New Grammar means Entangled Quantum History

Quantum state of a system with n degrees of freedom

$$\Psi \colon \mathbb{R}^{n} \to \mathbb{C}$$

$$\Psi(x^{1}, \dots, x^{n}) = \prod_{i=1}^{n} \psi_{i} (x^{i})$$

$$i \to t$$

Quantum history of a system with one degree of freedom

$$\Phi: \{\chi: \mathbb{R} \longrightarrow \mathbb{R}\} \longrightarrow \mathbb{C}$$

$$\Phi[\chi] \neq \prod_{t=-\infty}^{\infty} \phi(\chi(t), t)$$

$$= \exp[\alpha \int_{-\infty}^{\infty} dt \, \phi(\chi(t), t)]$$