Conjecture 39. Let $\mathcal{A}$ is a filter and F is a binary relation on $A \times B$ for some sets A, B. $\mathcal{A}$ is connected regarding $\uparrow^{\mathsf{FCD}(A;B)} F$ iff $\mathcal{A}$ is connected regarding $\uparrow^{\mathsf{RLD}(A;B)} F$.

Proposition 40. The following statements are equivalent for every endofuncoid μ and a set U:

1. U is connected regarding μ.

2. For every $a, b \in U$ there exists a totally ordered set $P \subseteq U$ such that $\min P = a$, $\max P = b$, and for every partion $\{X, Y\}$ of P into two sets X, Y such that $\forall x \in X, y \in Y: x < y$, we have $X\ [\mu]^*\ Y$.

Algebraic properties of S and S^*

Conjecture 41. $S(S(f)) = S(f)$ for

1. any endo-reloid f;

2. any endo-funcoid f.

Conjecture 42. For any endo-reloid f

1. $S(f) \circ S(f) = S(f)$;

2. $S^*(f) \circ S^*(f) = S^*(f)$;

3. $S(f) \circ S^*(f) = S^*(f) \circ S(f) = S^*(f)$.

Conjecture 43. $S(f) \circ S(f) = S(f)$ for any endo-funcoid f.

Oblique products

Conjecture 44. $\mathcal{A} \times^{\mathsf{RLD}}_F \mathcal{B} \sqsubset \mathcal{A} \ltimes \mathcal{B}$ for some f.o. $\mathcal{A}$, $\mathcal{B}$.

A stronger conjecture:

Conjecture 45. $\mathcal{A} \times^{\mathsf{RLD}}_F \mathcal{B} \sqsubset \mathcal{A} \ltimes \mathcal{B} \sqsubset \mathcal{A} \times^{\mathsf{RLD}} \mathcal{B}$ for some f.o. $\mathcal{A}$, $\mathcal{B}$. Particularly, is this formula true for $\mathcal{A} = \mathcal{B} = \Delta \cap \uparrow^{\mathbb{R}} (0; +\infty)$?

Products

Conjecture 46. Cross-composition product (for small indexed families of reloids) is a quasi-cartesian function (with injective aggregation) from the quasi-cartesian situation $\mathfrak{S}_0$ of reloids to the quasi-cartesian situation $\mathfrak{S}_1$ of pointfree funcoids over posets with least elements.

Remark 47. The above conjecture is unsolved even for product of two multipliers.

Conjecture 48. $a \left[\prod^{(C)} f \right] b \Leftrightarrow \forall i \in \operatorname{dom} f: \Pr^{\mathsf{FCD}}_i a\ [f_i]\ \Pr^{\mathsf{FCD}}_i b$ for every indexed family f of funcoids and $a \in \mathsf{FCD}(\lambda i \in \operatorname{dom} f: \operatorname{Src} f_i)$, $b \in \mathsf{FCD}(\lambda i \in \operatorname{dom} f: \operatorname{Dst} f_i)$.