# Thursday 24/5/2018

## ISSUE 332

The sig reviewed the following scope notes:

S11 made minor changes (see Appendix G) and accepted. It is assigned to Martin to check compatibility with DOLCE.

S22 made minor changes (see Appendix G) and accepted

Further, the sig accepted Martin’s proposal about the superclasses of S2.

S2 Sample Taking is be regarded as subclass of E63 Beginning of Existence, and O5 removed is subproperty of P92 brought into existence.

The sig reviewed the scope note of S13 Sample. No changes are made. HW assigned to TV about considering when/how the identity of split samples inherit/preserve the identity conditions from the original sample. Articulate chain of logical properties for associating sub-sampling to original object.

Finally the sig reviewed the scope not of O4 sampled at (was sampling location of) and made the appropriate changes. (see Appendix G).

# APPENDIX G: issue 332

## S11 Amount of Matter

Subclass of:   S10 Material Substantial

Superclass of:      S12 Amount of Fluid

                           S13 Sample

Scope note:   This class comprises fixed amounts of matter specified as some air, some water, some soil, etc., defined by the total and integrity of their material content. In order to be able to identify and recognize in practice one instance of S11 Amount of Matter, some sort of confinement is needed that serves as a constraint for the enclosed matter and the integrity of the content, such as a bottle. In contrast to instances of E18 Physical Thing, no stability of form is required. The content may be put into another bottle without loosing its identity. Subclasses may define very different identity conditions for the integrity of the content, such as chemical composition, or the sequence of layers of a bore core. Whereas an instance of E18 Physical Thing may gradually change form and chemical composition while preserving its identity, such as living beings, an instance of S11 Amount of Matter may lose its identifying features by such processes. What matters for the identity of an instance of S1 Amount of Matter is the preservation of a relevant composition from the initial state of definition onwards.

## S22 Segment of Matter

Subclass of: S20 Physical Feature

Scope Note: This class comprises physical features with relative stability of form and structure within a declared spatial volume of interest. The spatial extent of an instance of S22 Segment of Matter may be declared or defined by a researcher or observer usually because the  arrangement and composition of substance is characteristic for the surrounding matter or can be interpreted as traces of its genesis and subsequent internal and external processes it was exposed to. The defining spatial extent is typically declared on a continuous matter by means of geometric determination without observable boundaries on all sides or any side. It may however be extracted at some point in time along the declared boundaries.

An instance of S22 Segment of Matter is regarded to be existing from the time on it completely solidified with a structure that is still preserved in a recognizable way at the time of its spatial definition. Its existence is regarded to end when its respective integrity is partially or completely corrupted. Uncorrupted subsections of an instance of S22 Segment of Matter may continue to exist as segments of matter in their own right beyond the existence of the containing instance, and may have solidified before it.

Typical examples are segments of archaeological or geological layers. They are regarded as uncorrupted even if they have undergone conformal deformations, such as compressions or shifts, as long as the effects of these deformations do not destroy the relevant structures of interest. This means that the defining spatial volume may be only geometrically valid for an instant of time for which it was declared, and undergo before and after deformations. In some cases it may be possible to calculate the initial volume at the time of solidification , for instance for petrified bones compressed in Jurassic layers.

## S3 Measurement by Sampling

Subclass of: S2 Sample Taking

S21 Measurement

Scope note: This class comprises activities of taking a sample and measuring or analyzing it as one unit of activity, in which the sample is typically not identified and preserved beyond the context of this activity. Instances of this class describe the taking of one or more samples regardless whether they are explicitly identified in documentation or preserved beyond this activity. The dimensions observed by the respective measurement of this particular sample are regarded as dimensions of the instance of S10 Material Substantial at the place from which the samples were taken. Therefore the class S3 Measurement by Sampling inherits the properties of S2 Sample Taking. O3 sampled from: S10 Material Substantial and O4 sampled at: E53 Place, and the properties of S21(E16) Measurement. P40 observed dimension: E54 Dimension, due to multiple inheritance. It needs not instantiate the properties O5 removed: S13 Sample and O24 measured: S15 Observable Entity, if the sample is not documented beyond the context of the activity.

## O4 sampled at (was sampling location of)

Domain: S2 Sample Taking

Range: E53 Place

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

Scope note: This property associates an instance of S2 Sample Taking with the instance of E53 Place ("spot") at which this activity sampled. It identifies the narrowest relevant area on the material substantial from which the sample was taken. This may be known or given in absolute terms or relative to an instance of the material substantial from which it was taken. If samples are taken from more than one spot, the sample taking activity must be documented by separate instances for each spot.

The property P7 took place at, inherited from E4 Period, describes the position of the area in which the sampling activity occurred; this latter comprises the space within which operators and instruments were contained during the activity, and the sample taking spot.