

(20)

DIE
HETEROGENEN GLEICHGEWICHTE
(equilibrium)

VOM STANDPUNKTE DER

PHASENLEHRE

VON

DR. H. W. BAKHUIS ROOZEBOOM

WEILAND PROFESSOR AN DER UNIVERSITÄT AMSTERDAM

DRITTES HEFT

DIE TERNÄREN GLEICHGEWICHTE

ERSTER TEIL

SYSTEME MIT NUR EINER FLÜSSIGKEIT
OHNE MISCHKRYSTALLE UND OHNE DAMPF

VON

DR. F. A. H. SCHREINEMAKERS

PROFESSOR AN DER UNIVERSITÄT LEIDEN

MIT 112 IN DEN TEXT EINGEDRUCKTEN ABBILDUNGEN

(DEUTSCH VON DR. J. J. B. DEUSS)

BRAUNSCHWEIG

DRUCK UND VERLAG VON FRIEDR. VIEWEG & SOHN

1911

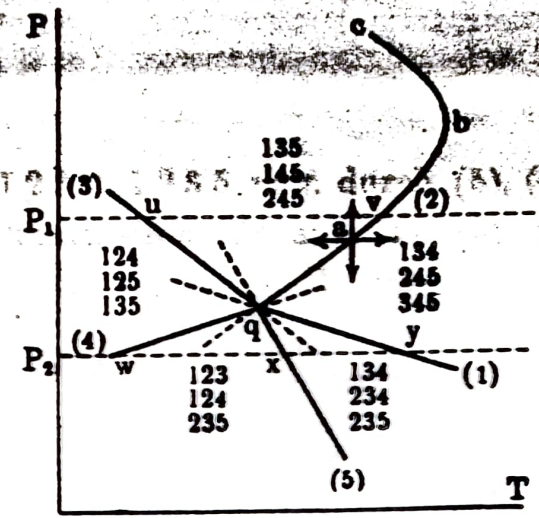
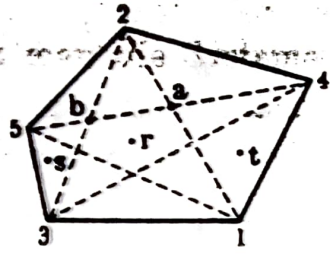


Fig. 101.

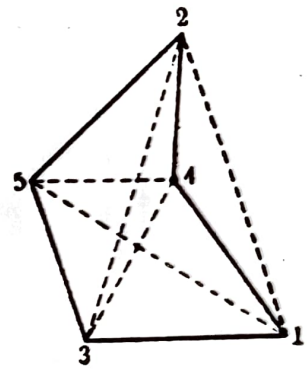


Fig. 102.

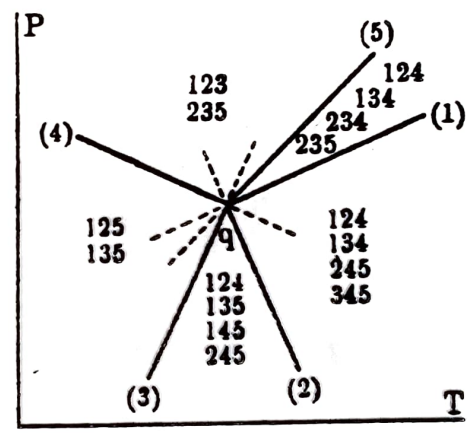


Fig. 103.

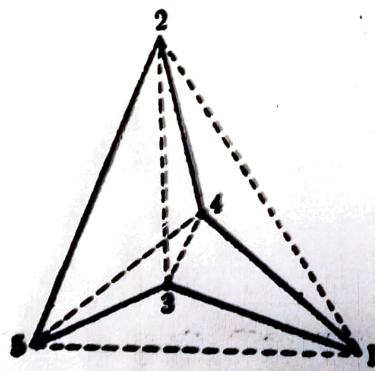
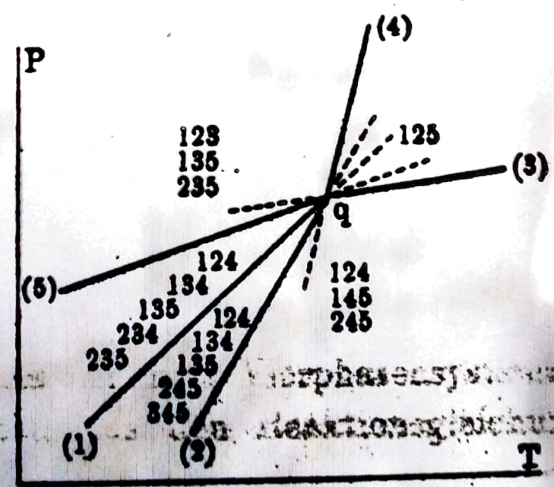


Fig. 104.



