目錄

Definitions

今也，南蠻鴃舌之人，非先王之道。

──《孟子．滕文公上》

Consider the old siumatgwoon axioms, and a new relation "synonym", represented by , read as "is synonymous with". It satisfies the following axioms.

S1. (reflexivity) for all $x \in S$, $x \sim x$. S2. (symmetry) For all, $a, b \in S$, if $a \sim b$ then $b \sim a$. S3. (transitivity) for all $a, b, c \in S$, if $a \sim b$, and $b \sim c$, then $a \sim c$.

S4. (Compositional congruence) If $a \sim a'$, then (if they ax or xa exists):

- $ax \sim a'x$, - $xa \sim xa'$

S5. Composition cancellation

- If $a * b \sim a * c$, then $b \sim c$; - If $b*a \sim c*a$ then $b \sim c$;

S6. Divisier compatibility: If $a \sim b$, then for all $x \in S$, $x|a$ iff $x|b$.

S7: Upwards divisibility : If a b, then for all if $a|x$ then $b|x$.

A Siumatgwoon is Synonym-Closed if in which if $a*b$ exists and a a' and b b' then $a' * b, a*b', a'*b'$ also exist. Most siumatgwoons, including the Sinoglyphs, are not synonym-closed.

Because of S4, Synonym-Closed Siumatgwoons must have $a*b \sim a'*b \sim a*b' \sim a'*b'$.