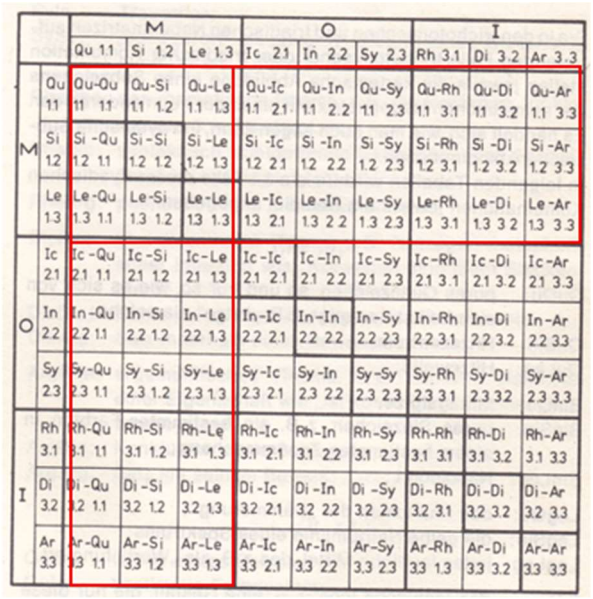
Prof. Dr. Alfred Toth

# Selbstähnliche trajektische Teilräume

1. Bereits in Toth (2025a) hatten wir auf die Selbstähnlichkeit der Teilräume des Raumes $M^{9\times9}$ der von Bense (1975, S. 105) eingeführten großen semiotischen Matrix und der auf ihr basierenden Verschränkungsmatrix $V(M^{9\times9})$ (vgl. Toth 2025b) hingewiesen. Im folgenden gehen wir von den isotopen Teilräumen (vgl. Toth 2025c) von $V(M^{9\times9})$ aus und bestimmen die Teilmengenschaft der sie konstitutierenden trajektischen Dyaden-Paare.

2. Selbst ähnliche Teilräume in M, O und I

2.1. Selbstähnliche Teilräume in M



| | | M | | | O | | | I | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Qu 1.1 | Si 1.2 | Le 1.3 | Ic 2.1 | In 2.2 | Sy 2.3 | Rh 3.1 | Di 3.2 | Ar 3.3 |
| M | Qu 1.1 | Qu-Qu 1.1 1.1 | Qu-Si 1.1 1.2 | Qu-Le 1.1 1.3 | Qu-Ic 1.1 2.1 | Qu-In 1.1 2.2 | Qu-Sy 1.1 2.3 | Qu-Rh 1.1 3.1 | Qu-Di 1.1 3.2 | Qu-Ar 1.1 3.3 |
| | Si 1.2 | Si-Qu 1.2 1.1 | Si-Si 1.2 1.2 | Si-Le 1.2 1.3 | Si-Ic 1.2 2.1 | Si-In 1.2 2.2 | Si-Sy 1.2 2.3 | Si-Rh 1.2 3.1 | Si-Di 1.2 3.2 | Si-Ar 1.2 3.3 |
| | Le 1.3 | Le-Qu 1.3 1.1 | Le-Si 1.3 1.2 | Le-Le 1.3 1.3 | Le-Ic 1.3 2.1 | Le-In 1.3 2.2 | Le-Sy 1.3 2.3 | Le-Rh 1.3 3.1 | Le-Di 1.3 3.2 | Le-Ar 1.3 3.3 |
| O | Ic 2.1 | Ic-Qu 2.1 1.1 | Ic-Si 2.1 1.2 | Ic-Le 2.1 1.3 | Ic-Ic 2.1 2.1 | Ic-In 2.1 2.2 | Ic-Sy 2.1 2.3 | Ic-Rh 2.1 3.1 | Ic-Di 2.1 3.2 | Ic-Ar 2.1 3.3 |
| | In 2.2 | In-Qu 2.2 1.1 | In-Si 2.2 1.2 | In-Le 2.2 1.3 | In-Ic 2.2 2.1 | In-In 2.2 2.2 | In-Sy 2.2 2.3 | In-Rh 2.2 3.1 | In-Di 2.2 3.2 | In-Ar 2.2 3.3 |
| | Sy 2.3 | Sy-Qu 2.3 1.1 | Sy-Si 2.3 1.2 | Sy-Le 2.3 1.3 | Sy-Ic 2.3 2.1 | Sy-In 2.3 2.2 | Sy-Sy 2.3 2.3 | Sy-Rh 2.3 3.1 | Sy-Di 2.3 3.2 | Sy-Ar 2.3 3.3 |
| I | Rh 3.1 | Rh-Qu 3.1 1.1 | Rh-Si 3.1 1.2 | Rh-Le 3.1 1.3 | Rh-Ic 3.1 2.1 | Rh-In 3.1 2.2 | Rh-Sy 3.1 2.3 | Rh-Rh 3.1 3.1 | Rh-Di 3.1 3.2 | Rh-Ar 3.1 3.3 |
| | Di 3.2 | Di-Qu 3.2 1.1 | Di-Si 3.2 1.2 | Di-Le 3.2 1.3 | Di-Ic 3.2 2.1 | Di-In 3.2 2.2 | Di-Sy 3.2 2.3 | Di-Rh 3.2 3.1 | Di-Di 3.2 3.2 | Di-Ar 3.2 3.3 |
| | Ar 3.3 | Ar-Qu 3.3 1.1 | Ar-Si 3.3 1.2 | Ar-Le 3.3 1.3 | Ar-Ic 3.3 2.1 | Ar-In 3.3 2.2 | Ar-Sy 3.3 2.3 | Ar-Rh 3.3 1.3 | Ar-Di 3.3 3.2 | Ar-Ar 3.3 3.3 |

