

A model for sustainable interoperable thesauri maintenance

Produced by
Thesaurus Maintenance Working Group,
VCC3, DARIAH EU

Version 1

June 2015

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Introduction

The aim of this work is to develop a model and a proposal of how existing thesauri and ontologies will become interoperable and can be maintained in a sustainable and scalable way. This has been undertaken by the Thesaurus Maintenance WG which was established in 2014 in the framework of DARIAH EU: *The Digital Research Infrastructure for the Arts and Humanities- a research infrastructure*. This Research Infrastructure aims at enhancing and supporting digitally-enabled research and teaching across the arts and humanities.

The Thesaurus Maintenance WG aims at designing and establishing a coherent overarching thesaurus for the humanities, a “backbone” or “metathesaurus”, under which all the vocabularies and terminologies in use in the domain can be aligned. Therefore, this work focuses on identifying the top-level-concepts (facets and hierarchies) that will become its common basis, meeting the demands for intersubjective and interdisciplinary validity. The approach is nevertheless bottom-up – rather than by theoretical argument; top-level concepts are developed by adequate abstraction from existing terminological systems. This requires an effective methodology in order to decide, if a more generic concept has the power to effectively subsume enough narrower terms from different thesauri and to determine whether it is comprehensible enough in its definition to allow experts from different sub-disciplines to align their terms by themselves under these concepts. This alignment has the ambition to provide a comprehensive first-level integration of terminologies in DARIAH and possibly beyond, and to foster a shared good practice of terminology definition.

For this methodology, the WG exploits all the advantages offered by categorical semantics, in order to define the essential properties of the general concepts under which we subsume more specific terms. The definition of the essential properties of the top level-concepts, which are acceptable regardless of the scientific field in which they apply, enables the classification in a consistent and objective way. One of the major advantages of this kind of classification is the potential of a sustainable and manageable expansion of the thesauri into new areas of knowledge, in which it

continues to be effective and efficient, without forcing the experts to abandon their terminology. Furthermore, it enables collaboration, cross-disciplinary resource discovery, and detection of common principles and ensures compatibility with other thesauri that are restricted to particular areas of knowledge.

Following this methodology, the Working Group decided to define an initial set of top-level concepts based on evidence from vocabularies the Group had so far access to. These concepts constitute a first operational draft, which on one side demonstrates the feasibility of the methods and illustrates it for didactic purposes, and on the other side allows its intended operation for terminology integration. This first draft will be adapted and extended as the integration of more terminologies will introduce new concepts not yet covered or not well covered, or when finer distinctions into hierarchies or subhierarchies may be needed. By virtue of the applied method, backwards compatibility of new versions is expected to be preserved in the vast majority of cases.

Eight facets along with their hierarchies, top terms and narrower terms have been defined thus far. Facets are the most general concepts whose properties are inherited by all possible hierarchies and narrower terms of each facet. The facets are further subdivided into an open number of hierarchies which inherit the properties of the facet and additionally exhibit at least one specific feature which is characteristic of a certain type of terms within this hierarchy. Facets and hierarchies play a double logical role. On one side, they are sets or containers of terms that fall under the respective sense. On the other side, they correspond to a top term representing the most general category all terms in this sets are narrower terms of.

If the material (terms) that the WG have in its disposal indicates the need for further distinction and specification, the hierarchies will be extended by narrower terms for addressing more specific classes of categorization. The updating and revising of the proposed classification and definitions is an ongoing process.

The following table 1 is a compact presentation of the terms and the top terms of the facets and the hierarchies of the backbone thesaurus (Dariah BBT). The hierarchy presented has the following format:

- Facet top terms are given in **bold**
- Hierarchy top terms are given in plain text
- Terms are given in *italics*
- A series of hyphens (“-”) are used indicating the hierarchical position of the term/ top term in the IsA hierarchy.

Activities

- Disciplines
 - - *Construction of material objects and installations*
 - - *Conception and comprehension of phenomena*
 - - *Provision of knowledge and expertise*
 - - *Production of works and/or phenomena of aesthetic value*
- Events
 - - *Social events*
 - - *Confrontations, conflicts*
 - - *Political, social and economic occurrences*
 - - *Group management*
- Intentional destructions
- Functions

Natural processes

- Natural disasters
- Geneses

Materials

Material Objects

- Mobile objects
- Built environment
 - - *Monuments*
 - - *Complexes*
 - - *Installations/ infrastructures*
 - - *Residential areas*
- Physical features
- Structural parts of material objects

Epochs

Conceptual Objects

- Symbolic objects
 - - *Information objects*

- Propositional objects
- - *Information objects*
- Methods
- - *Procedures*
- - *Techniques*

Groups and Collectivities

Offices

Table 1: Facets, hierarchies and terms of the Dariah BBT

The description - scope notes of the Facets, hierarchies, top terms and narrower terms of the Dariah BBT are given below.

