

Abbildungen der Zeichenklassen auf ihre Moduloklassen

Wir gehen aus von den $3^3 = 27$ über $Z = (3.x, 2.y, 1.z)$ mit $x, y, z \in (1, 2, 3)$ erzeugbaren Zeichenklassen und bilden sie auf ihre Moduloklassen ab (vgl. Toth 2021a). Diese beinhalten bekanntlich die semiotischen «Reste». Damit entstehen «komplexe» Graphen, die nur teilweise mit denjenigen ihrer Zeichenklassen zusammenfallen. Totale Koinzidenz gibt es genau bei den eigenrealen Dualsystemen (vgl. Toth 2021b).

2. In den folgenden Graphen werden zuerst schwarz die Zkln, dann rot die Rest-Klassen eingetragen. (Schwarz ist also stärker als rot.)

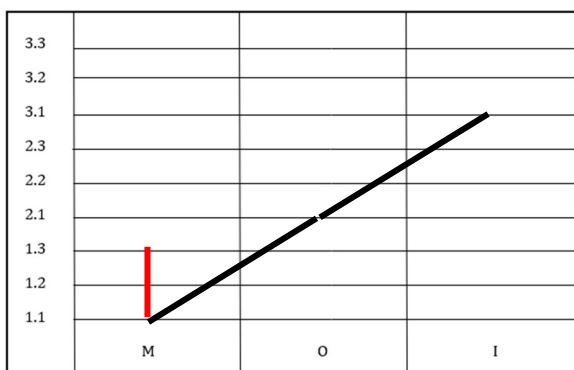
1. Dualsystem

$$(3.1, 2.1, 1.1) \times (1.1, 1.2, 1.3)$$

$$\emptyset \quad \emptyset \quad 1.1 \quad | \quad 1.2, 1.3$$

$$(3.1, 2.1, 1.1) \bmod (1.1) = (1.2, 1.3)$$

$$(1.1, 1.2)\text{-them. } (1.3)$$



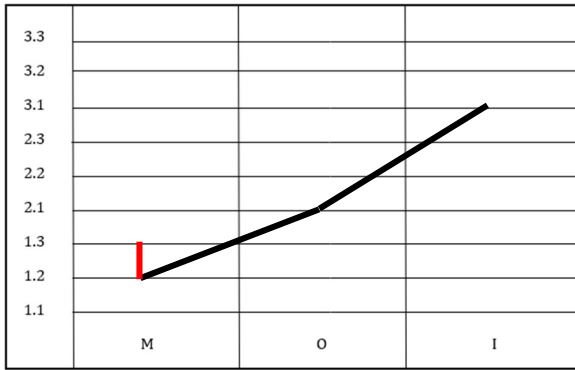
2. Dualsystem

$$(3.1, 2.1, 1.2) \times (2.1, 1.2, 1.3)$$