(1.1 | 1.1), (1.1 | 1.2), (1.1 | 1.3) (1.2 | 1.1), (1.2 | 1.2), (1.2 | 1.3) (1.3 | 1.1), (1.3 | 1.2), (1.3 | 1.3)

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(1.1 | 2.1), (1.1 | 2.2), (1.1 | 2.3) (1.2 | 2.1), (1.2 | 2.2), (1.2 | 2.3) (1.3 | 2.1), (1.3 | 2.2), (1.3 | 2.3)

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(1.1 | 3.1), (1.1 | 3.2), (1.1 | 3.3) (1.2 | 3.1), (1.2 | 3.2), (1.2 | 3.3) (1.3 | 3.1), (1.3 | 3.2), (1.3 | 3.3)

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(2.1 | 1.1), (2.1 | 1.2), (2.1 | 1.3)

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(2.1 | 2.1), (2.1 | 2.2), (2.1 | 2.3)

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(2.1 | 3.1), (2.1 | 3.2), (2.1 | 3.3)

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(3.1 | 1.1), (3.1 | 1.2), (3.1 | 1.3)

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(3.1 | 2.1), (3.1 | 2.2), (3.1 | 2.3)

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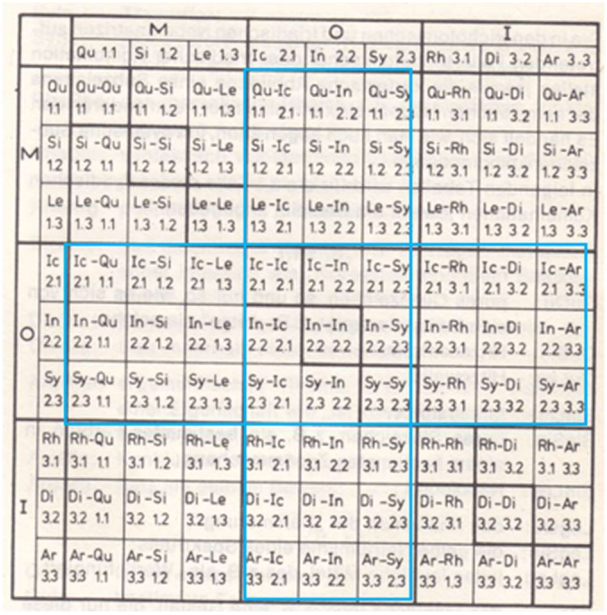
(3.1 | 3.1), (3.1 | 3.2), (3.1 | 3.3)

