it was difficult to say what it was exactly that connected these two far-removed places, beyond a vague recognition of the familiar. I recalled that the few South Africans I met in California had told me that a major factor in their deciding to settle there was that it reminded them of home. Gradually I was able to put my finger on some of the specific familiar features – such as the big surf pounding rocky shores and the smell of sun-dried seaweed (kelp) strewn across the beaches. Many of the plants were familiar as well. Some – agapanthus, pelargoniums (geraniums) and ice plant (sour fig) – are indigenous to South Africa and were introduced to California, while others, like eucalyptus and gum trees, are shared transplants from Australia. These specific shared elements in themselves, however, fell short of explaining the extent of my feelings of connectedness.

Preface

Fast-forward 25 years and I am still intrigued by what it is about a place that makes us feel the way we do when we are in it. I consider myself fortunate because as a geologist I have had many opportunities to get to know the West Coast through field excursions and projects involving students and colleagues at the University of Cape Town and from elsewhere. I have worked with geographers, botanists and archaeologists over the years on various multidisciplinary aspects of the West Coast. I wrote this book to convey a bit of what I have come to learn about the region for those who wish to explore it more fully for themselves. The focus is on the natural history, which can be defined broadly as the ‘patient interrogation of a landscape’.³ A landscape is interrogated through focused observations, which are inquisitive and driven by curiosity as to why things are the way they are and how they came to be that way. It involves integrating multiple perspectives to arrive at a holistic understanding of the linkages and connections among the rocks, soils, climates, plants and animals, both present and past. Far from comprehensive, this book presents a selection of connected topics that as an ensemble express, at least in part, what contributes to my West Coast ‘sense of place’. Of course, each reader will have his or her own collective impressions, to which I hope this book will provide some new ones that enrich the West Coast experience for locals and visitors alike.

While pausing for a water break on a recent hike, my companion pointed at a large cobble and asked, ‘How long do you reckon that stone has been there?’

‘A long time,’ I responded.

‘How long exactly?’

‘Difficult to say, but probably for thousands of years.’

He pondered my response and then walked over and kicked the cobble with his boot, dislodging it a few centimetres. We resumed our walk and in the silence that ensued I wondered what had compelled him to kick the stone. Did he think he was doing the stone a favour by relieving it of its tedious and uneventful existence? Or was he asserting his power to act upon the stone in a way that no other force had yet managed to do for a very long time? As we hiked, both of us inadvertently kicked and knocked about many pebbles and small cobbles promoting the stony trail’s existence while adjacent stones, soils and plants remained, as they had for a long time, largely undisturbed.

If you were to replay at high speed an imaginary video shot over a span of a million years from above any particular large stone, the stone would serve as a fixed reference point to changes around it. The stone alternates between wet and dry, subtly changing hue from the growth of metal oxide veneers and crusty patches of lichen, the algal-fungal

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symbiont first to grow on bare rock. Plants come and go in seasonal succession, growing to obscure the stone until they are reduced to ash by the next fire. Ants and many other insects crawl over the stone's surface, while the occasional lizard suns itself or a bird alights upon it. The stone may shift slightly, nudged by a burrowing mole or struck by the hoof of a passing antelope. Finally, near the very end of the video, humans increasingly walk past the stone until one picks it up to use as a tool or to hurl it. Later the stone may get ploughed under, bulldozed or gathered in the building of a wall. In those areas where people come to settle in their numbers, many stones that had remained undisturbed for a very long time would be moved by human hands or machines.

The above scenario suggests that a place can perhaps be understood as a three-tiered palimpsest. At the deepest level is the underlying solid Earth, the assemblage of rocks whose origins extend over deep, geological timescales of hundreds of millions of years. It is out of the bedrock foundation that the hills, valleys and other landforms emerge by tectonic uplift and weathering over tens of millions of years. The bedrock foundation is the slowest to change, such that the landscape we see today, including the placement of each stone, is more or less what our earliest ancestors witnessed over the last hundreds of thousands of years. Thriving on the bedrock foundation is the far more dynamic thin veneer of life adapted to the climate and rock types exposed at the surface. Individual life forms come and go in rapid succession; some evolve into new species while others become extinct. The living ensemble of plants and animals generally turns over on much shorter timescales than changes in the landscape. The third and final layer is us. We are just one of many coexisting species embedded in the living landscape, but the intensity of our activities constitutes a new global force. Although probably not insignificant before, our impacts have exploded over the last two centuries, so much so that they define a new geological epoch, the Anthropocene (age of humans).

These three interwoven layers are reflected in the structure of this book. Chapter 1 explores how the distinct landforms of the West Coast came about and how they relate to the deep geological history and climates, past and present. Chapter 2 surveys the fossil and historical records to reconstruct how the living landscape has evolved over the last 5 million years. The emphasis is on the role of climate change, as well as the impact of people prior to the Industrial Revolution. The third and final chapter focuses on our rapidly increasing impacts since the Industrial Revolution. Over the last 200 years we have significantly modified both the physical and living landscape of the West Coast, as elsewhere, in ways that are leading us into a new world and an uncertain future.