Fraternal Twins Errata

Proof of Proposition 5.17 (pages 111-112). *On the seventh line of the proof, the "trumpet" $T_{\frac{1}{2}}(\hat{x}, x, \delta r)$ should be $T_{\frac{1}{2}}(\hat{x}, p, \delta r)$, and the statement should hold for all p in the connected component of $\Omega_s \cap B_{10\Lambda r}(x)$ which contains $B_{\delta r}(\hat{x})$. This being the case, it is convenient to denote the latter set by $U_{10\Lambda r}(x, s)$.*

"By Proposition 2.24, it therefore suffices to show that, whenever $r^{-1} = \mathrm{H}(x,t)$ is sufficiently large, the trumpet $T_{\frac{1}{2}}(\hat{x}, p, \delta r)$ about the point $\hat{x} \doteqdot x - r\,\mathsf{N}(x,t)$ is contained in $U_{10\Lambda r}(x,s)$, the connected component of $\Omega_s \cap B_{10\Lambda r}(x)$ which contains $B_{\delta r}(\hat{x})$, for all $p \in U_{10\Lambda r}(x,s)$ and all $s \in (t - 100\Lambda^2 r^2, t] \Subset [0, T)$ (cf. Proposition 2.26). Let us denote by $Q(\delta, 10\Lambda)$ the set of pairs (x,t) which *do* satisfy this property.

Suppose then that, contrary to the claim, there is a sequence of spacetime points (x_j, t_j) with $r_j^{-1} \doteqdot \mathrm{H}(x_j, t_j) \to \infty$ such that $(x_j, t_j) \notin Q(\delta, \Lambda)$. By a "point-picking" argument (cf. (5.22) above), we can choose our sequence so that if $t \leq t_j$ and $\mathrm{H}(x,t) \geq 4\,\mathrm{H}(x_j, t_j)$, then $(x,t) \in Q(\delta, \Lambda)$. Now, by assumption, we can find a time $s_j \in (t_j - 100\Lambda^2 r^2, t_j]$ and a point $p_j \in U_{10\Lambda}(x_j, s_j)$ such that the trumpet $T_{\frac{1}{2}}(\hat{x}_j, p_j, \delta r_j)$ intersects $\partial\Omega_{s_j}$ somewhere in the connected component of $\overline{\Omega}_{s_j} \cap B_{10\Lambda r}(x)$ which contains $B_{\delta r}(\hat{x})$. But then, by "moving" the mouthpiece of this trumpet, we can find another trumpet $T_{\frac{1}{2}}(\hat{x}_j, \tilde{p}_j, \delta r_j)$ which does lie in the connected component of $\overline{\Omega}_{s_j} \cap B_{10\Lambda r}(x)$ which contains $B_{\delta r}(\hat{x})$ but makes contact with $\partial\Omega_{s_j}$ at some point, y_j say."

A few lines below, some typos appear in the displayed math, which should read

$$\frac{\mathrm{H}(x_j, t_j)}{\mathrm{H}(y_j, s_j)} \leq -\gamma^{-1} \frac{\kappa(y_j, s_j)}{\mathrm{H}(y_j, s_j)}\,.$$