## 2.2. Selbstähnliche Teilräume in O



| | | M | | | O | | | I | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Qu 1.1 | Si 1.2 | Le 1.3 | Ic 2.1 | In 2.2 | Sy 2.3 | Rh 3.1 | Di 3.2 | Ar 3.3 |
| M | Qu 1.1 | Qu-Qu 1.1 1.1 | Qu-Si 1.1 1.2 | Qu-Le 1.1 1.3 | Qu-Ic 1.1 2.1 | Qu-In 1.1 2.2 | Qu-Sy 1.1 2.3 | Qu-Rh 1.1 3.1 | Qu-Di 1.1 3.2 | Qu-Ar 1.1 3.3 |
| | Si 1.2 | Si-Qu 1.2 1.1 | Si-Si 1.2 1.2 | Si-Le 1.2 1.3 | Si-Ic 1.2 2.1 | Si-In 1.2 2.2 | Si-Sy 1.2 2.3 | Si-Rh 1.2 3.1 | Si-Di 1.2 3.2 | Si-Ar 1.2 3.3 |
| | Le 1.3 | Le-Qu 1.3 1.1 | Le-Si 1.3 1.2 | Le-Le 1.3 1.3 | Le-Ic 1.3 2.1 | Le-In 1.3 2.2 | Le-Sy 1.3 2.3 | Le-Rh 1.3 3.1 | Le-Di 1.3 3.2 | Le-Ar 1.3 3.3 |
| O | Ic 2.1 | Ic-Qu 2.1 1.1 | Ic-Si 2.1 1.2 | Ic-Le 2.1 1.3 | Ic-Ic 2.1 2.1 | Ic-In 2.1 2.2 | Ic-Sy 2.1 2.3 | Ic-Rh 2.1 3.1 | Ic-Di 2.1 3.2 | Ic-Ar 2.1 3.3 |
| | In 2.2 | In-Qu 2.2 1.1 | In-Si 2.2 1.2 | In-Le 2.2 1.3 | In-Ic 2.2 2.1 | In-In 2.2 2.2 | In-Sy 2.2 2.3 | In-Rh 2.2 3.1 | In-Di 2.2 3.2 | In-Ar 2.2 3.3 |
| | Sy 2.3 | Sy-Qu 2.3 1.1 | Sy-Si 2.3 1.2 | Sy-Le 2.3 1.3 | Sy-Ic 2.3 2.1 | Sy-In 2.3 2.2 | Sy-Sy 2.3 2.3 | Sy-Rh 2.3 3.1 | Sy-Di 2.3 3.2 | Sy-Ar 2.3 3.3 |
| I | Rh 3.1 | Rh-Qu 3.1 1.1 | Rh-Si 3.1 1.2 | Rh-Le 3.1 1.3 | Rh-Ic 3.1 2.1 | Rh-In 3.1 2.2 | Rh-Sy 3.1 2.3 | Rh-Rh 3.1 3.1 | Rh-Di 3.1 3.2 | Rh-Ar 3.1 3.3 |
| | Di 3.2 | Di-Qu 3.2 1.1 | Di-Si 3.2 1.2 | Di-Le 3.2 1.3 | Di-Ic 3.2 2.1 | Di-In 3.2 2.2 | Di-Sy 3.2 2.3 | Di-Rh 3.2 3.1 | Di-Di 3.2 3.2 | Di-Ar 3.2 3.3 |
| | Ar 3.3 | Ar-Qu 3.3 1.1 | Ar-Si 3.3 1.2 | Ar-Le 3.3 1.3 | Ar-Ic 3.3 2.1 | Ar-In 3.3 2.2 | Ar-Sy 3.3 2.3 | Ar-Rh 3.3 1.3 | Ar-Di 3.3 3.2 | Ar-Ar 3.3 3.3 |

