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### Pxxx covered parts of (was partially covered by)

Domain: [E93](#_E93_Spacetime_Snapshot) Presence

Range: [E53](#_E53_Place) Place

Quantification:

Scope note: This property associates an instance of E93 Presence with an instance of E53 Place that geometrically overlaps with the spatial projection of the respective instance of E93 Presence. Besides others, this property may be used to state through which places an object or an instance of E21 Person has or was moved within a given time-span. It may also be used to describe a partial or complete, temporary or permanent extension of the spatial extent of some realm into a neighboring region during a known time-span. It is a shortcut of the more fully developed path from E93 Presence through *P161 has spatial projection*, E53 Place, *P121 overlaps with* to E53 Place.

In First Order Logic:

P167(x,y) ⊃ E93(x)

P167(x,y) ⊃ E53(y)

P167(x,y) ⊃ (∃z)[ E53(z) ∧ P161(x,z) ∧ P121(z,y)]

Examples:

Johann Joachim Winckelmann’s presence from Nov. 19 1755 until April 9 1968 *Pxxx covered parts of* Florence, Italy

Johann Joachim Winckelmann’s presence from Nov. 19 1755 until April 9 1968 *Pxxx covered parts of* Paestum, Italy

The Byzantine Empire 1013AD *Pxxx covered parts of* The Italian Peninsula

### E93 Presence

Subclass of: [E92](#_E92_Spacetime_Volume) Spacetime Volume

Scope note: This class comprises instances of E92 Spacetime Volume, whose temporal extent has been chosen in order to determine the spatial extent of a phenomenon over the chosen time-span. Respective phenomena may, for instance, be historical events or periods, but can also be the diachronic extent and existence of physical things. In other words, instances of this class fix a slice of another instance of E92 Spacetime Volume in time.

The temporal extent of an instance of E93 Presence typically is predetermined by the researcher so as to focus the investigation particularly on finding the spatial extent of the phenomenon by testing for its characteristic features. There are at least two basic directions such investigations might take. The investigation may wish to determine where something was during some time or it may wish to reconstruct the total passage of a phenomenon’s spacetime volume through an examination of discrete presences. Observation and measurement of features indicating the presence or absence of a phenomenon in some space allows for the progressive approximation of spatial extents through argumentation typically based on inclusion, exclusion and various overlaps.

In First Order Logic:

E93(x) ⊃ E92(x)

Properties:

[P164](#_P164_(Px9)_is) during (was time-span of): [E52](#_E52_Time-Span) Time Span

[P166](#_P166_was_a) was a presence of (had presence): [E92](#_E91_Co-Reference_Assignment) Space Time Volume

[P167](#_P167_was_at) at (was place of): [E53](#_E53_Place) Place

[P195](#_P195_was_a) was a presence of (had presence): E18 Physical Thing

Examples:

**E93:**

Johann JoachimWinckelmann’s presence in December 1755

**P195:**

Johann JoachimWinckelmann’s presence in December 1755 *P195 was a presence of* Johann JoachimWinckelmann (E21)

**P167:**

Johann JoachimWinckelmann’s presence in December 1755 *at* Rome (E53)

**P164:**

Johann JoachimWinckelmann’s presence in December 1755 *during* December 1755 (E52)

**E93:**

Johann JoachimWinckelmann’s presence from Nov. 19 1755 until April 9 1768

**P195:**

Johann JoachimWinckelmann’s presence from Nov. 19 1755 until April 9 1768 *P195 was a presence of* Johann JoachimWinckelmann (E21)

**P167:**

Johann JoachimWinckelmann’s presence from Nov. 19 1755 until April 9 1968 *at* Italy

**P164:**

Johann JoachimWinckelmann’s presence from Nov. 19 1755 until April 9 1978 *during* Nov. 19 1755 until April 9 1768 (E52)

**E93:**

The Roman Empire in 19 August AD 14

**P166:**

The Roman Empire in 19 August AD 14 *P166 was a presence of* The Roman Empire (E4)

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### P130 shows features of (features are also found on)

Domain: [E70](#_E70_Thing) Thing

Range: [E70](#_E70_Thing) Thing

Superproperty of: [E33](#_E33_Linguistic_Object) Linguistic Object. [P73](#_P73_has_translation_(is translation)i is translation of: [E33](#_E33_Linguistic_Object) Linguistic Object

[E18](#_E18_Physical_Thing) Physical Thing. [P128](#_P128_carries_(is) carries (is carried by): [E90](#_E90_Symbolic_Object) Symbolic Object

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

Scope note: This property generalises the notions of "copy of" and "similar to" into a directed relationship, where the domain expresses the derivative or influenced item and the range the source or influencing item, if such a direction can be established. The property can also be used to express similarity in cases that can be stated between two objects only, without historical knowledge about its reasons. The property expresses a symmetric relationship in case no direction of influence can be established either from evidence on the item itself or from historical knowledge. This holds in particular for siblings of a derivation process from a common source or non-causal cultural parallels, such as some weaving patterns.

