

Moreover,  $\Pi_B$  being homogeneous of degree  $-1$  with respect to the  $\Theta^A$  and vice versa,

$$\left. \begin{aligned} \Pi_{BC} \Theta^C &= -\Pi_B, & \Theta^{AB} \Pi_B &= -\Theta^A, \\ \Pi_{AB} \Theta^A \Theta^B &= \Theta^{AB} \Pi_B \Pi_C = 0. \end{aligned} \right\} \dots (101)$$

We define the operator  $\partial_0$  to annihilate all quantities introduced until this paragraph, in particular therefore the ratio's of the  $\Theta^A$  as well as of the  $\Pi_B$  and the products  $\Pi_B \Theta^A$ ;  $\partial_B \Theta^0$  shall be defined by requiring

$$\partial_B \varphi \Theta^B = 0. \dots (102)$$

Then an easy calculation shows the validity of

*Theorem 10. Assumed the definitions and restrictions mentioned above, the equations of motion and of continuity are equivalent with the system consisting of (102) and*

$$\Theta^B \partial_{[B} \Pi_{A]} = 0 \quad {}^{38) 40)} \dots (103)$$

Analogous remarks as those made at the end of § 7 with respect to equations (87), (88) evidently are valid with respect to (103), (102).

<sup>40)</sup> It follows that the quadratic cone mentioned at the beginning of § 6 is

$$(\Theta^{ij} - \Theta^i \Theta^j) \varphi_i \varphi_j = 0, \quad \varphi_i = \partial_i \varphi, \quad \partial_0 \varphi = \partial_r \varphi = 0.$$

#### BIBLIOGRAPHY (continued).

- D. VAN DANTZIG [7]. On the thermo-hydrodynamics of perfectly perfect fluids I  
Proc. Kon. Ned. Akad. v. Wetensch., Amsterdam, **43**, 387—402, (1940)  
referred to as I.
- TH. DE DONDER [2], L'affinité, Paris, Gauthier-Villars, 1927.
- \_\_\_\_\_ [3], L'affinité (2de partie), ibid. 1931.
- \_\_\_\_\_ [4], L'affinité (3me partie), ibid. 1934.
- \_\_\_\_\_ [5], L'affinité, Rédaction nouvelle par P. VAN RIJSSELBERGHE, ibid. 1936.
- P. A. SCHOUTEN and D. VAN DANTZIG [1], Comp. Math. **7**, 447—473, (1940).
- R. C. TOLMAN [1], Relativity, Thermodynamics and Cosmology. Oxford, Clarendon Press 1934.

**Mathematics.** — *Die Triangulation der differenzierbaren Mannigfaltigkeiten.* — *Nachtrag.* By HANS FREUDENTHAL. (Communicated by Prof. L. E. J. BROUWER.)

(Communicated at the meeting of April 27, 1940.)

Herr S. S. CAIRNS hat mich auf einige seiner Arbeiten aufmerksam gemacht, die ich leider übersehen hatte. Nach Durchsicht dieser Arbeiten ergänze ich die historische Einleitung zu meiner Note „Die Triangulation der differenzierbaren Mannigfaltigkeiten“ wie folgt:

S. S. CAIRNS hat bereits 1935 einen Beweis der Triangulierbarkeit der differenzierbaren Mannigfaltigkeiten veröffentlicht. Die Methoden von L. E. J. BROUWER und von mir sind völlig verschieden von der von CAIRNS.

<sup>1)</sup> Proc. Kon. Ned. Akad. v. Wetensch., Amsterdam, **42**, 880—901 (1939).

<sup>2)</sup> Triangulation of the manifold of class one [Bulletin Amer. Math. Soc. **41**, 549—552 (1935)]; diese Note stützt sich auf die Arbeit „On the triangulation of regular loci“ [Annals of Math. (2) **35**, 579—587 (1934)] desselben Verf. — Siehe auch „Polyhedral approximations to regular loci“ [Annals of Math. (2) **37**, 409—415 (1936)] desselben Verf.