$$\emptyset \quad 2.1 \quad \emptyset \quad | \quad 1.2, 1.3$$

$$(3.1, 2.1, 1.2) \bmod (2.1) = (1.2, 1.3)$$

$$(1.2, 1.3)\text{-them. } (2.1)$$



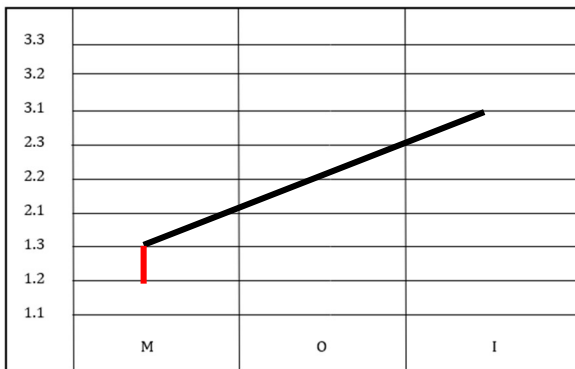
3. Dualsystem

$$(3.1, 2.1, 1.3) \times (3.1, 1.2, 1.3)$$

$$3.1 \quad \emptyset \quad 1.3 \quad | \quad 1.2$$

$$(3.1, 2.1, 1.3) \bmod (3.1, 1.3) = (1.2)$$

$$(1.2, 1.3)\text{-them. } (3.1)$$



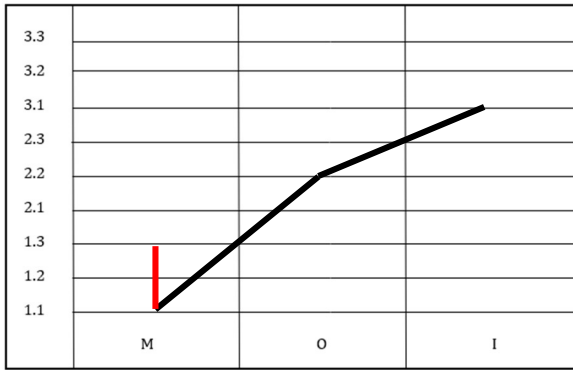
4. Dualsystem

$$(3.1, 2.2, 1.1) \times (1.1, 2.2, 1.3)$$

$$\emptyset \quad 2.2 \quad 1.1 \quad | \quad 1.3$$

$$(3.1, 2.2, 1.1) \bmod (2.2, 1.1) = (1.3)$$

$$(1.1, 1.3)\text{-them. } (2.2)$$



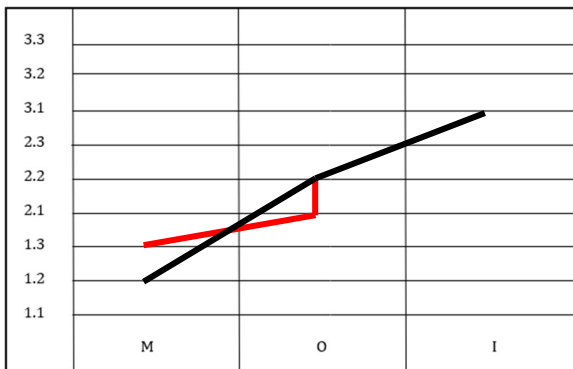
5. Dualsystem

$$(3.1, 2.2, 1.2) \times (2.1, 2.2, 1.3)$$

$$\emptyset \quad 2.2 \quad \emptyset \quad | \quad 2.1, 1.3$$

$$(3.1, 2.2, 1.2) \bmod (2.2) = (2.1, 1.3)$$

$$(2.1, 2.2)\text{-them. } (1.3)$$



6. Dualsystem

$$(3.1, 2.2, 1.3) \times (3.1, 2.2, 1.3)$$

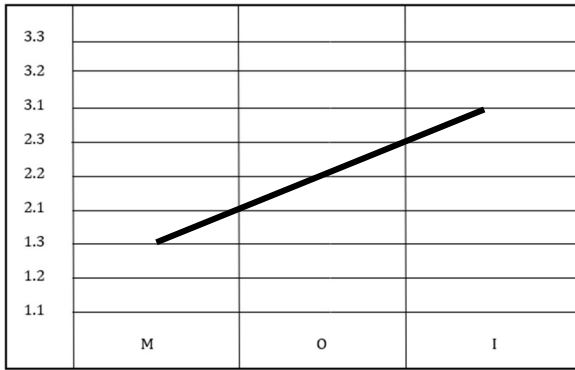
$$3.1 \quad 2.2 \quad 1.3 \quad | \quad \emptyset$$