A

A*

From Schreiner's 1911

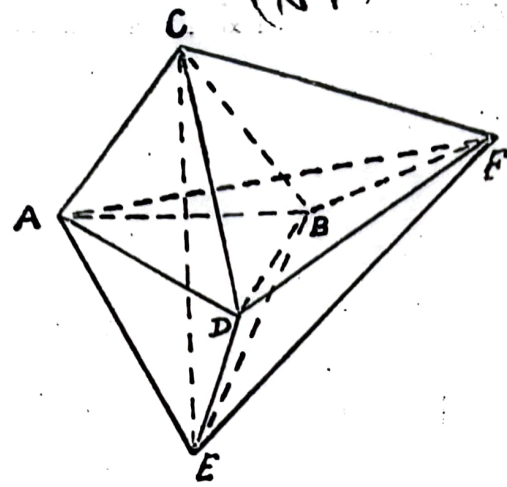


Fig. 1.

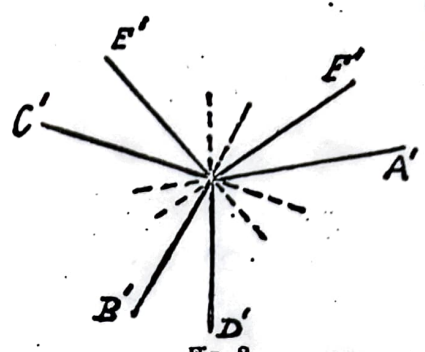


Fig. 2.

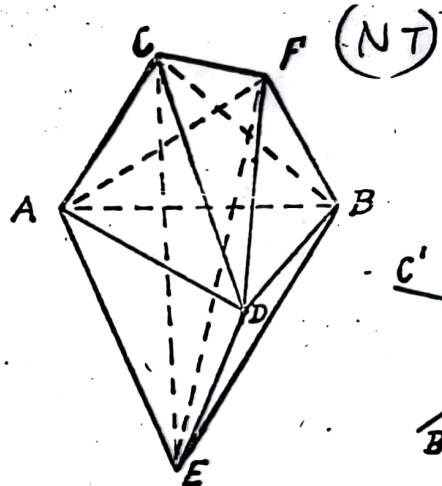


Fig. 3.

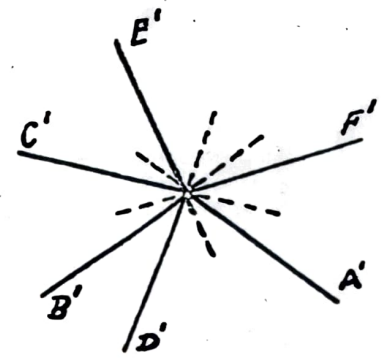


Fig. 4.

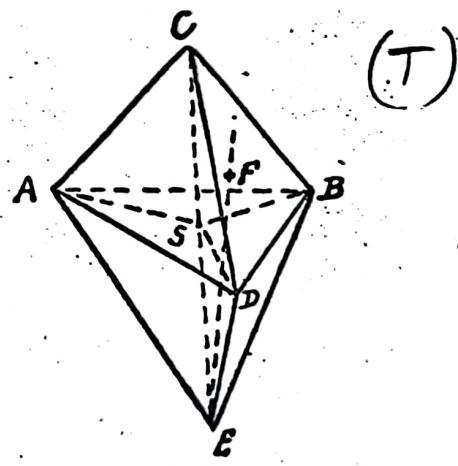


Fig. 5.

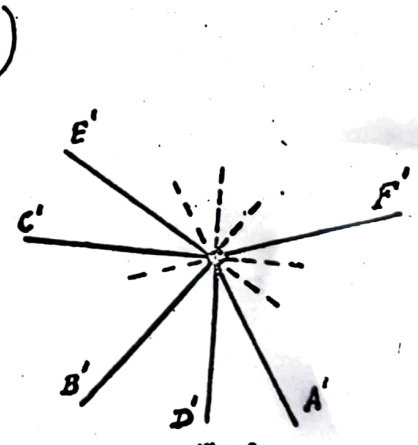


Fig. 6.

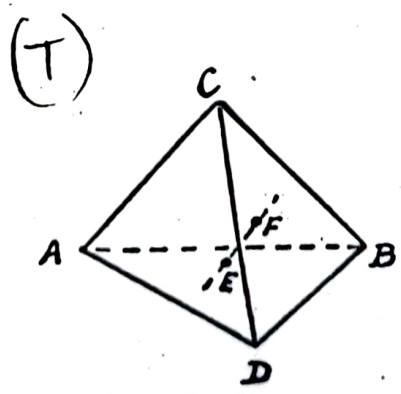


Fig. 7.

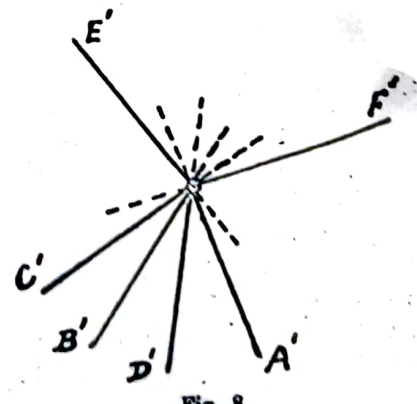


Fig. 8.