(1.2 | 1.1), (1.2 | 1.2), (1.2 | 1.3)

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(1.2 | 2.1), (1.2 | 2.2), (1.2 | 2.3)

⊂ ⊂ ⊂

(1.2 | 3.1), (1.2 | 3.2), (1.2 | 3.3)

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(2.1 | 1.1), (2.1 | 1.2), (2.1 | 1.3) (2.2 | 1.1), (2.2 | 1.2), (2.2 | 1.3) (2.3 | 1.1), (2.3 | 1.2), (2.3 | 1.3)

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(2.1 | 2.1), (2.1 | 2.2), (2.1 | 2.3) (2.2 | 2.1), (2.2 | 2.2), (2.2 | 2.3) (2.3 | 2.1), (2.3 | 2.2), (2.3 | 2.3)

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(2.1 | 3.1), (2.1 | 3.2), (2.1 | 3.3) (2.2 | 3.1), (2.2 | 3.2), (2.2 | 3.3) (2.3 | 3.1), (2.3 | 3.2), (2.3 | 3.3)

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(3.2 | 1.1), (3.2 | 1.2), (3.2 | 1.3)

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(3.2 | 2.1), (3.2 | 2.2), (3.2 | 2.3)

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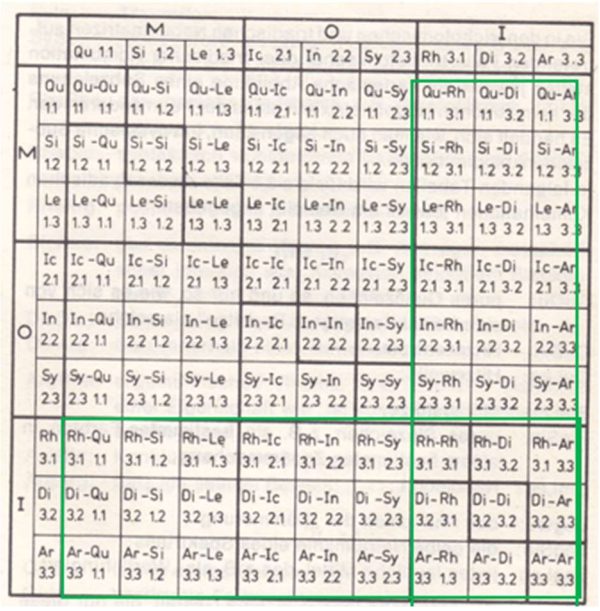
(3.2 | 3.1), (3.2 | 3.2), (3.2 | 3.3)