Facet “Activities”

Scope note: The “**Activities**” facet comprises types of intentional actions that result in the preservation, creation, production, modification or destruction of an entity (living beings, conceptual/material objects, groups, social, intellectual, physical etc. phenomena).

It is important to note that actions that are unintentional are excluded from this facet. Such actions may result from natural processes (natural disasters, geneses, changes due to natural causes), the non-conscious actions of subjects (e.g. the actions of people that are under the influence of drugs) as well as coerced actions performed in conditions that deprive persons of their free will. The fundamental criterion for the exclusion of these kinds of actions from the “activity” facet is the will, the ability of a subject to choose his purpose according to his judgment. Insofar as the will is the criterion for the determination of an action, the notion of “purpose” is the starting point for building the hierarchies of the “activity” facet.

Top term: Activities

This term classifies intentional actions that result in the preservation, creation, production, modification or destruction of an entity (living beings, conceptual/material objects, groups, social, intellectual, physical etc. phenomena).

Hierarchy “Disciplines”

This hierarchy comprises types of branches of professional or potentially professional occupations socially and/or legally acceptable under the criteria of sector self-subsistence, practice efficiency, adoption of common methods and transferability of knowledge and expertise. Each sector includes types of unified activities that express some sort of professional or potentially professional specialization.

Notes

- It is important to clarify that the terms classified in the “disciplines” hierarchy should not be confused with the actor who performs an act or the results of his activity or the method used in order to achieve this result. The actor as “the efficient cause”, the result as “the final cause” and the method as the sum of the rules and constraints that an actor follows in order to perform an act, are different terms which belong to different facets and hierarchies.
- When determining the activities classified in the “disciplines” hierarchy we should not confuse the history of a specific discipline ie the specific temporal and spatial environment in which this discipline appeared and was perceived with the type of activities characterizing this discipline.

Top term: Disciplines

This term classifies branches of professional or potentially professional occupations socially and/or legally acceptable under the criteria of sector self-subsistence, practice efficiency, adoption of common methods and transferability of knowledge and expertise. Each sector includes types of unified activities that express some sort of professional or potentially professional specialization.

Narrower terms:

Construction of material objects and installations:

This term classifies disciplines concerning activities that aim at the production or change of material objects or installations. The construction or change may concern only a part of the object or an installation or the whole thing. The products of these activities have a material and exchange value.

Conception and comprehension of phenomena:

This term classifies disciplines about activities that aim to conceive and understand social, natural, historical, cultural etc. phenomena, types of phenomena that had occurred in the past, or are occurring today or phenomena which we might predict will happen in the future (e.g. weather forecast). They also should be communicable and remain true when evaluated. The conception

and comprehension of phenomena may concern a part of the phenomenon or the whole thing. (e.g. science, research etc.).

Provision of knowledge and expertise:

This term classifies disciplines about activities aiming at the provision and communication of already acquired knowledge and expertise. In this sense, the activities classified under this term do not aim to produce new knowledge and / or expertise or to change the existing, but to maintain it (e.g. teaching, provision of services).

Production of works and/or phenomena of aesthetic value:

This term classifies disciplines concerning activities which, while they may involve the construction of material objects or of installations, are primarily designed to attach aesthetic value to them or to foster aesthetic values through the creation of corresponding phenomena.

Narrower term Examples

Term: Performances

Scope note: In the performing arts, a performance is the artistic enactment of one or more works of art before an audience by a performer or a group of performers. Performances can take place at designated performance spaces (such as a theatre), or in a non-conventional space (on the street, in warehouses or in open-air spaces).

Hierarchy “Events”

This hierarchy comprises types of intentional activities carried out by at least one actor causing or changing phenomena or states of affairs on the social, political, financial, cultural and intellectual level.

Top term: Events

This term classifies intentional activities carried out by at least one actor causing or changing phenomena or states of affairs on the social, political, financial, cultural and intellectual level.

Narrower terms:

Social events:

This term classifies complex activities carried out by a group of individuals in order to organize and hold recreational, ritual, social events (e.g. parties, national, religious etc. celebrations, exhibitions, book presentations, inaugurations, festivals, official ceremonies, sports/charity events, competitions, leisure trips etc.).

Confrontations, conflicts:

This term classifies complex activities (a combination of activities) that presuppose at least two actors or groups of actors, who understand their interests and demands as competitive and thus aim at their satisfaction through their involvement in situations of controversy (coups d'état, legal actions, wars, revolutions, strikes etc.)