2-component systems

1 non-degenerate, 4 degenerate chromatograms

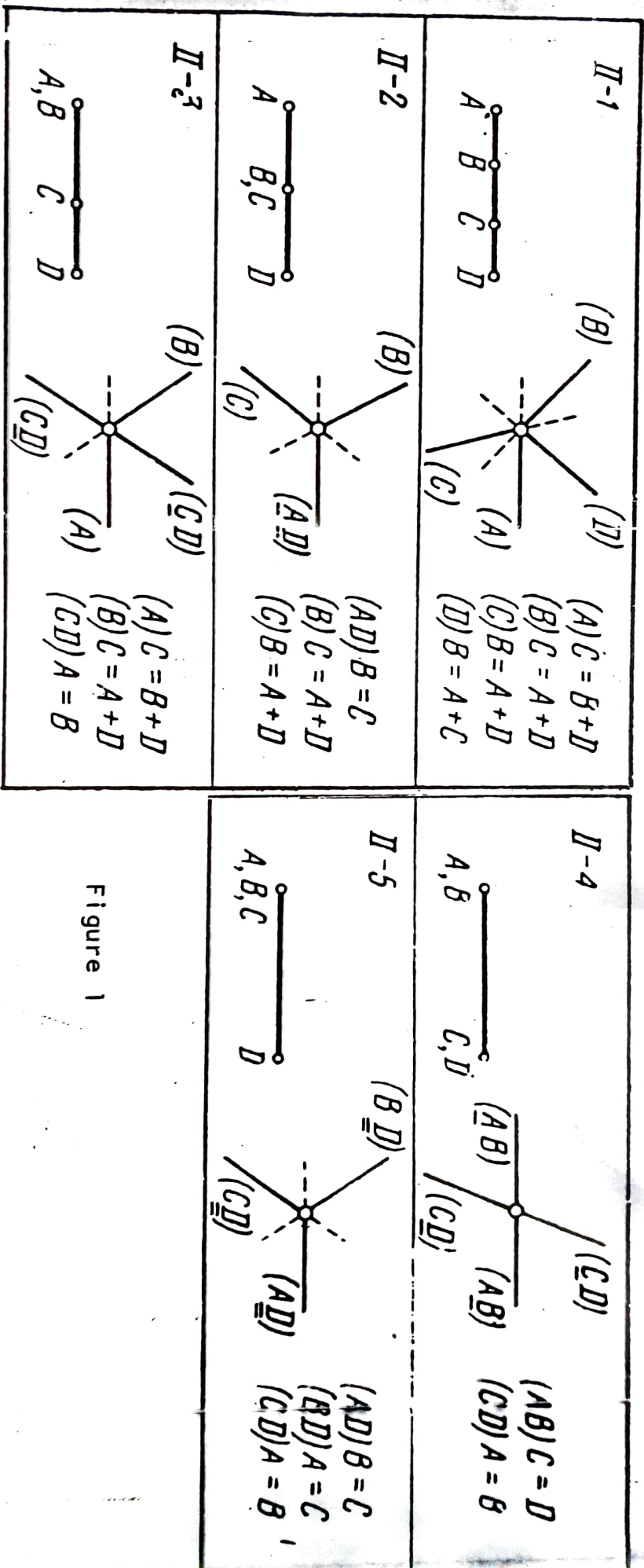


Figure 1

From Dolivo-Dobrovolsky 1970
 ("Contributions to Physico-Chemical Petrology" Vol II, 281-296
 Acad. of Sciences USSR, Inst. of Solids, Moscow 1970)