## 2.3. Selbstähnliche Teilräume in I



| | | M | | | O | | | I | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Qu 1.1 | Si 1.2 | Le 1.3 | Ic 2.1 | In 2.2 | Sy 2.3 | Rh 3.1 | Di 3.2 | Ar 3.3 |
| M | Qu 1.1 | Qu-Qu 1.1 1.1 | Qu-Si 1.1 1.2 | Qu-Le 1.1 1.3 | Qu-Ic 1.1 2.1 | Qu-In 1.1 2.2 | Qu-Sy 1.1 2.3 | Qu-Rh 1.1 3.1 | Qu-Di 1.1 3.2 | Qu-Ar 1.1 3.3 |
| | Si 1.2 | Si-Qu 1.2 1.1 | Si-Si 1.2 1.2 | Si-Le 1.2 1.3 | Si-Ic 1.2 2.1 | Si-In 1.2 2.2 | Si-Sy 1.2 2.3 | Si-Rh 1.2 3.1 | Si-Di 1.2 3.2 | Si-Ar 1.2 3.3 |
| | Le 1.3 | Le-Qu 1.3 1.1 | Le-Si 1.3 1.2 | Le-Le 1.3 1.3 | Le-Ic 1.3 2.1 | Le-In 1.3 2.2 | Le-Sy 1.3 2.3 | Le-Rh 1.3 3.1 | Le-Di 1.3 3.2 | Le-Ar 1.3 3.3 |
| O | Ic 2.1 | Ic-Qu 2.1 1.1 | Ic-Si 2.1 1.2 | Ic-Le 2.1 1.3 | Ic-Ic 2.1 2.1 | Ic-In 2.1 2.2 | Ic-Sy 2.1 2.3 | Ic-Rh 2.1 3.1 | Ic-Di 2.1 3.2 | Ic-Ar 2.1 3.3 |
| | In 2.2 | In-Qu 2.2 1.1 | In-Si 2.2 1.2 | In-Le 2.2 1.3 | In-Ic 2.2 2.1 | In-In 2.2 2.2 | In-Sy 2.2 2.3 | In-Rh 2.2 3.1 | In-Di 2.2 3.2 | In-Ar 2.2 3.3 |
| | Sy 2.3 | Sy-Qu 2.3 1.1 | Sy-Si 2.3 1.2 | Sy-Le 2.3 1.3 | Sy-Ic 2.3 2.1 | Sy-In 2.3 2.2 | Sy-Sy 2.3 2.3 | Sy-Rh 2.3 3.1 | Sy-Di 2.3 3.2 | Sy-Ar 2.3 3.3 |
| I | Rh 3.1 | Rh-Qu 3.1 1.1 | Rh-Si 3.1 1.2 | Rh-Le 3.1 1.3 | Rh-Ic 3.1 2.1 | Rh-In 3.1 2.2 | Rh-Sy 3.1 2.3 | Rh-Rh 3.1 3.1 | Rh-Di 3.1 3.2 | Rh-Ar 3.1 3.3 |
| | Di 3.2 | Di-Qu 3.2 1.1 | Di-Si 3.2 1.2 | Di-Le 3.2 1.3 | Di-Ic 3.2 2.1 | Di-In 3.2 2.2 | Di-Sy 3.2 2.3 | Di-Rh 3.2 3.1 | Di-Di 3.2 3.2 | Di-Ar 3.2 3.3 |
| | Ar 3.3 | Ar-Qu 3.3 1.1 | Ar-Si 3.3 1.2 | Ar-Le 3.3 1.3 | Ar-Ic 3.3 2.1 | Ar-In 3.3 2.2 | Ar-Sy 3.3 2.3 | Ar-Rh 3.3 1.3 | Ar-Di 3.3 3.2 | Ar-Ar 3.3 3.3 |

(1.3 | 1.1), (1.3 | 1.2), (1.3 | 1.3)

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(1.3 | 2.1), (1.3 | 2.2), (1.3 | 2.3)

⊂ ⊂ ⊂

(1.3 | 3.1), (1.3 | 3.2), (1.3 | 3.3)

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(2.3 | 1.1), (2.3 | 1.2), (2.3 | 1.3)

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(2.3 | 2.1), (2.3 | 2.2), (2.3 | 2.3)

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(2.3 | 3.1), (2.3 | 3.2), (2.3 | 3.3)

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(3.1 | 1.1), (3.1 | 2.2), (3.1 | 1.3) (3.2 | 1.1), (3.2 | 1.2), (3.2 | 1.3) (3.2 | 1.1), (3.2 | 1.2), (3.2 | 1.3)

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(3.1 | 2.1), (3.1 | 2.2), (3.1 | 2.3) (3.2 | 2.1), (3.2 | 2.2), (3.2 | 2.3) (3.2 | 2.1), (3.2 | 2.2), (3.2 | 2.3)

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(3.1 | 3.1), (3.1 | 3.2), (3.1 | 3.3) (3.2 | 3.1), (3.2 | 3.2), (3.2 | 3.3) (3.2 | 3.1), (3.2 | 3.2), (3.2 | 3.3)

## Literatur


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