**OLD**

**AP11 has physical relation (is physical relation of)**

Domain: [A8](#_A8_Stratigraphic_Unit) Stratigraphic Unit

Range: [A8](#_A8_Stratigraphic_Unit) Stratigraphic Unit

Quantification: one to many (0,n:0,1)

Scope note: This property identifies the physical relationship between two A8 Stratigraphic Units. The type of physical relationships found between stratigraphic units in archaeological documentation is documented through the property AP 11.1 has type

Example The layer of burned remains of the log building (in Søndre gate, Trondheim, Norway) (A8) *has physical relation (is physical relation of) under* the foundation of the church of St. Clements (A8).

In First Order Logic:

AP11(x,y) ⊃ A8(x)

AP11(x,y) ⊃ A8 (y)

AP11.1 (x,y,z) ⊃ [AP11 (x,y) ∧ E55(z)]

Properties: AP11.1 has type: [E55](#_E55_Type) Type

**NEW**

**AP11 has physical relation to (is physically related from)**

Domain: [A8](#_A8_Stratigraphic_Unit) Stratigraphic Unit

Range: [A8](#_A8_Stratigraphic_Unit) Stratigraphic Unit

Quantification: many to many (0,n:0,n)

Scope note: This property identifies the physical relationship between two A8 Stratigraphic Units. The described relationship may be between two adjacent instances of A2 Stratigraphic Volume Unit sharing a common interface (instance of A3 Stratigraphic Interface), between an instance of A2 Stratigraphic Volume Unit and one of its adjacent interfaces, such as human-made cuts or earthquake induced faults, or even between two intersecting interfaces.

The type of physical relationships found between stratigraphic units in archaeological or geological documentation is documented through the property AP 11.1 has type. This type applies to the direction from the domain to the range of the property *AP11 has physical relation to (is physically related from).* The type of physical relationship typically constitutes strong evidence for the sequence of genesis of the related stratigraphic units, which can be documented by the property AP13 *has stratigraphic relation to (is stratigraphically related by).* The type may either pertain to a relative topology, such as the one being “under” the other, or to the fine-structure of the interface between them, such as a layer of concrete having filled out earlier micro-cavities in various directions in the interface before solidifying.

Examples The layer of burned remains of the log building (in Søndre gate, Trondheim, Norway) (A8) *has physical relation* the foundation of the church of St. Clements (A8) *has type* is under (E55)

The floors at B of the building 1 in Çatalhöyük, Turkey (A8) *has physical relation to* wall C (A8) *has type* runs up to (E55). [as observed initally, see below] (Hodder 1999)

The wall C of the building 1 in Çatalhöyük, Turkey (A8) *has physical relation to* the floors at B (A8) *has type* inserted by cut (E55). [as observed finally, see below] (Hodder 1999)

The wall C of the building 1 in Çatalhöyük, Turkey (A8) *has physical relation to* wall D (A8) *has type* abuts on (E55). (Hodder 1999)

The wall D of the building 1 in Çatalhöyük, Turkey (A8) *has physical relation to* the floors B’ (A8) *has type* on top of (E55). (Hodder 1999)

In First Order Logic:

AP11(x,y) ⊃ A8(x)

AP11(x,y) ⊃ A8 (y)

AP11.1 (x,y,z) ⊃ [AP11 (x,y) ∧ E55(z)]

Properties: AP11.1 has type: [E55](#_E55_Type) Type

###

### AP13 has stratigraphic relation (is stratigraphically related from)

Domain: [A5](#_A5_Stratigraphic_Modification) Stratigraphic Modification

Range: [A5](#_A5_Stratigraphic_Modification) Stratigraphic Modification

Quantification: one to many (0,n:0,1)

Scope note: This property identifies the stratigraphic relation between two A5 Stratigraphic Modification events. This relation may be inferred from the kind of physical relation that exists between the two AP 8 Stratigraphic Units that have been created or modified during the corresponding A5 Stratigraphic Modification events. The type of stratigraphic relationships in archaeological documentation assigned to two A5 Stratigraphic Modification events is documented through the property AP 13.1 has type. This type applies to the direction from the domain to the range of the property AP13 has stratigraphic relation (is stratigraphically related from).