The *P130.1* *kind of similarity* property of the *P130 shows features of (features are also found on)* property enables the relationship between the domain and the range to be further clarified, in the sense from domain to range, if applicable. For example, it may be expressed if both items are product “of the same mould”, or if two texts “contain identical paragraphs”.

If the reason for similarity is a sort of derivation process, i.e., that the creator has used or had in mind the form of a particular thing during the creation or production, this process should be explicitly modelled. In these cases, *P130 shows features of* can be regarded as a shortcut of such a process. However, the current model does not contain any path specific enough to infer this property. Specializations of the CIDOC CRM may however be more explicit, for instance describing the use of moulds etc.

In First Order Logic:

P130 (x,y) ⊃ E70(x)

P130 (x,y) ⊃ E70(y)

P130(x,y,z) ⊃ [P130(x,y) ∧ E55(z)]

Properties: P130.1 kind of similarity: [E55](#_E55_Type) Type

Examples:

Mary Lamb’s Cymbeline [from Charles and Mary Lamb’s Tales from Shakespeare] *P130 shows features* of William Shakespeare’s Cymbeline

The audio recording of Dante Alighieri's La divina commedia read by Enrico de Negri *P130 shows features of* the text of Dante Alighieri's La divina commedia

My coffee cup *P130 shows features of* the Starbucks company logo

### P156 occupies (is occupied by)

Domain: [E18](#_E18_Physical_Thing) Physical Thing

Range: [E53](#_E53_Place) Place

Subproperty of: [E18](#_E18_Physical_Thing) Physical Thing. P157i (provides reference space for) :E53 Place

Subproperty of: [E18](#_E18_Physical_Thing) Physical Thing:P53 has former or current location (is former or current location of): [E53](#_E53_Place) Place

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

Scope note: This property describes the largest volume in space, an instance of E53 Place, that an instance of E18 Physical Thing has occupied at any time during its existence, with respect to the reference space relative to the physical thing itself. This allows for describing the thing itself as a place that may contain other things, such as a box that may contain coins. In other words, it is the volume that contains all the points which the thing has covered at some time during its existence. The reference space for the associated place must be the one that is permanently at rest (*P157 is at rest relative to)* relative to the physical thing. For instances of E19 Physical Objects it is the one which is at rest relative to the object itself, i.e. which moves together with the object. For instances of E26 Physical Feature it is one which is at rest relative to the physical feature itself and the surrounding matter immediately connected to it. Therefore there is a 1:1 relation between the instance E18 Physical Thing and the instance of E53 Place it occupies. We include in the occupied space the space filled by the matter of the physical thing and all its inner spaces.

This property implies the fully developed path from E18 Physical Thing through *P196 defines, E92 Spacetime Volume*, *P161 has spatial projection*, E53 Place. However, in contrast to *P156 occupies,* the property *P161 has spatial projection* does not constrain the reference space of the referred instance of E53 Place.

In contrast to *P156 occupies*, for the property *P53 has former or current location* the following holds:

* It does not constrain the reference space of the referred instance of E53 Place.
* It identifies a possibly wider instance of E53 Place at which a thing is or has been for some unspecified time span.
* If the reference space of the referred instance of E53 Place is not at rest with respect to the physical thing found there, the physical thing may move away after some time to another place and/or may have been at some other place before. The same holds for the fully developed path from E18 Physical Thing through *Pxxx defines, E92 Spacetime Volume*, *P161 has spatial projection*, E53 Place.