3 non-degenerate, 16 degenerate chemographies

Nm D

NON D

NON D

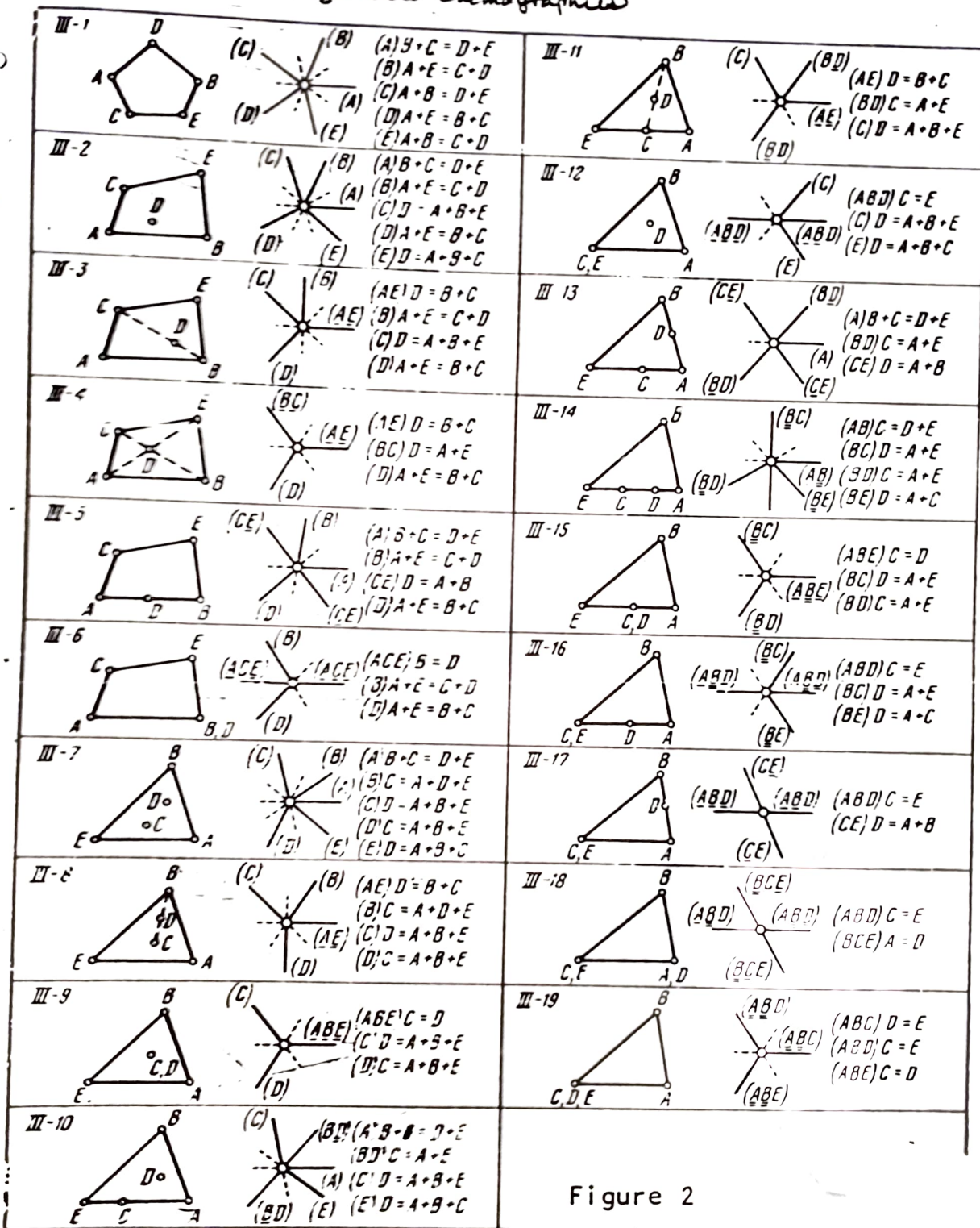
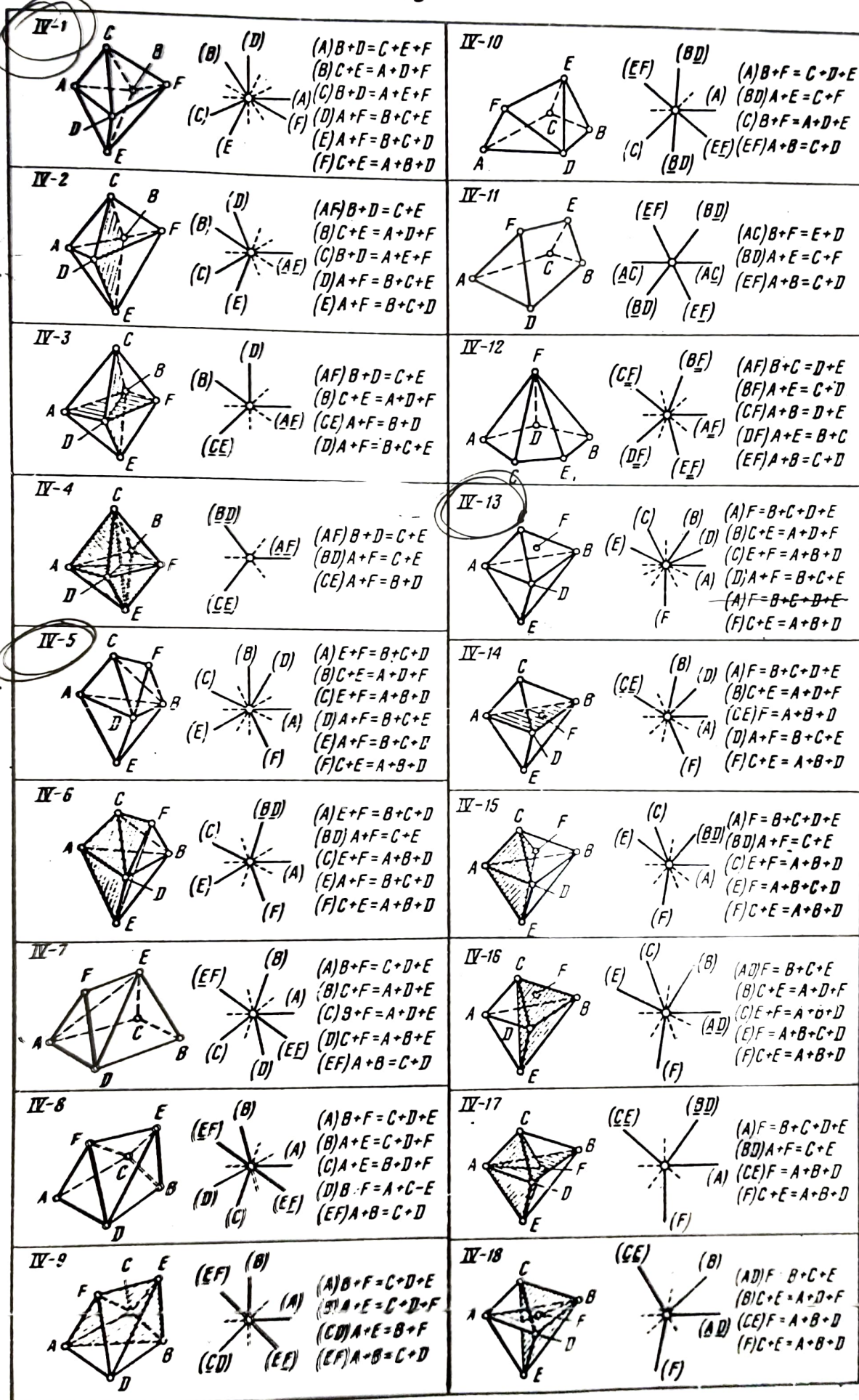


