

## com.1 Canonical Models

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The *canonical model* for a modal system  $\Sigma$  is a specific model  $\mathfrak{M}^\Sigma$  in which the worlds are all complete  $\Sigma$ -consistent sets. Its accessibility relation  $R^\Sigma$  and valuation  $V^\Sigma$  are defined so as to guarantee that the **formulas** true at a world  $\Delta$  are exactly the **formulas** making up  $\Delta$ .

**Definition com.1.** Let  $\Sigma$  be a normal modal logic. The *canonical model* for  $\Sigma$  is  $\mathfrak{M}^\Sigma = \langle W^\Sigma, R^\Sigma, V^\Sigma \rangle$ , where:

1.  $\mathfrak{M}^\Sigma = \{\Delta : \Delta \text{ is complete } \Sigma\text{-consistent}\}$ .
2.  $R^\Sigma \Delta \Delta'$  holds if and only if  $\Box^{-1}\Delta \subseteq \Delta'$ .
3.  $V^\Sigma(p) = \{\Delta : p \in \Delta\}$ .

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## Bibliography