

Paper Number: 653

## **Early correlations between the Cape Belt and Ventania Systems: Keidel's pioneer work and his influence on Wegener's Continental drift and Du Toit's ideas**

Ramos, V.A.<sup>1</sup>

<sup>1</sup> Instituto de Estudios Andinos Don Pablo Groeber, Universidad de Buenos Aires, Argentina. andes@gl.fcen.uba.ar

---

Although different authors at different times advanced some ideas on continental drift, there was no doubt that, behind the fortuitous parallelism of the coasts on either side of the Atlantic there were several geological arguments. There is a robust consensus that Alfred Wegener (1912-1929) [1] is the father of the theory, because he made the first comprehensive multidisciplinary approach to postulate the displacement of the continents, and worked hard his entire life until his last days in trying to demonstrate his assertions. However, it is little known that when he went through the geological arguments to demonstrate the first correlations between South Africa and South America, the best proofs he had were the vigorous correlations developed by Keidel (1913-1916) [2].

Wegener's chapter on geological correlations starts with the comparison between both sides of the South Atlantic using the recent data presented in the *Compte Rendu* of the XII<sup>o</sup> International Geological Congress of Toronto, Canada, by Keidel (1913) [2]. Wegener in his book textually stated following Keidel: "In the Sierras of Buenos Aires Province, particularly in the southern range, we find a succession of beds very like that of the Cape Mountains of South Africa". Keidel in 1913 [2] in his presentation described the structure of Sierras de la Ventana, their northern vergence, and particularly the late Palaeozoic glacial conglomerates, correlating them with the Hill Cove in the Malvinas Islands and the Dwyka tillite of Cape Town.

On the other hand, Du Toit in 1916 was trying to demonstrate the continuity of the glaciation in the late Palaeozoic among South Africa, Brazil, Uruguay, and Argentina. After his seminal paper on "The Carboniferous glaciation of South Africa" Du Toit of 1921 [3] wanted to compare these deposits with the South American counterparts. He received a grant from the Carnegie Institution of Washington and came in 1923 for five months to South America, spending two months visiting the Ventania system and Precordillera.

In that visit, he learnt about the Gondwanides: a term coined by Keidel in 1921 [4] to describe the important mountain system uplifted by the late Palaeozoic deformation in several parts of central and southern Argentina. As a final comment it is necessary to emphasize that prior to 1916, neither Keidel nor Du Toit knew about Wegener and neither of them were supporters of the continental drift theory, but soon after the AAPG Symposium, both became active supporters.

### *References:*

- [1] Wegener A (1912) *Petermanns Geographische Mitteilungen* 58: 185–195, 253–256, 305–309.
- [2] Keidel J (1913). XII<sup>o</sup> Congrès Géologique International, *Compte Rendu* p. 671-687, Toronto.
- [3] Du Toit A L (1921) *Trans Geol Soc South Africa* 24: 188-227.
- [4] Keidel J (1921) *Academia Nacional de Ciencias, Bol* 25: 239-368.