Figure 2

Figure 4

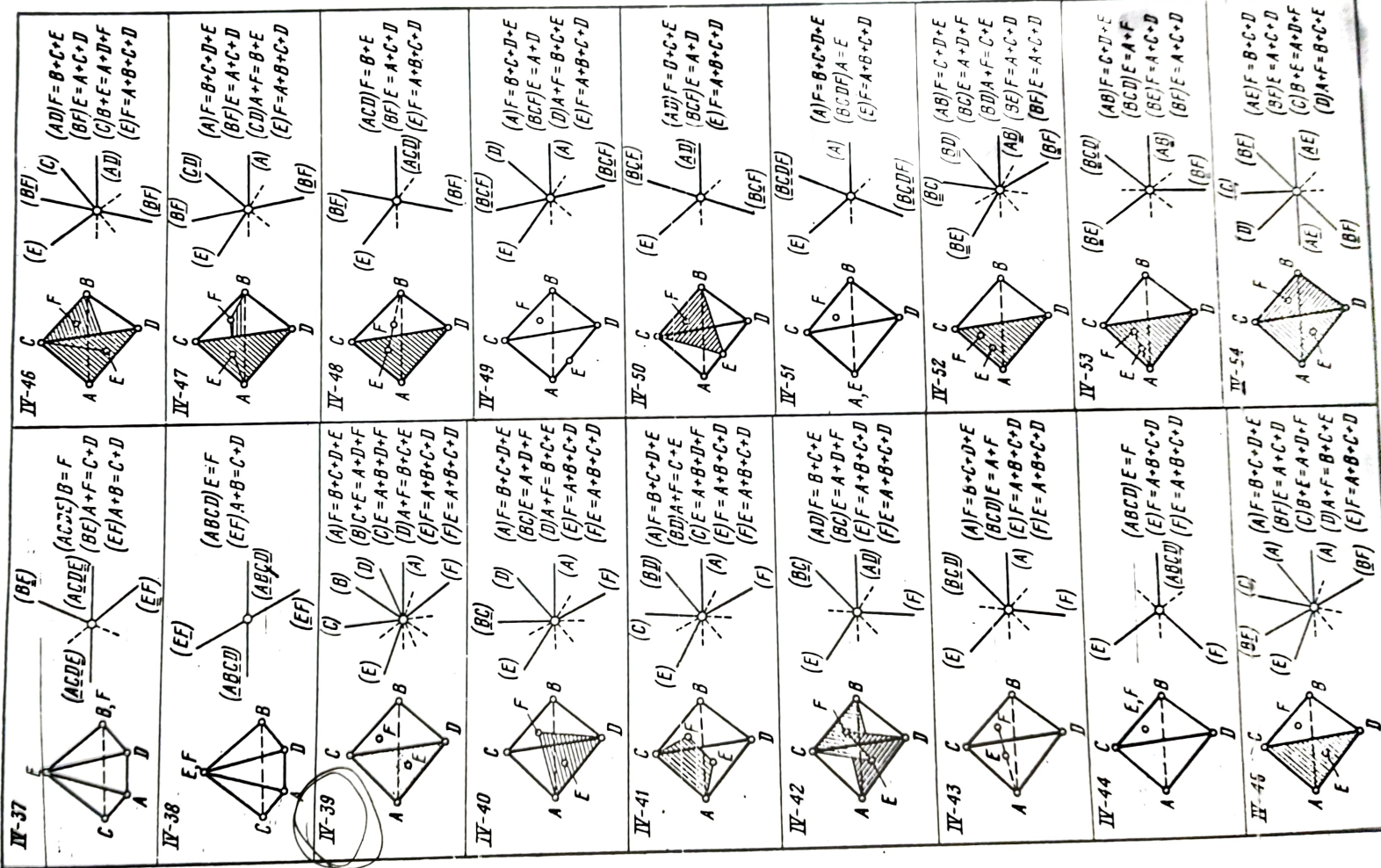


$F = ABCD$
 $(E) F = A+B$
 2 term. each

Figure 4 (continued)