$$(3.1, 2.2, 1.3) \bmod (3.1, 2.2, 1.3) = \emptyset$$

$$(2.2, 3.1)\text{-them. } (1.3)$$

$$(1.3, 3.1)\text{-them. } (2.2)$$

$$(1.3, 2.2)\text{-them. } (3.1)$$



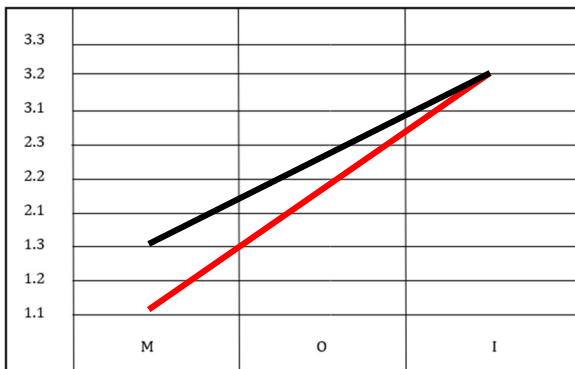
7. Dualsystem

$$(3.1, 2.3, 1.1) \times (1.1, 3.2, 1.3)$$

$$\emptyset \quad \emptyset \quad 1.1 \quad | \quad 3.2, 1.3$$

$$(3.1, 2.3, 1.1) \bmod (1.1) = (3.2, 1.3)$$

$$(1.1, 1.3)\text{-them. } (3.2)$$



8. Dualsystem

$$(3.1, 2.3, 1.2) \times (2.1, 3.2, 1.3)$$

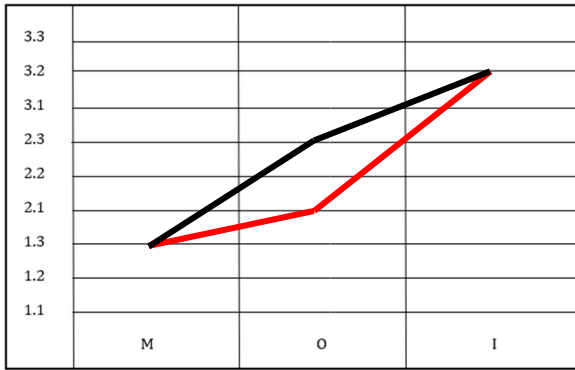
$$\emptyset \quad \emptyset \quad \emptyset \quad | \quad 3.2, 2.1, 1.3$$

