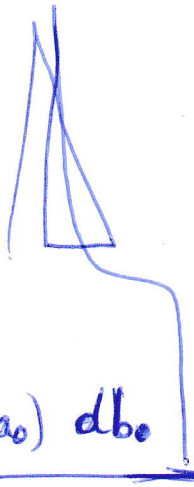
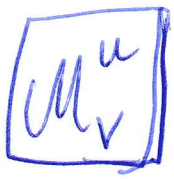
$\mathbb{P}(E \| a=a_0)$

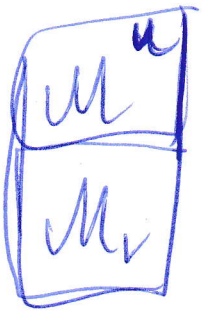
& from the claim, have:



$$\int \mathbb{P}(E \| a=a_0, b=b_0)\, \mathbb{P}(b=b_0 \| a=a_0)\, db_0$$

$\mathbb{P}(E \| \mathcal{M}_u, \mathcal{M}_v)$





$$= \int \mathbb{P}(E \| \cdot, \mathcal{M}_u)\, \mathbb{P}(\mathcal{M}_u \| \mathcal{M}_v)\, du.$$

Let $C_v = \{t \in T : X(t/\sqrt{X(0)}) \geq v\}$

$$\mathbb{P}(B_\varepsilon^-(X(0), v) \subseteq C_v \subseteq B_\varepsilon^+(X(0), v) \| \mathcal{M}_v)$$

$$\longrightarrow 1$$