Narrower term Examples

Term: Wars

Scope note: Large-scale, most often armed, conflicts between two or more parties, nations, or states.

Term: Civil Wars

Scope note: Wars between organized groups within the same nation state or republic, or, less commonly, between two countries created from a formerly united nation state. The aim of one side may be to take control of the country or a region, to achieve independence for a region, or to change government policies.

Term: Wars of national liberation

Scope note: Conflicts fought by nationalities to gain independence. The term is used in conjunction with wars against foreign powers to establish separate sovereign states for the rebelling nationality. From a different point of view, these wars are called insurgencies, rebellions, or wars of independence.

Political, social and economic occurrences:

This term classifies complex activities (a combination of activities) that presuppose at least two actors or groups of actors, aiming at the emergence or change of political, social and economic conditions.

Narrower term Examples

Term: Migration (human)

Scope note: Human migration is the movement of people from one place to another with the intention of settling temporarily or permanently in the new location. Typically migration refers to movement over long distances and from one region, country or continent to another. It does not refer to movements with no intention to settle in the new place, such as nomadic movements, traveling, pilgrimage etc. Migration applies to movements of individuals, family units or large groups. It covers both voluntary and forced movement owing to political, economic or other causes.

Group management:

This term classifies complex activities carried out by at least two people aiming to form, modify or dissolve any form of unitary relationship of any kind (economic, religious, athletic, political, etc.) which also has organizational characteristics. A precondition for the formation, modification or dissolution of any form of unitary relationship of any kind is the adoption of certain common beliefs, goals, decisions and / or the shared performance of actions.

Hierarchy “Intentional destruction”

This hierarchy comprises types of intentional activities causing the end of existence of an entity or of a valid state of affairs.

Top term: Intentional destruction

This term classifies intentional activities causing the end of existence of an entity or of a valid state of affairs.

Hierarchy “Functions”

This hierarchy comprises types of activities that are structural parts of a relatively stable complex system of permanent and self-contained procedures that repeat themselves within this system and thus contribute to its preservation. Although functions are part of a wider system, each function is completely distinct from the rest. As structural parts of a complex system, functions are types of actions that play a certain role within a system and aim at a specific goal, which they must accomplish. In this respect it is not possible that the purpose which a certain function has to achieve is different from that for which the function is performed. In other words, the purpose of a function is one of its identity criteria. Consequently, the notion of the function univocally relates the actions performed and the target achieved by these actions in such a way that, if some other target is achieved due to external factors, we speak of a different function or activity.

Top term: Functions

This term classifies activities that are structural parts of a relatively stable complex system of permanent and self-contained procedures that repeat themselves within this system and thus contribute to its preservation. Although functions are part of a wider system, each function is completely distinct from the rest. As structural parts of a complex system, functions are actions that play a certain role within a system and aim at a specific goal, which they must accomplish. In this respect it is not possible that the purpose which a certain function has to achieve is different from that for which the function is performed. In other words, the purpose of a function is one of its identity criteria. Consequently, the notion of the function univocally relates the actions performed and the target achieved by these actions in such a way that, if some other target is achieved due to external factors, we speak of a different function or activity.

Narrower term Examples

Term: Governance

(Without scope note)

Facet “Natural processes”

Scope note: This facet comprises types of changes in states, in things and in entities that result from natural causes (e.g. earthquakes, floods).

Top term: Natural processes

This term classifies changes in states, in things and in entities that result from natural causes (e.g. earthquakes, floods).

Hierarchy “Natural disasters”

This hierarchy comprises types of changes in states of affairs, in things and in entities that result from natural causes which lead to their dissolution or to their modification to such a degree that their identity changes completely.

Top term: Natural disasters

This term classifies changes in states, in things and in entities that result from natural causes (e.g. earthquakes, floods).

Comment [LX1]: Λάθος, να αντικατασταθεί

Hierarchy “Geneses”

This hierarchy comprises types of changes in states of affairs, in things and in entities that result from natural causes which lead to the appearance of new entities/things/state of affairs or to the modification of the existing to such a degree that they are transformed to a new entity that is fundamentally different in nature.

Top term: Geneses

This term classifies changes in states of affairs, in things and in entities that result from natural causes which lead to the appearance of new entities/things/state of affairs or to the modification of the existing to such a degree that they are transformed to a new entity that is fundamentally different in nature.

Facet “Materials”

Scope note: This facet comprises types of physical substances that are constituents of material objects or are used in their construction, but whose individual substance is not a factor in the objects’ function (eg gold, water, bricks, etc.) The facet may include pure raw materials, processed or unprocessed, and also materials that have been modelled and are incorporated into objects. Their main attribute is that they cannot be individualized, that is, they cannot be

distinct "units" with clear and distinct boundaries or roles in respect to other units of the same or different kind.