$$(3.1, 2.3, 1.2) \bmod \emptyset = (3.2, 2.1, 1.3)$$

$$(3.2, 2.1)\text{-them. } (1.3)$$

$$(3.2, 1.3)\text{-them. } (2.1)$$

$$(1.3, 2.1)\text{-them. } (3.2)$$



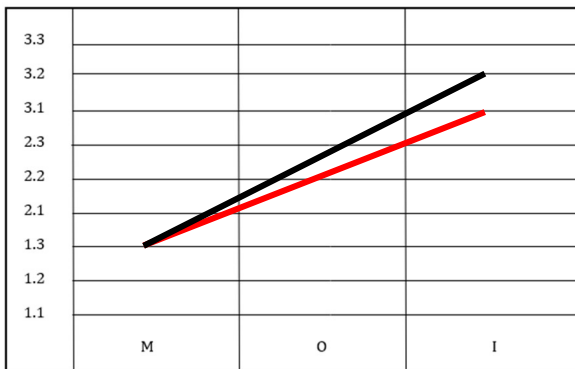
9. Dualsystem

$$(3.1, 2.3, 1.3) \times (3.1, 3.2, 1.3)$$

$$3.1 \quad \emptyset \quad 1.3 \quad | \quad 3.2$$

$$(3.1, 2.3, 1.3) \bmod (3.1, 1.3) = (3.2)$$

$$(3.1, 3.2)\text{-them. } (1.3)$$



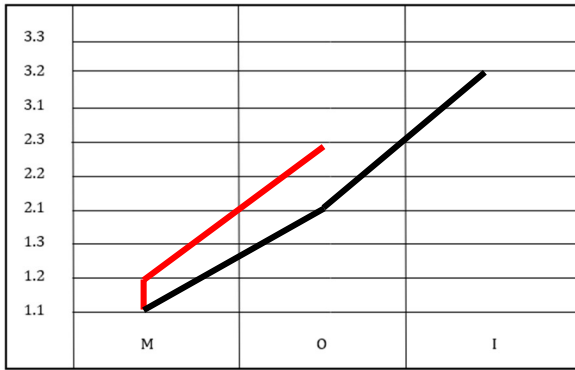
10. Dualsystem

$$(3.2, 2.1, 1.1) \times (1.1, 1.2, 2.3)$$

$$\emptyset \quad \emptyset \quad 1.1 \quad | \quad 1.2, 2.3$$

$$(3.2, 2.1, 1.1) \bmod (1.1) = (1.2, 2.3)$$

$$(1.1, 1.2)\text{-them. } (2.3)$$



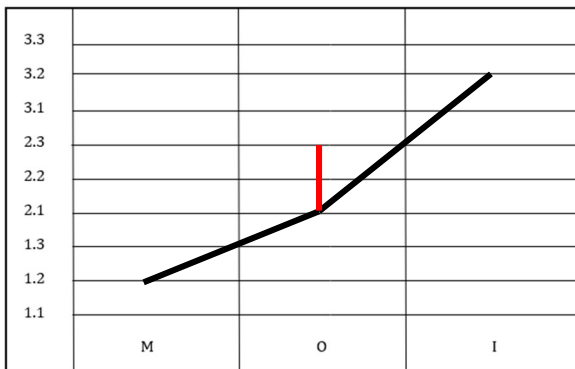
11. Dualsystem

$$(3.2, 2.1, 1.2) \times (2.1, 1.2, 2.3)$$

$$\emptyset \quad 2.1 \quad 1.2 \quad | \quad 2.3$$

$$(3.2, 2.1, 1.2) \bmod (1.2, 2.1) = (2.3)$$

$$(2.1, 2.3)\text{-them. (1.2)}$$



12. Dualsystem

$$(3.2, 2.1, 1.3) \times (3.1, 1.2, 2.3)$$

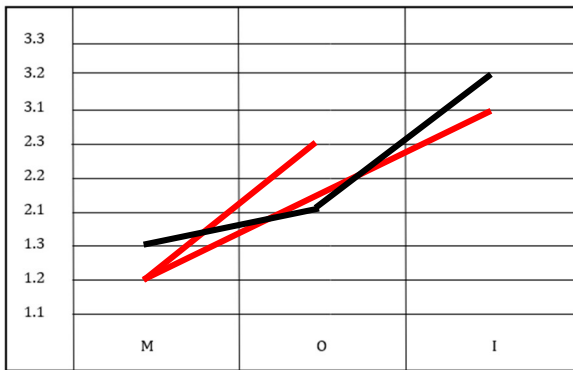
$$\emptyset \quad \emptyset \quad \emptyset \quad | \quad 3.1, 1.2, 2.3$$

