BFO 2020 History Axioms

History of and has history are inverse relations [abx-1]

$\forall a,b\,(historyOf(a,b) \leftrightarrow hasHistory(b,a))$

History of is functional on second argument [zek-1]

$\forall p,q,r\,(historyOf(p,q) \wedge historyOf(p,r) \rightarrow q=r)$

History of is functional on first argument [woe-1]

$\forall p,q,r\,(historyOf(p,q) \wedge historyOf(r,q) \rightarrow p=r)$

Every history is of a material entity [vvy-1]

$\forall h\,(\exists t\,instanceOf(h,history,t) \rightarrow \exists m\,historyOf(h,m))$

Every material entity has a history [okt-1]

$\forall m\,(\exists t\,instanceOf(m,materialEntity,t) \rightarrow \exists h\,historyOf(h,m))$

A material entity participates in its history [lga-1]

$\forall h,m\,(historyOf(h,m) \rightarrow \forall t\,(existsAt(m,t) \rightarrow participatesIn(m,h,t)))$

Material entity and its history exist at exactly the same times [uzz-1]

$\forall m,h\,(historyOf(h,m) \rightarrow \forall t\,(instanceOf(m,materialEntity,t) \leftrightarrow instanceOf(h,history,t)))$

History of has domain history and range material entity [rph-1]

$\forall a,b\,(historyOf(a,b) \rightarrow \exists t\,instanceOf(a,history,t) \wedge \exists t\,instanceOf(b,materialEntity,t))$