12.6. Irreflexive reloids

DEFINITION 1226. Endoreloid f is irreflexive iff $f \asymp 1^{\operatorname{Ob} f}$.

PROPOSITION 1227. Endoreloid f is irreflexive iff $f \sqsubseteq \top \setminus 1$.

PROOF. By theorem 601. □

OBVIOUS 1228. $f \setminus 1$ is an irreflexive endoreloid if f is an endoreloid.

PROPOSITION 1229. $S(f) = S(f \sqcup 1)$ if f is an endoreloid, endofuncoid, or endorelation.

PROOF. First prove $(f \sqcup 1)^n = 1 \sqcup f \sqcup \ldots \sqcup f^n$ for $n \in \mathbb{N}$. For $n = 0$ it's obvious. By induction we have

$$\begin{aligned}(f \sqcup 1)^{n+1} &= \\ (f \sqcup 1)^n \circ (f \sqcup 1) &= \\ (1 \sqcup f \sqcup \cdots \sqcup f^n) \circ (f \sqcup 1) &= \\ (f \sqcup f^2 \sqcup \cdots \sqcup f^{n+1}) \sqcup (1 \sqcup f \sqcup \cdots \sqcup f^n) &= \\ 1 \sqcup f \sqcup \cdots \sqcup f^{n+1}&.\end{aligned}$$

So $S(f \sqcup 1) = 1 \sqcup (1 \sqcup f) \sqcup (1 \sqcup f \sqcup f^2) \sqcup \ldots = 1 \sqcup f \sqcup f^2 \sqcup \ldots = S(f)$. □

COROLLARY 1230. $S(f) = S(f \sqcup 1) = S(f \setminus 1)$ if f is an endoreloid (or just an endorelation).

PROOF. $S(f \setminus 1) = S((f \setminus 1) \sqcup 1) \sqsupseteq S(f)$. But $S(f \setminus 1) \sqsubseteq S(f)$ is obvious. So $S(f \setminus 1) = S(f)$. □

12.7. Micronization

“Micronization” was a thoroughly wrong idea with several errors in the proofs. This section is removed from the book.