

Fig. 1. Conception of the mantle plume theory, adapted liberally from W. J. Morgan (unpuffed data, 1977).

# Graphic Solutions to Problems of Plumacy

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## Preface

The mantle plume is just the youngest member of a big and colorful family of geological fads and fashions: diluvialisms and catastrophisms, earths expanding and contracting, global tectonics new and old. Some of these fads have become bandwagons rolling from theory to fact. Others are intellectual white elephants gathering library dust. We do not know yet how the mantle plume will fare; certainly

it has not quite attracted the bandwagon that the new global tectonics did.

Since plumes are better hidden from observation than plates, it may take years to prove or disprove their existence. This is just as well—one cannot write a research proposal to prove that the earth is round or that the continents drift.

In this paper we hope to cut through the hullabaloo surrounding mantle plumes by offering a graphic commentary on the 'hot' topic. Any resemblance between persons or deities

depicted here and those living or dead may or may not be coincidental. If kings and statesmen fall to the cartoonist's pen, why not scientists, their students, instruments, and Mother Earth herself?

## Introduction

It was *Wilson* [1963] who first suggested that hot spots were fixed in the upper mantle and created aseismic ridges as crustal plates moved over them. This idea was expanded to include a mechanism that would also

Order of authors is alphabetical.

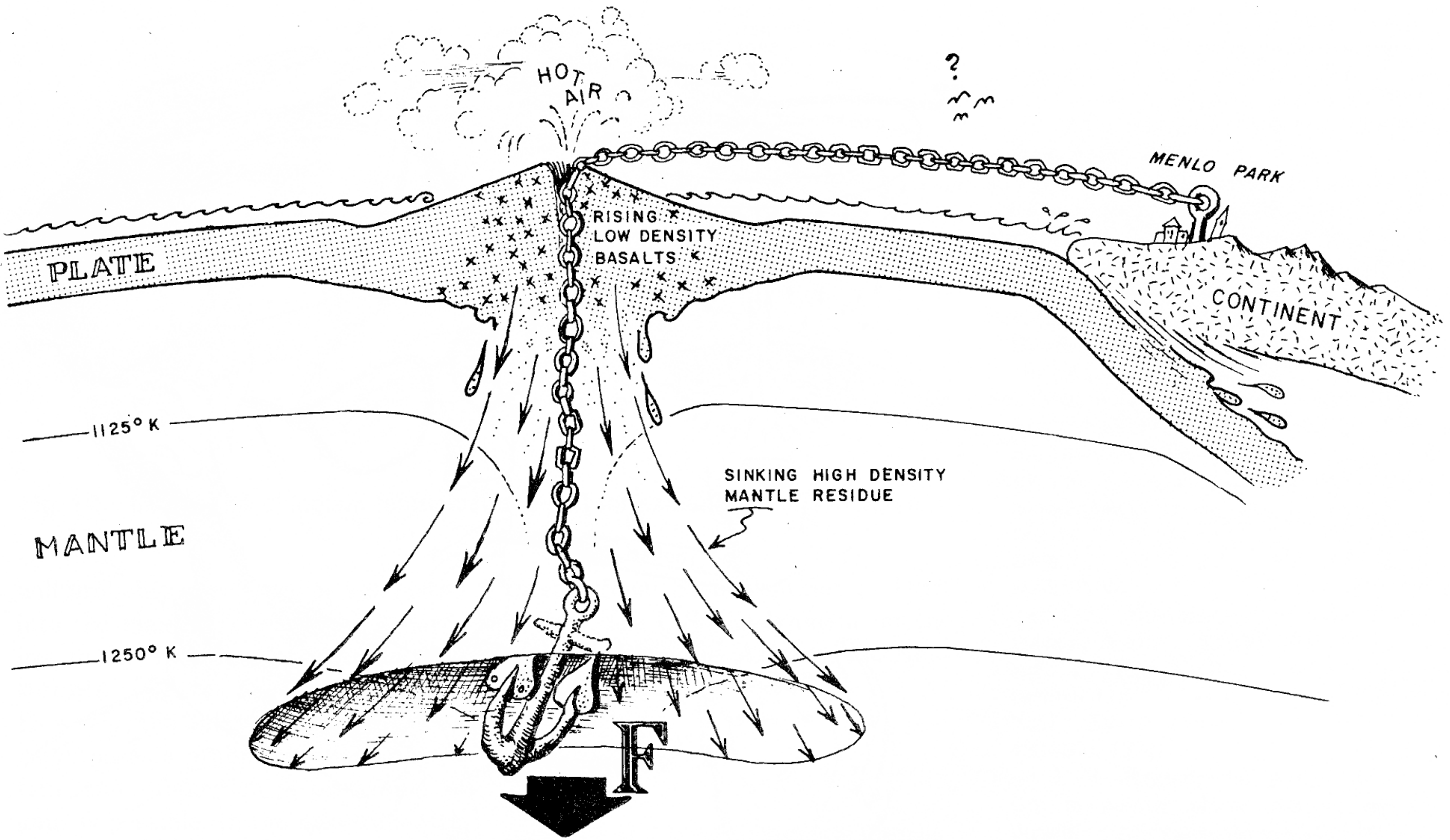


Fig. 2. Gravitational anchor theory, showing the origin of Hawaii [Shaw and Jackson, 1973]. According to this hypothesis, even the motion of California can be explained (although the motions of Californians remain as mysterious as ever).

