

## DISCUSSION

on the paper by E.-C. Haß and P.J. Plath, entitled<sup>1</sup>  
"GRAPHENTHEORETISCHE BEHANDLUNG DES BESCHRÄNKTEN SELBST-  
WECHSELWIRKUNGSPROBLEMS, DARGESTELLT AN PERICYCLISCHEN  
SECHSZENTRENREAKTIONEN"

Alexandru T. Balaban

Institute of Chemistry, The Polytechnic, Bucharest, Rumania

(received: March 1976)

In 1967, a paper entitled "Chemical Graphs. III. Reactions with Cyclic Six-membered Transition States" was published,<sup>2</sup> abstracted,<sup>3</sup> and reprinted later in a volume.<sup>4</sup> Though written in English, owing to the limited circulation of the publications, it was read only by few people (e. g. <sup>5</sup>) escaping the notice of most chemists. In that paper, pericyclic reactions with six-membered transition states were examined by the same method which was used later, in 1974, by Hendrickson.<sup>6</sup> From the paper by Hass and Plath,<sup>1</sup> the reader is left with the impression that this method was originated by Hendrickson.

In a private correspondence, professor Hendrickson expressed his regret that he had not been aware of the previous paper <sup>2</sup> and stated that, should he have known it, he would have structured quite differently his contribution.

The present discussion should not be interpreted as a priority claim, because undoubtedly the same ideas were arrived at independently, but rather as an addendum, in historical perspective, to the bibliography of the paper by Hass and Plath.<sup>1</sup>

As mentioned earlier,<sup>7</sup> the idea of discriminating among bonds common to both reagent(s) and product(s), and bonds which change their place during the reaction, which lies at the basis of the papers under discussion,<sup>1,2,4,6</sup> can be generalized to other reactions with concerted mechanism but with antiaromatic transition state, or to non-concerted reactions, into what was called "isographic non-variant" of the reaction.<sup>8</sup>

#### References

- 1 E.-C. Hass and P. J. Plath,  
Match, Nr. 1, 141 (1975).
- 2 A. T. Balaban,  
Rev. Roumaine Chim. 12, 875 (1967).
- 3 Chem. Abstr. 68, 89942h (1968).
- 4 A. T. Balaban, in  
"Recherches sur la philosophie des sciences", Edit.  
Academiei R. S. România, Bucharest, 1971, p. 207  
(reference 2, reprinted).
- 5 R. B. Woodward and R. Hoffmann,  
Angew. Chem. 81, 797 (1969) ; Angew Chem. internat.  
Edit. 8, 781 (1969); " Die Erhaltung der Orbitalsym-  
metrie", Akad. Verlagsges., Leipzig, 1970 (quotation  
255).
- 6 J. B. Hendrickson,  
Angew. Chem. 86, 71 (1974) ; Angew. Chem. internat.  
Edit. 13, 47 (1974).
- 7 A. T. Balaban,  
Match, Nr. 1, 33, 49 (1975).
- 8 A. Barabas and A. T. Balaban,  
Rev. Roumaine Chim. 19, 1927 (1974).