<p>IV-19</p> <p>(C) (E) (F)</p> <p>(ABD)F = C+E (C)E + F = A+B+D (E)F = A+B+C+D (F)C+E = A+B+D</p>	<p>IV-28</p> <p>(D) (E) (F)</p> <p>(A)F = B+C+D+E (B)A+F = C+D+E (C)E = A+B+D+E (D)C+E = A+B+E (E)A+B = C+D</p>
<p>IV-20</p> <p>(G) (E) (F)</p> <p>(ABD)F = C+E (CE)F = A+B+D (F)C+E = A+B+D</p>	<p>IV-29</p> <p>(G) (E) (F)</p> <p>(A)F = B+C+D+E (B)A+F = C+D+E (C)E = A+B+D+E (D)F = A+B+E (E)A+B = C+D</p>
<p>IV-21</p> <p>(B) (C) (E) (F)</p> <p>(AE)F = B+C+D (B)C+E = A+D+F (C)E + F = A+B+D (AE)D+A+F = B+C+E (F)F = A+B+D</p>	<p>IV-30</p> <p>(C) (D) (E) (F)</p> <p>(AB)F = C+D+E (D)F = A+B+E (E)A+B = C+D</p>
<p>IV-22</p> <p>(C) (D) (E) (F)</p> <p>(AE)F = B+C+D (D)A+F = C+E (C)E + F = A+B+D (F)C+E = A+B+D</p>	<p>IV-31</p> <p>(D) (E) (F)</p> <p>(AC)F = B+D+E (D)A+F = C+D+E (C)E + F = A+B+E (E)A+B = C+D</p>
<p>IV-23</p> <p>(D) (E) (F)</p> <p>(ACE)F = B+D (D)C+E = A+D+F (ACE)D+A+F = B+C+E (F)C+E = A+B+D</p>	<p>IV-32</p> <p>(D) (E) (F)</p> <p>(AE)F = B+C+D (BE)A+F = C+D (CE)F = A+B+D (DE)A+B = C+D (E)A+B = C+D</p>
<p>IV-24</p> <p>(B) (D) (E) (F)</p> <p>(ACE)F = B+D (BD)A+F = C+E (ACE)F = A+B+D</p>	<p>IV-33</p> <p>(D) (E) (F)</p> <p>(AE)F = B+C+D (BE)A+F = C+D (CE)F = A+B+D (DE)A+B = C+D (E)A+B = C+D</p>
<p>IV-25</p> <p>(C) (D) (E) (F)</p> <p>(ADE)F = B+C (B)C+E = A+D+F (C)F+E = A+B+D (F)C+E = A+B+D</p>	<p>IV-34</p> <p>(D) (E) (F)</p> <p>(AE)F = B+C+D (BE)A+F = C+D (CE)F = A+B (E)A+B = C+D</p>
<p>IV-26</p> <p>(B) (C) (D) (E) (F)</p> <p>(ACE)F = F (B)C+E = A+D+F (ACE)F = A+B+D</p>	<p>IV-35</p> <p>(D) (E) (F)</p> <p>(ACE)F = B+D (BE)A+F = C+D (DE)A+B = C+D (E)A+B = C+D</p>
<p>IV-27</p> <p>(C) (D) (E) (F)</p> <p>(ABD)E = F (C)E + F = A+B+D (F)C+E = A+B+D</p>	<p>IV-36</p> <p>(D) (E) (F)</p> <p>(ACD)F = B+D (BE)A+F = C+D (DE)A+B = C+D (E)A+B = C+D</p>

Figure 4 (continued)