$$(3.2, 2.1, 1.3) \bmod \emptyset = (3.1, 1.2, 2.3)$$

$$(3.1, 2.3)\text{-them. (1.2)}$$

$$(3.1, 1.2)\text{-them. (2.3)}$$

$$(1.2, 2.3)\text{-them. (3.1)}$$



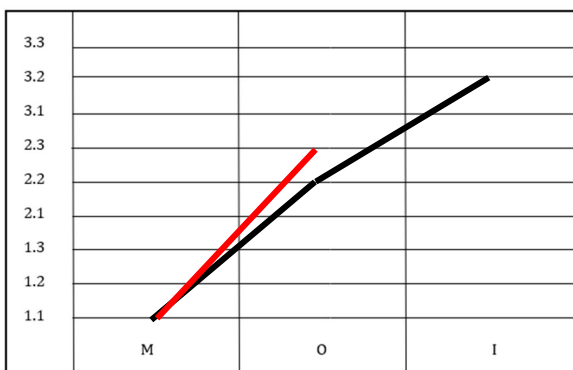
13. Dualsystem

$$(3.2, 2.2, 1.1) \times (1.1, 2.2, 2.3)$$

$$\emptyset \quad 2.2 \quad 1.1 \quad | \quad 2.3$$

$$(3.2, 2.2, 1.1) \bmod (2.2, 1.1) = (2.3)$$

$$(2.2, 2.3)\text{-them. } (1.1)$$



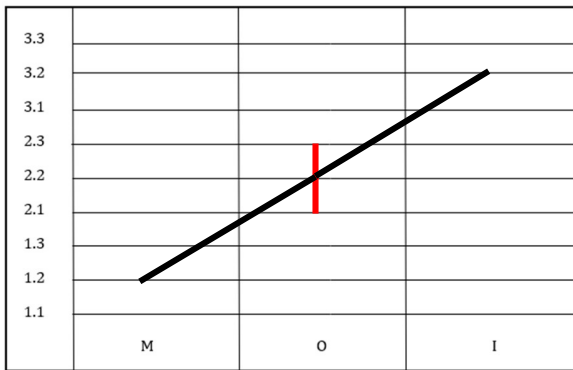
14. Dualsystem

$$(3.2, 2.2, 1.2) \times (2.1, 2.2, 2.3)$$

$$\emptyset \quad 2.2 \quad \emptyset \quad | \quad 2.1, 2.3$$

$$(3.2, 2.2, 1.2) \bmod (2.2) = (2.1, 2.3)$$

$$(2.1, 2.2)\text{-them. } (2.3)$$



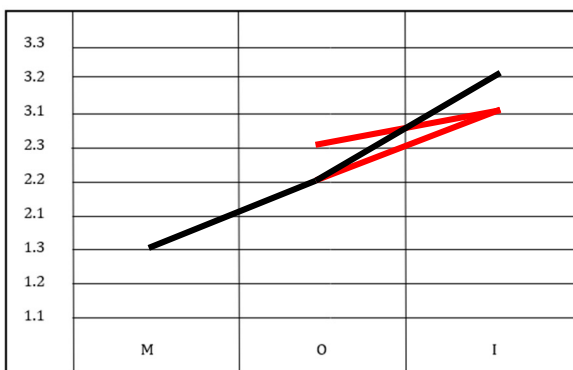
15. Dualsystem

$$(3.2, 2.2, 1.3) \times (3.1, 2.2, 2.3)$$

$$\emptyset \quad 2.2 \quad \emptyset \quad | \quad 3.1, 2.3$$

$$(3.2, 2.2, 1.3) \bmod (2.2) = (3.1, 2.3)$$

$$(2.2, 2.3)\text{-them. (3.1)}$$



16. Dualsystem

$$(3.2, 2.3, 1.1) \times (1.1, 3.2, 2.3)$$

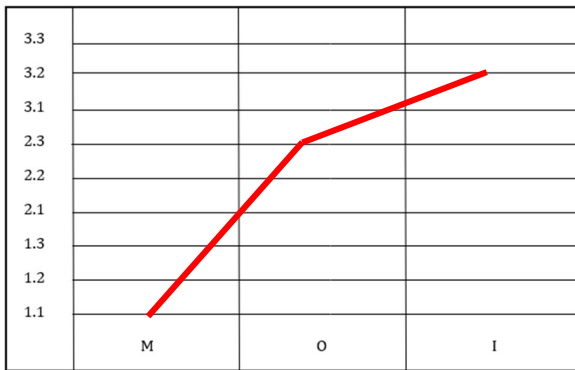
$$3.2 \quad 2.3 \quad 1.1 \quad | \quad \emptyset$$

