mRJ algebras

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A pair of functors $L, W : \{\text{(finite) sets}\} \to$ Sets, Ab.

denoted $S \mapsto L_S, W_S$.

Natural operations

$m : L_S \times L_S \longrightarrow L_S$ associative

$R : S \times L_S \longrightarrow (L_S \to L_S)$ denoted

$R_u^\lambda : L_S \to L_S$, for $u \in S$ & $\lambda \in L_S$

only mostly natural. clarify

s.t.

1. $R_u^\alpha /\!/ R_v^{\beta /\!/ R_u^\alpha} = R_v^\beta /\!/ R_u^{\alpha /\!/ R_v^\beta}$

2. $\sigma_w^{uv} /\!/ R_w^{\gamma /\!/ \sigma_w^{uv}} = R_u^\gamma /\!/ R_v^{\gamma /\!/ R_u^\gamma} /\!/ \sigma_w^{uv}$

3. $R_u^{m(\alpha,\beta)} = R_u^\alpha /\!/ R_u^{\beta /\!/ R_u^\alpha}$

and $J : S \times L_S \longrightarrow W_S$

s.t. J_{uv} eqn: $J_u(\alpha) + J_v(\beta /\!/ RC_u^\alpha) /\!/ C_u^{-\alpha} = J_v(\beta) + J_u(\alpha /\!/ RC_v^\beta) /\!/ C_v^{-\beta}$

t eqn: $J_w(\gamma /\!/ tm_w^{uv}) = \left(J_u(\gamma) + J_v(\gamma /\!/ RC_u^\gamma) /\!/ C_u^{-\gamma}\right) /\!/ tm_w^{uv}$

The h equation: $J_u(\mathrm{bch}(\alpha,\beta)) = J_u(\alpha) + J_u(\beta /\!/ RC_u^\alpha) /\!/ C_u^{-\alpha}$

[still need to remove refs to C_u^γ]

Not very clean, as it stands.