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## **Non-Markovianity and correlations**

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We consider how to construct classes of master equations beyond the Lindblad structure, still ensuring complete positivity of the dynamics. The result is obtained relying on a piecewise description of the time evolution and using completely positive trace preserving maps whose action is distributed in time according to a general renewal process. We further study the relevance of correlations in the assessment of non-Markovianity.