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# Corrigendum: The rise and fall of redundancy in decoherence and quantum Darwinism

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This is a corrigendum for our paper (2012 *New J. Phys.* **14** 083010). A proof in the appendix of the paper contained some typos introduced during the preparation of the manuscript. They do not affect the result of the proof or the overall conclusions of the paper.

The base of the exponents in equations (A.28) and (A.33) and the base of the first exponent in equation (A.34) should be the number 4 and not 2. Those equations should read

$$\| \tilde{\rho}_{\mathcal{F}} - \tilde{\rho}^{\infty}_{\mathcal{F}} \|^2_{\mathrm{HS}} = \sum_{\vec{r}} \sum_{\vec{r}' \neq \vec{r}} |\langle \vec{r} | \tilde{\rho}_{\mathcal{F}} | \vec{r}' \rangle|^2 \tag{A.27}$$

$$\leqslant \frac{1}{4^{fN}} \sum_{\vec{r}} \sum_{\vec{r}' \neq \vec{r}} |\Delta_{(\vec{r}-\vec{r}')}|^2 \tag{A.28}$$

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and

$$\langle\langle \| \tilde{\rho}_{\mathcal{F}} - \tilde{\rho}_{\mathcal{F}}^{\infty} \|_{\mathrm{HS}}^2 \rangle\rangle \leqslant \frac{1}{4^{fN}} \sum_{\vec{r}} \sum_{\vec{r}' \neq \vec{r}} \langle\langle |\Delta_{(\vec{r}-\vec{r}')}|^2 \rangle\rangle \tag{A.33}$$

$$= \frac{1}{4^{fN}} \sum_{\vec{r}} \sum_{\vec{r}' \neq \vec{r}} \frac{1}{2^{(1-f)N}} \tag{A.34}$$

$$\leqslant \frac{1}{2^{(1-f)N}} \tag{A.35}$$

In the sentence following equation (A.36), the first '>' symbol should actually be a '<' symbol, all instances of $f - 1/2$ should be replaced with $1/2 - f$, and the base of all exponents should be 2 rather than $e$, including in equation (A.37). The sentence should read: 'So if $f < 1/2$, we can choose $T_0 = 2^{-(1/2-f)N/2}$ so that both $T_0$ and $P[T > T_0]$ are suppressed:

$$P[T > 2^{-(1/2-f)N/2}] \leqslant 2^{-(1/2-f)N}.' \tag{A.37}$$

Finally, in the sentence containing equation (A.41), the '$\leqslant$' symbol should actually be a '<' symbol. The sentence should read 'It is in this sense that we say

$$H_{\mathcal{F}} \to H_{\mathcal{F}}^{\infty} = fN \ln 2 \tag{A.41}$$

for $f < 1/2$.'