In First Order Logic:

P156(x,y) ⊃ E53(y)

P156(x,y) ⊃ E18(x)

P156 (x,y) = [E18(x) ∧ E53(y) ∧ P196(x,z) ∧ P161(z,y) ∧ P157(y,x)]

Example:

Burg Eltz (english: Eltz Castle) near Koblenz, Germany *P156 occupies* the space within the outer walls of Burg Eltz since 1661AD (E53) (the castle has been extended from the 12th century until 1661AD and not been destroyed up to present, containing buildings from various periods)

The Saint Titus reliquary *P156 occupies* the space of the Saint Titus reliquary (the reliquary is currently kept in the Saint Titus Church in Heraklion, Crete since 1966 and contains the skull of Saint Titus)

### P160 has temporal projection (is temporal projection of)

Domain: [E92](#_E92_Spacetime_Volume) Spacetime Volume

Range: [E52](#_E52_Time-Span) Time-Span

Superproperty of: [E93](#_E93_Spacetime_Snapshot) Presence. [P164](#_P164_during_(was) during (was time-span of):[E52](#_E52_Time-Span) Time-Span

Quantification: one to one (1,1:1,1)

Scope note: This property describes the temporal projection of an instance of E92 Spacetime Volume. The property P4 has time-span is the same as P160 has temporal projection if it is used to document an instance of E4 Period or any subclass of it.

Example:

The Spacetime Volume of the Battle of Waterloo 1815 *P160 has temporal projection* The Time-Span of the Battle of Waterloo [*P82 at some time within* Sunday, 18 June 1815 (E61 Time Primitive)]

The spatio-temporal trajectory of the H.M.S. Temeraire from its building in 1798 to its destruction in 1838 *P160 has temporal projection* The Time-Span of the existence of H.M.S. Temeraire [*P82 at some time within* 1798-1838 (E61 Time Primitive)]

### P168 place is defined by (defines place)

Domain: [E53](#_E53_Place) Place

Range: [E94](#_E94_Space_Primitive) Space Primitive

Quantification: (0,n:1,1)

Scope note: This property associates an instance of E53 Place with an instance of E94 Space Primitive that defines it. Syntactic variants or use of different scripts may result in multiple instances of E94 Space Primitive defining exactly the same place. Transformations between different reference systems always result in new definitions of places approximating each other and not in alternative definitions.

In First Order Logic:

P168(x,y) ⊃ E53(x)

P168(x,y) ⊃ E94(y)

Examples:

The centroid from <https://sws.geonames.org/735927> (E53) *P168 place is defined by* [40°31'17.9"N 21°15'48.3"E] (E94) (a single point for approximating the centre of the city of Kastoria, Greece)

Martin’s coordinates for Kastoria (E53) *P168 place is defined by* [40°30'23"N 21°14'53"E, 40°31'40"N 21°16'43"E] (E94) (a square covering the built settlement structure of Kastoria, Greece)

Martin’s centroid for Kastoria (E53) *P168 place is defined by* [40°31'01.5"N 21°15'48"E] (a point in the lake of Kastoria in the centre of the area covered by the city)

Alexander v. Humboldt's measurement for the Plaza Mayor in Cumaná, Sucre,Venezuela 1799-1800AD (E53) *P168 place is defined by* [10°27'52"N 66°30'02"W] (actually 260km west of Cumaná)

v. Humboldt writes: „Aus meinen Beobachtungen in den Jahren 1799 und 1800 ergibt sich als Gesamtresultat, dass der große Platz von Cumaná unter 10° 27' 52" der Breite und 66° 30' 2" der Länge liegt.“

Alexander von Humboldt, Die Südamerikareise, Reise in die Äquinoktialgegenden des Neuen Kontinents

Citation: Humboldt, Alexander von : Die Südamerika-Reise (the only German edition authorised by A. v. Humboldt): Original titel: Reise in die Äquinoktial-Gegenden des Neuen Kontinents (German Edition) . eClassica. Kindle Edition. 2015

### P169 defines spacetime volume (spacetime volume is defined by)

Domain: [E95](#_E95_Spacetime_Primitive) Spacetime Primitive

Range: [E92](#_E91_Co-Reference_Assignment) Spacetime Volume

Scope note: This property associates an instance of E95 Spacetime Primitive with the instance of E92 Spacetime Volume it defines.

In First Order Logic:

P169(x,y) ⊃ E95(x)

P169(x,y) ⊃ E92(y)

Example:

[40°30'23"N 21°14'53"E, 40°31'40"N 21°16'43"E, 200BC-2020AD] (E95) *P169 defines spacetime volume*  Martin’s spatiotemporal enclosure 2020 for the evolution of the settlement of today’s city of Kastoria, Greece since its conquest by the Romans (E92) (a square covering the current built settlement structure of Kastoria, Greece, through the years 200BC to 2020AD, which includes the extents of earlier phases of the city)

**P170 defines time (time is defined by)**

Domain: [E61](#_E61_Time_Primitive)Time Primitive

Range: [E52](#_E53_Place) Time Span

Scope note: This property associates an instance of E61 Time Primitive with the instance of [E52](#_E53_Place) Time Span it defines.