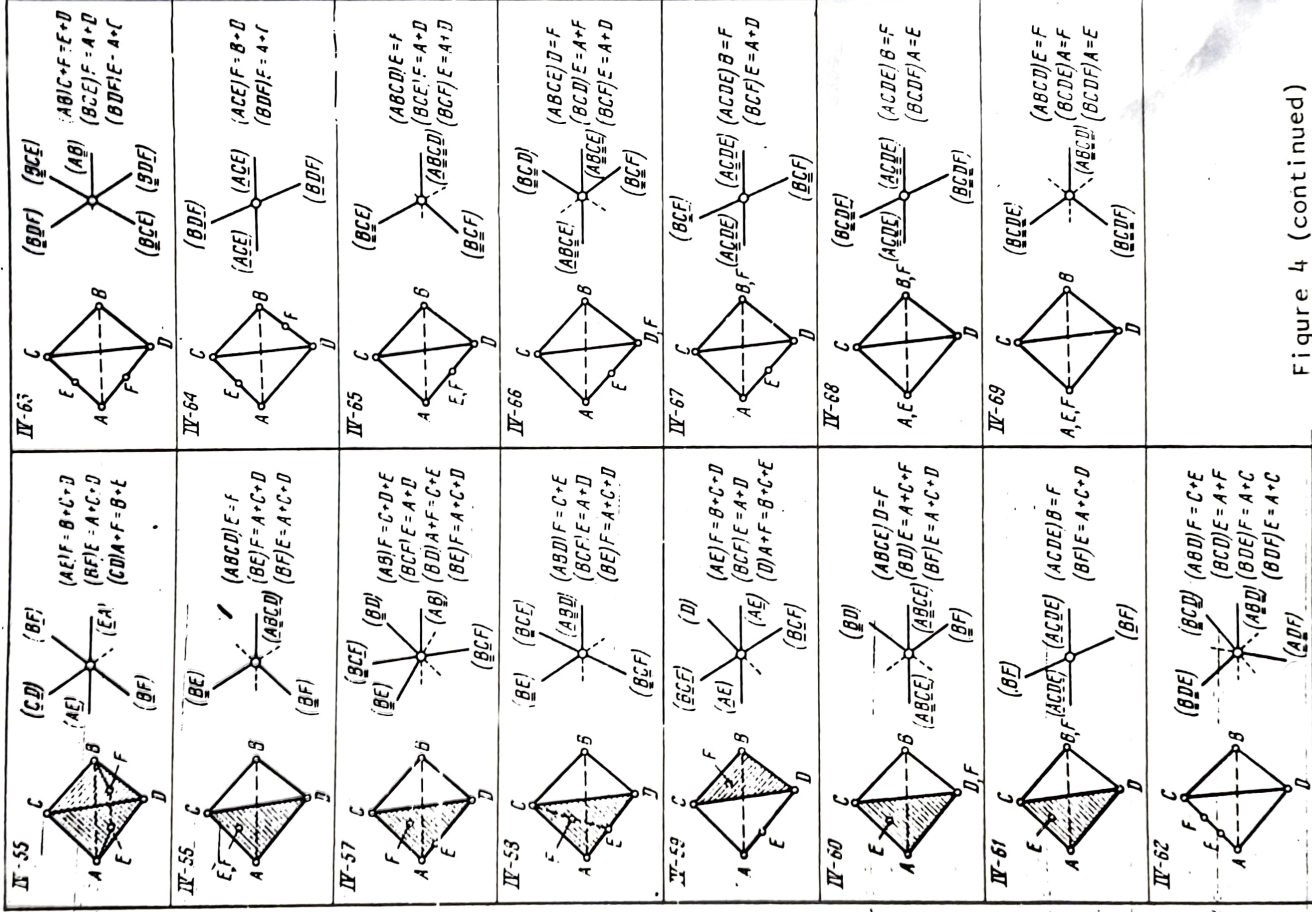


Figure 4 (continued)

From Zem 1966

$$A = \text{---} \circ \text{---} \circ \text{---} \circ \text{---} \circ \text{---} \text{ in } A_{\mathbb{R}}^2 \quad \text{with } d=3$$

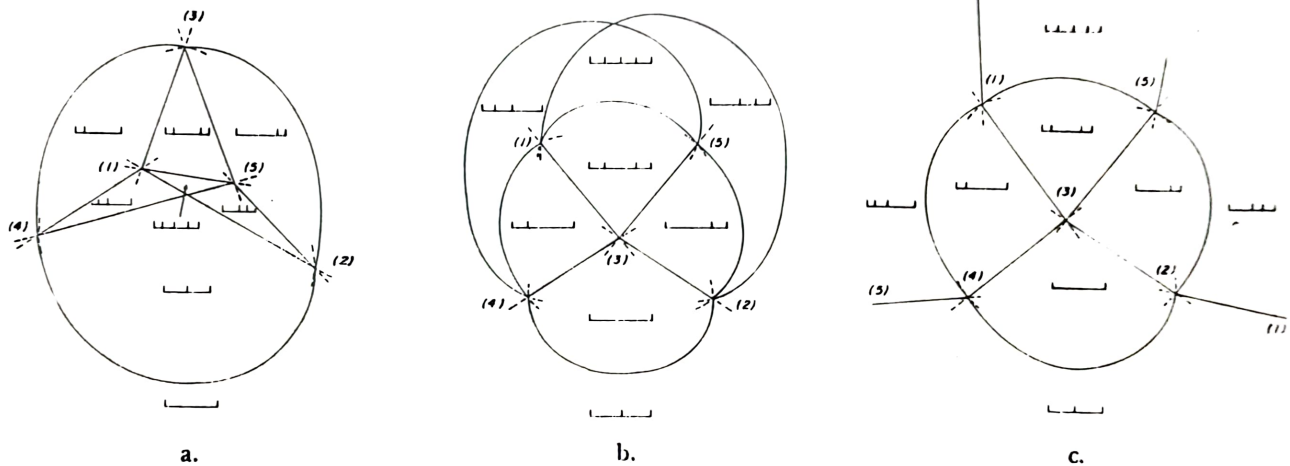
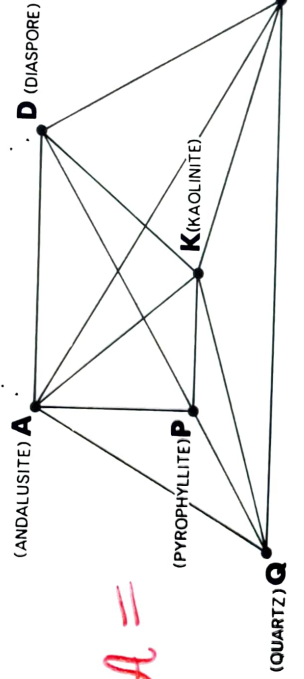


Fig. 7. (a) and (b), two 5-point closed nets for a binary, 5-phase multisystem. The nets are reentrant. A single divariant field surrounds each net; the assemblage occupying each field is represented by the chemographic bar. (c). A partially open net formed by breaking the lines (1,2) and (4,5) of (b). The net is reentrant.