$$(3.2, 2.3, 1.1) \bmod (3.2, 2.3, 1.1) = \emptyset$$

$$(2.3, 3.2)\text{-them. (1.1)}$$

$$(1.1, 3.2)\text{-them. (2.3)}$$

$$(1.1, 2.3)\text{-them. (3.2)}$$



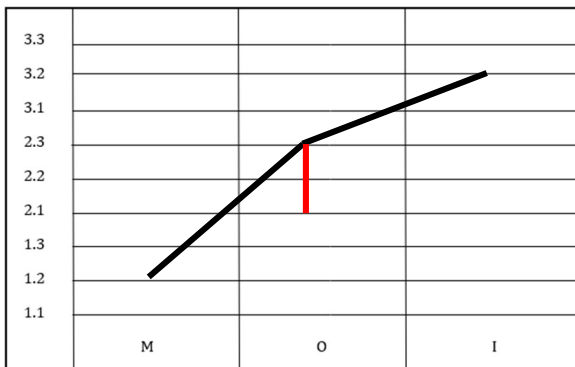
17. Dualsystem

$$(3.2, 2.3, 1.2) \times (2.1, 3.2, 2.3)$$

$$3.2 \quad 2.3 \quad \emptyset \quad | \quad 2.1$$

$$(3.2, 2.3, 1.2) \bmod (3.2, 2.3) = (2.1)$$

$$(2.1, 2.3)\text{-them. } (3.2)$$



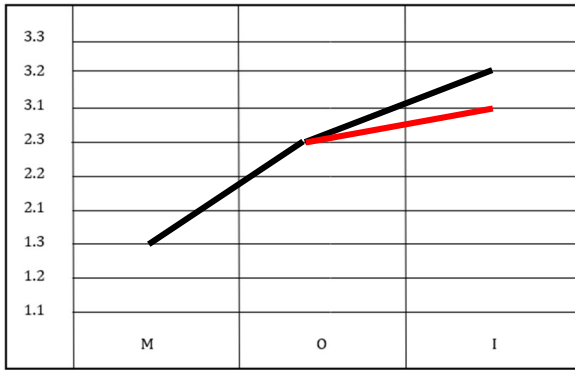
18. Dualsystem

$$(3.2, 2.3, 1.3) \times (3.1, 3.2, 2.3)$$

$$3.2 \quad 2.3 \quad \emptyset \quad | \quad 3.1$$

$$(3.2, 2.3, 1.3) \bmod (3.2, 2.3) = (3.1)$$

$$(3.1, 3.2)\text{-them. } (2.3)$$



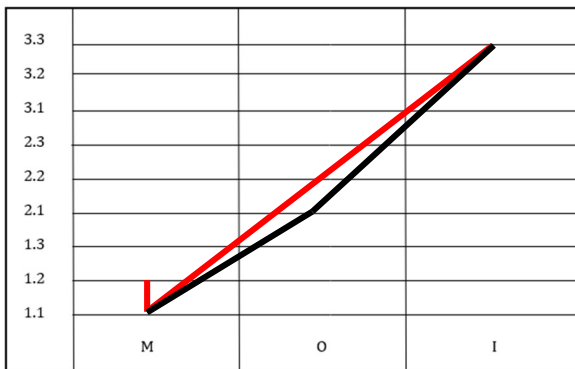
19. Dualsystem

$$(3.3, 2.1, 1.1) \times (1.1, 1.2, 3.3)$$

$$3.3 \quad \emptyset \quad 1.1 \quad | \quad 1.2$$

$$(3.3, 2.1, 1.1) \bmod (3.3, 1.1) = (1.2)$$

$$(1.1, 1.2)\text{-them. } (3.3)$$



20. Dualsystem

$$(3.3, 2.1, 1.2) \times (2.1, 1.2, 3.3)$$

$$3.3 \quad 2.1 \quad \emptyset \quad | \quad 1.2$$

$$(3.3, 2.1, 1.2) \bmod (3.3, 2.1) = (1.2)$$

$$(2.1, 3.3)\text{-them. } (1.2)$$

$$(1.2, 3.3)\text{-them. } (2.1)$$

$$(1.2, 2.1)\text{-them. } (3.3)$$



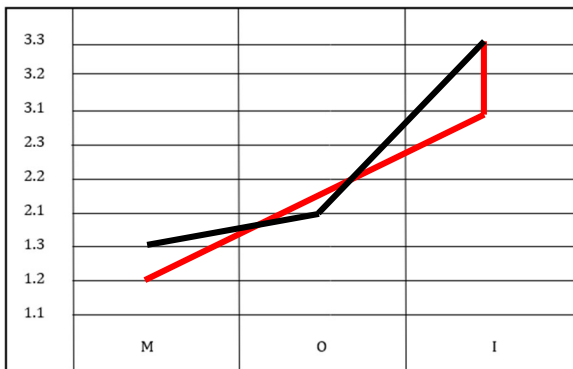
21. Dualsystem

$$(3.3, 2.1, 1.3) \times (3.1, 1.2, 3.3)$$

$$3.3 \quad \emptyset \quad \emptyset \quad | \quad 3.1, 1.2$$

$$(3.3, 2.1, 1.3) \bmod (3.3) = (3.1, 1.2)$$

$$(3.1, 3.3)\text{-them. (1.2)}$$



22. Dualsystem

$$(3.3, 2.2, 1.1) \times (1.1, 2.2, 3.3)$$

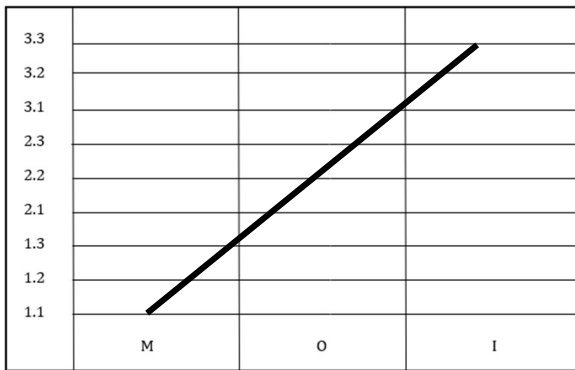
$$3.3 \quad 2.2 \quad 1.1 \quad | \quad \emptyset$$