In First Order Logic:

P170(x,y) ⊃ E61(x)

P170(x,y) ⊃ E52(y)

Examples:

(1800/1/1 0:00:00 – 1899/31/12 23:59:59)(E61) *P170 defines time* The 19th century (E52)

(1968/1/1 – 2018/1/1)(E61) *P170 defines time* “1968/1/1 – 2018/1/1” (E52) (an arbitrary time-span during which the Saint Titus reliquary was present in the Saint Titus Church in Heraklion, Crete)

### P173 starts before or with the end of (ends after or with the start of)

Domain: [E2](#_E2_Temporal_Entity) Temporal Entity

Range: [E2](#_E2_Temporal_Entity) Temporal Entity

Subproperty of:

Superproperty of: [E2](#_E2_Temporal_Entity) Temporal Entity. [P174](#_P174_starts_before) starts before the end of (ends after the start of): [E2](#_E2_Temporal_Entity) Temporal Entity

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

Scope note: This property specifies that the temporal extent of the domain instance A of E2 Temporal Entity starts before or simultaneously with the end of the temporal extent of the range instance B of E2 Temporal Entity.

In other words, if A = [Astart, Aend] and B = [Bstart, Bend], we mean Astart ≤ Bend is true.

This property is part of the set of temporal primitives P173 – P176, P182 – P185.

This property corresponds to the disjunction (logical OR) of the following Allen temporal relations [Allen, 1983]: {before, meets, met-by, overlaps, starts, started-by, contains, finishes, finished-by, equals, during, overlapped by}

Example:

The legendary run from Marathon to Athens 490BC (E7) *P173 starts before or with the end of*  The Battle of Marathon 490BC (E7)

### P183 ends before the start of (starts after the end of)

Domain: [E2](#_E2_Temporal_Entity) Temporal Entity

Range: [E2](#_E2_Temporal_Entity) Temporal Entity

Subproperty of: [E2](#_E2_Temporal_Entity) Temporal Entity. [P182](#_P182_produced_thing) ends before or at the start of (starts after or with the end of): [E2](#_E2_Temporal_Entity) Temporal Entity

Superproperty of: [E2](#_E2_Temporal_Entity) Temporal Entity. [P120](#_P120_occurs_before) occurs before (occurs after): [E2](#_E2_Temporal_Entity) Temporal Entity

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

Scope note: This property specifies that the temporal extent of the domain instance A of E2 Temporal Entity ends definitely before the start of the temporal extent of the range instance B of E2 Temporal Entity.

In other words, if A = [Astart, Aend] and B = [Bstart, Bend], we mean Aend < Bstart is true.

This property is part of the set of temporal primitives P173 – P176, P182 – P185.

This property corresponds to a disjunction (logical OR) of the following Allen temporal relations [Allen, 1983]: {before}

Example:

Gisle taking office as Bishop of Linköping 1139(E7) *P183 ends before the start of* The Guta saga composition (E65)

See “…the account of the church-building and the arrangements concerning the Bishop of Linköping advance that by a further century or so, since the first recorded bishop was Gisle, who took office in 1139. This gives a terminus postquem of circa 1140 for the saga’s composition.”

In:

Title Guta Lag and Guta Saga: The Law and History of the Gotlanders

Routledge Medieval Translations

Editor Christine Peel

Edition illustrated

Publisher Routledge, 2015

ISBN 1317565258, 9781317565253

**E96 Purchase**

Example  
♣    the purchase of  10 okka of nails by the captain A. Syrmas on 18/9/1895 in Thessaloniki.   
  
  
**P179 had sales price (was sales price of)**

Example:  
♣    the purchase of  10 okka of nails by the captain A. Syrmas on 18/9/1895  (E96) *had sales price* 20 piastre (grosi) (E97).   
  
  
The specific examples were used from “Account Book of ship D.S.Skyliytsis 28/9/1895-19/10/1896 Captain A.Syrmas,Book no5; Inventory Number A.E 53/01, E.L.I.A, Athens” in the context of SEALIT project (<http://www.sealitproject.eu/>)