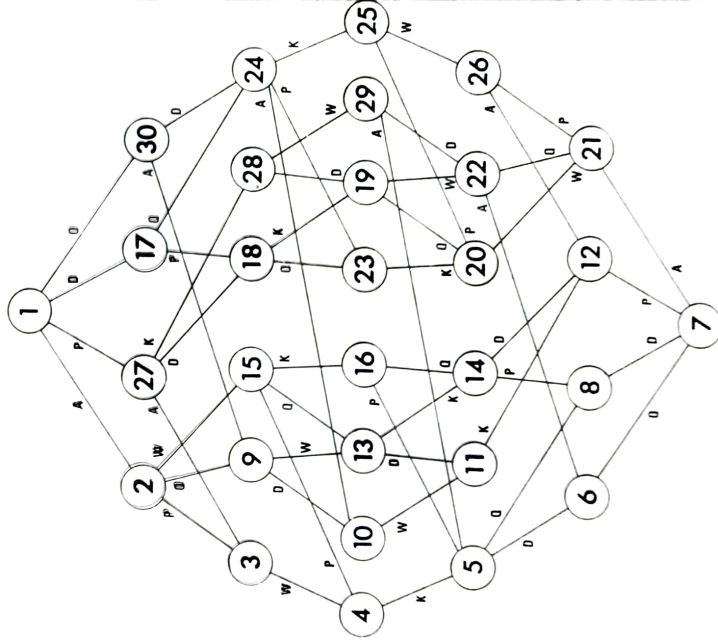
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Al₂O₃



A =
in A_R²
n=6
d-1=2
d=3
n-d=3

Fig. 1. Chemography of six phases in the system Al₂O₃-SiO₂-H₂O.



*Two views of this
as a zonotope:*

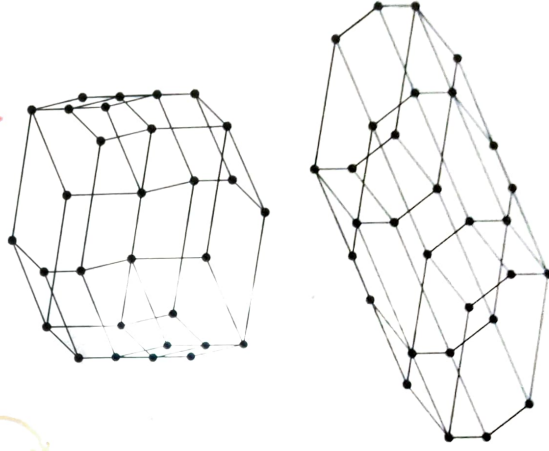
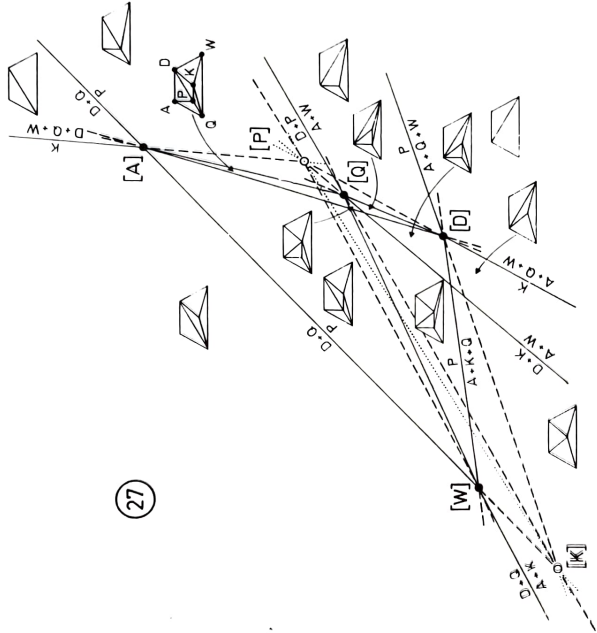


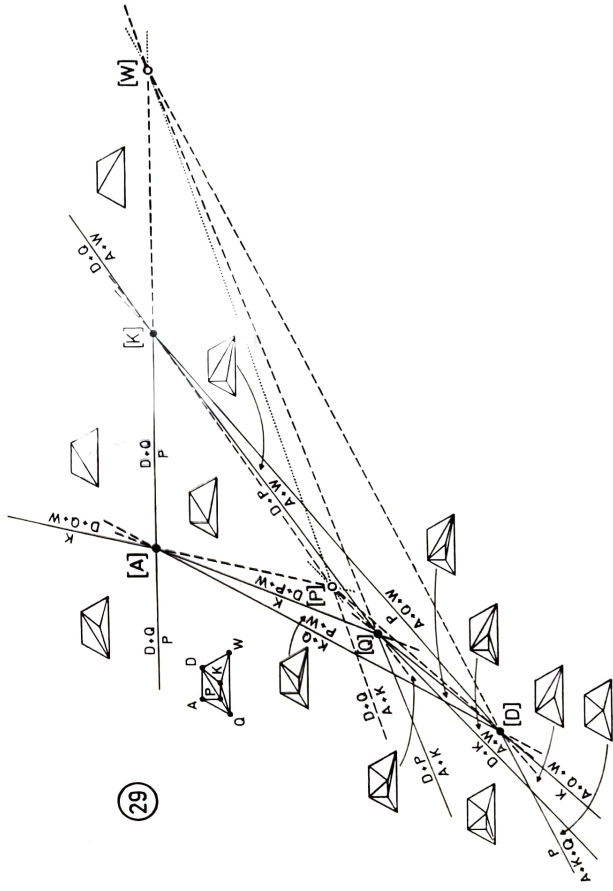
Fig. 9. Node diagram for the 30 potential solutions and the transpositions that relate them.

From Stout 1994



27

Fig. 12. Potential solution 27.



29

Fig. 11. Potential solution 29.

