

Alfred Wegener, *The Origin of Continents and Oceans*, Translated from the 4th Revised German Edition by J. Biram, Dover Publications, Inc., New York, 1966, LCCCN: 66-28270.

Foreword

SCIENTISTS still do not appear to understand sufficiently that all earth sciences must contribute evidence towards unveiling the state of our planet in earlier times, and that the truth of the matter can only be reached by combining all this evidence.

The well-known South African geologist du Toit wrote quite recently [78]: “As already stated, we must turn almost exclusively to the geological evidence to decide the probability of this hypothesis (continental drift), because arguments based on such matters as the distribution of fauna are not competent here; they can generally be explained equally well, even if less neatly, by the orthodox view that assumes the existence of extended land bridges, later sunk below sea level.”

On the other hand, the palaeontologist von Ihering [122] is short and to the point: “It is not my job to worry about geophysical processes.” He holds to the “conviction that only the history of life on the earth enables one to grasp the geographical transformations of the past.”

I myself in a weak moment once wrote of the drift theory [121]: “For all that, I believe that the final resolution of the problem can only come from geophysics, since only that branch of science provides sufficiently precise methods. Were geophysics to come to the conclusion that the drift theory is wrong, the theory would have to be abandoned by the systematic earth science as well, in spite of all corroboration, and another explanation for the facts would have to be sought.”

It would be easy to add to the list of such opinions, each scientist deeming his own field to be the one most competent, or indeed the only one competent, to judge the issue. In fact, however, the situation is obviously quite otherwise. At a specified time the earth can have had just one configuration. But the earth supplies no direct information about this. We are like a judge confronted by a defendant who declines to answer, and we must determine the truth from the circumstantial evidence. All the proofs we can muster have the deceptive character of this type of evidence. How would we assess a judge who based his decision on part of the available data only?

It is only by combining the information furnished by all the earth sciences that we can hope to determine “truth” here, that is to say, to find the picture that sets out all the known facts in the best arrangement and that therefore has the highest degree of probability. Further, we have to be prepared always for the possibility that each new

discovery, no matter which science furnishes it, may modify the conclusions we draw.

This conviction gave me the stimulus to continue at times when my spirits failed me during the revision of this book. For it is beyond one man's power to follow up completely the details of the snowballing literature on drift theory in the various sciences. In spite of all my efforts, many gaps, even important ones, will be found in this book. That I was able to achieve the degree of comprehensiveness I did is due solely to the very large number of communications received from scientists in all the relevant fields, and I am most grateful for them.

The book is addressed equally to geodesists, geophysicists, geologists, paleontologists, zoogeographers, phytogeographers and palaeoclimatologists. Its purpose is not only to provide research workers in these fields with an outline of the significance and usefulness of the drift theory as it applies to their own areas, but also mainly to orient them with regard to the applications and corroborations which the theory has found in areas other than their own.

Everything of interest concerning the history of this book, which is also the history of the drift theory, will be found in the first chapter.

The reader is referred to the Appendix for evidence of a shift of North America brought out by the new determinations of longitude in 1927; this result first appeared during the time the book was in proof.

Graz, November 1928

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References

[78] DU TOIT, A. L., *A Geological Comparison of South America with South Africa. With a Palaeontological Contribution by F. R. Cowper Reed*, Carnegie Institution of Washington, Publ., No. 381, Washington, 1927

[121] WEGENER, A., "Die geophysikalischen Grundlagen der Theorie der Kontinentverschiebung," *Scientia*, Feb. 1927.

[122] IHERING, H. VON, *Die Geschichte des Atlantischen Ozeans*, Jena, 1927.