$$(3.3, 2.2, 1.1) \bmod (3.3, 2.2, 1.1) = \emptyset$$

$$(2.2, 3.3)\text{-them. (1.1)}$$

$$(1.1, 3.3)\text{-them. (2.2)}$$

$$(1.1, 2.2)\text{-them. (3.3)}$$



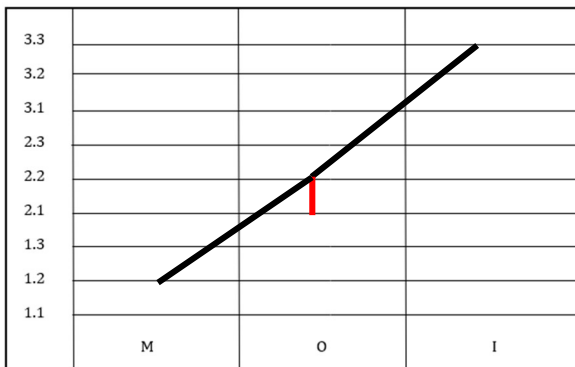
23. Dualsystem

$$(3.3, 2.2, 1.2) \times (2.1, 2.2, 3.3)$$

$$3.3 \quad 2.2 \quad \emptyset \quad | \quad 2.1$$

$$(3.3, 2.2, 1.2) \bmod (3.3, 2.2) = (2.1)$$

$$(2.1, 2.2)\text{-them. } (3.3)$$



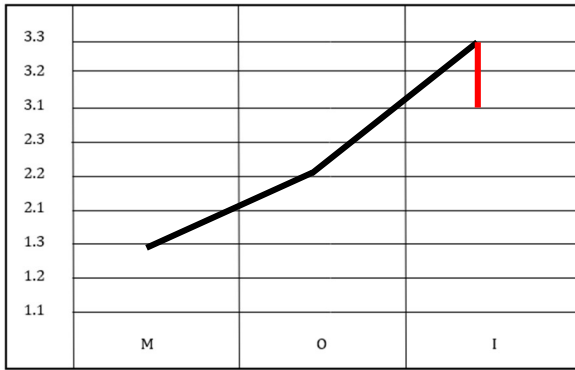
24. Dualsystem

$$(3.3, 2.2, 1.3) \times (3.1, 2.2, 3.3)$$

$$3.3 \quad 2.2 \quad \emptyset \quad | \quad 3.1$$

$$(3.3, 2.2, 1.3) \bmod (3.3, 2.2) = (3.1)$$

$$(3.1, 3.3)\text{-them. } (2.2)$$



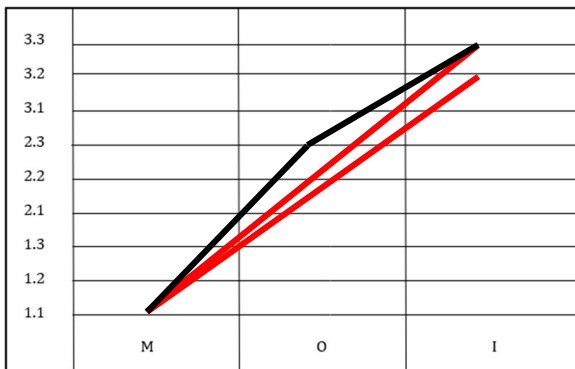
25. Dualsystem

$$(3.3, 2.3, 1.1) \times (1.1, 3.2, 3.3)$$

$$3.3 \quad \emptyset \quad 1.1 \quad | \quad 3.2$$

$$(3.3, 2.3, 1.1) \bmod (3.3, 1.1) = (3.2)$$