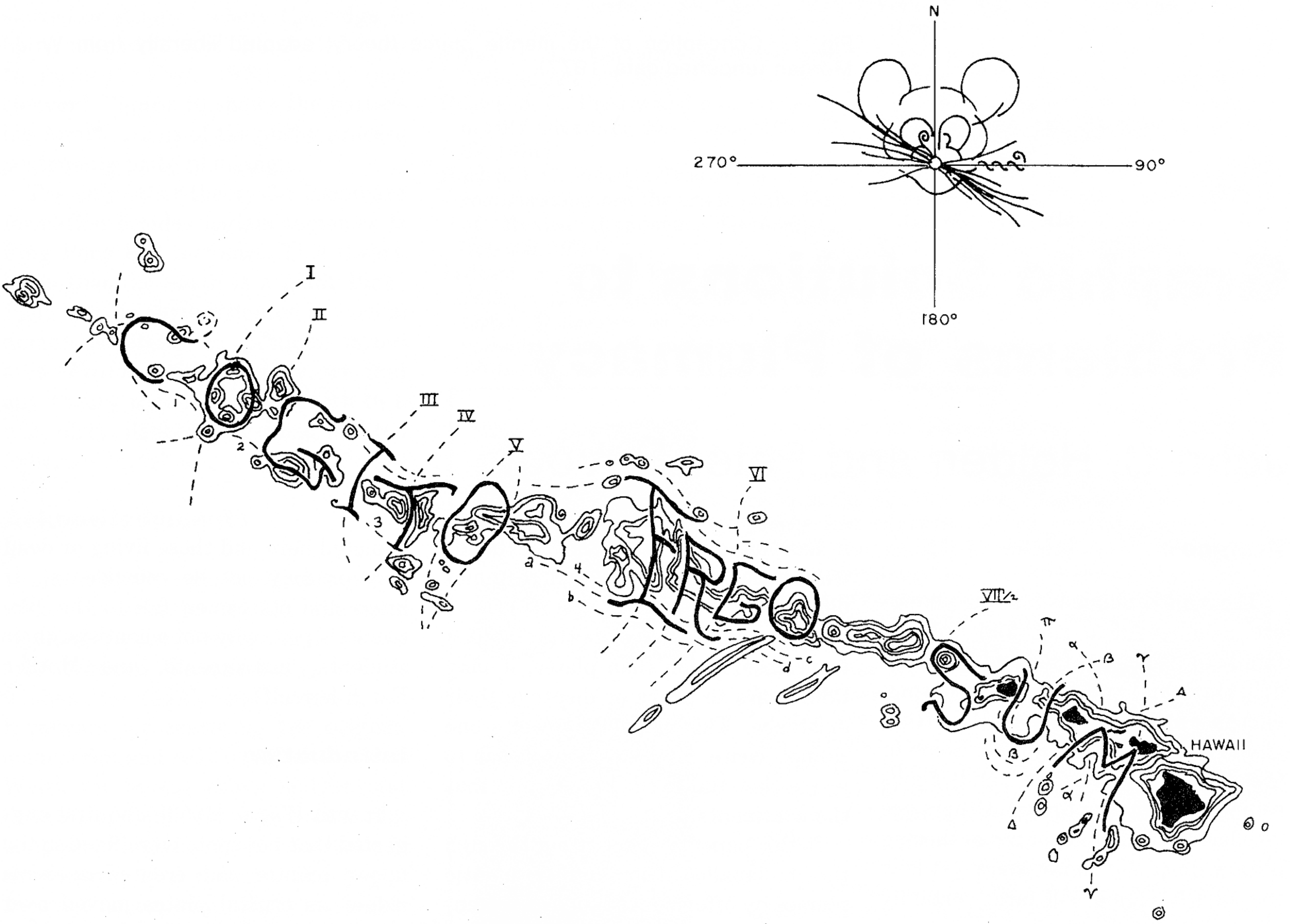


Fig. 3. Stress field lineations plotted from volcano distribution along the Hawaiian chain. The geophysical relevance of the message spelled out is a matter of intense debate.

