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Definitions of Petri Net. Part III

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Summary. The paper is dual counterpart of the paper [2].

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The articles [3], [1], [4], and [2] provide the notation and terminology for this paper.

Let N be an E-net. We introduce $\mathrm{transitions}_s(N)$ as a synonym of $\mathrm{Places}_e(N)$. We introduce $\mathrm{places}_s(N)$ as a synonym of $\mathrm{Transitions}_e(N)$. We introduce $\mathrm{carrier}_s(N)$ as a synonym of $\mathrm{shore}_e(N)$. We introduce $\mathrm{enter}_s(N)$ as a synonym of $\mathrm{entrance}_e(N)$. We introduce $\mathrm{exit}_s(N)$ as a synonym of $\mathrm{escape}_e(N)$. We introduce $\mathrm{prox}_s(N)$ as a synonym of $\mathrm{adjac}_e(N)$.

In the sequel N is an E-net.

Next we state the proposition

(41)[1] $((\text{The entrance of } N) \setminus \triangle_{\text{the carrier of } N})^{\smile} \subseteq [:\mathrm{Places}_e(N), \mathrm{Transitions}_e(N):]$ and $((\text{the escape of } N) \setminus \triangle_{\text{the carrier of } N})^{\smile} \subseteq [:\mathrm{Places}_e(N), \mathrm{Transitions}_e(N):]$.

Let N be a G-net structure. The functor $\mathrm{pre}_s(N)$ yields a binary relation and is defined by:

(Def. 28)[2] $\mathrm{pre}_s(N) = ((\text{the escape of } N) \setminus \triangle_{\text{the carrier of } N})^{\smile}$.

The functor $\mathrm{post}_s(N)$ yielding a binary relation is defined by:

(Def. 29) $\mathrm{post}_s(N) = ((\text{the entrance of } N) \setminus \triangle_{\text{the carrier of } N})^{\smile}$.

One can prove the following proposition

(43)[3] $\mathrm{post}_s(N) \subseteq [:\mathrm{transitions}_s(N), \mathrm{places}_s(N):]$ and $\mathrm{pre}_s(N) \subseteq [:\mathrm{transitions}_s(N), \mathrm{places}_s(N):]$.

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[2] Waldemar Korczyński. Definitions of Petri net. Part II. *Journal of Formalized Mathematics*, 4, 1992. http://mizar.org/JFM/Vol4/e_siec.html.

[3] Andrzej Trybulec. Tarski Grothendieck set theory. *Journal of Formalized Mathematics*, Axiomatics, 1989. http://mizar.org/JFM/Axiomatics/tarski.html.

[1] The propositions (1)–(40) have been removed.
[2] The definitions (Def. 1)–(Def. 27) have been removed.
[3] The proposition (42) has been removed.

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[4] Edmund Woronowicz. Relations and their basic properties. *Journal of Formalized Mathematics*, 1, 1989. http://mizar.org/JFM/Vol1/relat_1.html.

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