$$(3.2, 3.3)\text{-them. (1.1)}$$



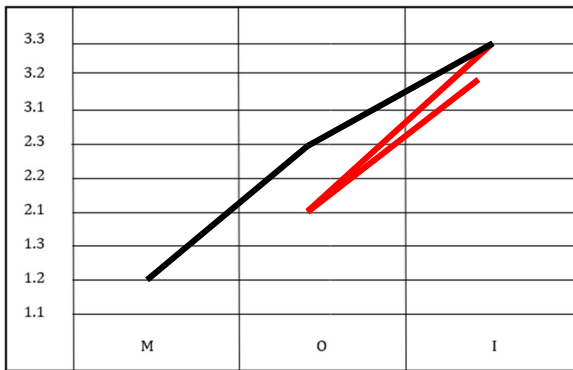
26. Dualsystem

$$(3.3, 2.3, 1.2) \times (2.1, 3.2, 3.3)$$

$$3.3 \quad \emptyset \quad \emptyset \quad | \quad 2.1, 3.2$$

$$(3.3, 2.3, 1.2) \bmod (3.3) = (2.1, 3.2)$$

$$(3.2, 3.3)\text{-them. (1.1)}$$



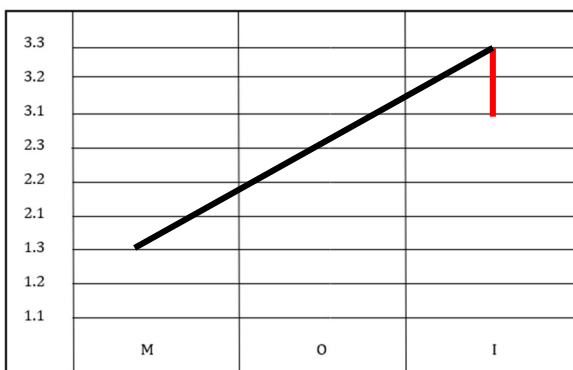
27. Dualsystem

$$(3.3, 2.3, 1.3) \times (3.1, 3.2, 3.3)$$

$$3.3 \quad \emptyset \quad \emptyset \quad | \quad 3.1, 3.2$$

$$(3.3, 2.3, 1.3) \bmod (3.3) = (3.1, 3.2)$$

$$(3.1, 3.2)\text{-them. } (3.3)$$



Literatur

Toth, Alfred, Die modulo-Funktionen der komplementären semiotischen Dualsysteme. In: Electronic Journal for Mathematical Semiotics, 2021a

Toth, Alfred, Graphen der modulo-Funktionen eigenrealer semiotischer Dualsysteme. In: Electronic Journal for Mathematical Semiotics, 2021b

22.3.2021