Top term: Materials

This term classifies physical substances that are constituents of material objects or are used in their construction, but whose individual substance is not a factor in the objects' function (e.g. gold, water, bricks, etc.) The term may include pure raw materials, processed or unprocessed, and also materials that have been modelled and are incorporated into objects. Their main attribute is that they cannot be individualized, that is, they cannot be distinct "units" with clear and distinct boundaries or roles in respect to other units of the same or different kind.

Facet "Material Objects"

Scope note: The Material Objects facet comprises types of things with physical substance that constitute complete units and have a relatively stable form with identifiable boundaries. Such units can be natural or man-made (with regard to origin), simple or complex (with regard to composition) or consist of parts. In this latter case it is possible that the parts are either distinct and independent from the unit of which they are a part (e.g. a cave on a mountain) or that they have to be defined with reference to the sum of the parts (e.g. chess-chessmen).

Top term: Material objects

This term classifies things with physical substance that constitute complete units and have a relatively stable form with identifiable boundaries. Such units can be natural or man-made (with regard to origin), simple or complex (with regard to composition) or consist of parts. In this latter case it is possible that the parts are either distinct and independent from the unit of which they are a part (e.g. a cave on a mountain) or that they have to be defined with reference to the sum of the parts (e.g. chess-chessmen).

Hierarchy "Mobile objects"

This hierarchy comprises types of material objects that result from human endeavour, have aesthetic, cultural, historical, scientific, or other utilitarian value, and are by design or through collecting portable functional entities.

Top term: Mobile objects

This term classifies material objects that result from human endeavour, have aesthetic, cultural, historical, scientific, or other utilitarian value, and are by design or through collecting portable functional entities.

Narrower Term Examples

Term: Stelae

Scope note: Concrete pieces of stone erected usually upright as monuments, bearing inscriptions.

Term: Anvils

Scope note: solid objects with flat surface used to forge metals

Hierarchy “Built environment”

This hierarchy comprises types of structures, simple or complex, regardless of their size, duration of construction or use, that are attached or embedded in the ground and cannot be moved without irreversible damage.

Top term: Built environment

This term classifies structures, simple or complex, regardless of their size, duration of construction or use, that are attached or embedded in the ground and cannot be moved without irreversible damage.

Narrower terms:**Monuments:**

This term classifies individual edifices, buildings, or simple structures, plastic or painted works that are in situ, or are functional parts of bigger build complexes i.e. a House, a Temple, a Stadium, a Gate, a Theatre, a Library etc.

Narrower Term Examples

Term: Baptisteries

Scope note: Architectural structures for the Baptismal Rite. In their earliest form they were simple square, rectangular, circular, or cruciform

cisterns. They remained in use until the 6th century when infant baptism was intruded. [Kalomoirakis, 2001].

Term: Lighthouses

Scope note: Coastal buildings used to guide mariners. They usually have a tower equipped with lights at the top. [Kalomoirakis, 2001]

Complexes:

This term classifies aggregations of individual buildings – edifices that have a functional relationship i.e. a Sanctuary complex or a Monastery. The individual structures of a Complex are recorded as individual monuments.

Narrower Term Examples

Term: Harbors

Scope note: Areas where ships are built, repaired and equipped. They usually occupy large extends of space and include shipyards, storage houses for the ships' supplies, office buildings and housing for the workers. They can be fortified from the land and the sea. [Kalomoirakis, 2001]

Term: Monasteries (built complexes)

Scope note: Built complexes for religious retirement or seclusion from the world for monks, who are people living a celibate life according to the rule of a particular religious order and adhering to vows, especially of poverty, chastity, and obedience. [AAT, Tern ID 300000641]

Installations/ infrastructure:

This term classifies structures of considerable length, like Road networks, Water supply networks, that can extend beyond the boundaries of individual counties.

Narrower Term Examples

Term: Aqueducts

Scope note: The aggregation of structures through which water is transferred from the source to a main distribution point. [Kalomoirakis, 2001]

Term: Drainage systems

Scope note: Irrigation or piping network within a structure that conveys sewage, rainwater, or other material from point of entry to point of disposal, such as a public sewer. [AAT, Term ID 300008620].

Residential areas:

This term classifies built environments regardless of size, duration of construction or use, which include housing units, infrastructures and facilities that serve the social, or/ and professional and economic needs of their residents.

Narrower Term Examples

Term: Acropolises

Scope note: The higher and usually fortified sections of ancient Greek cities, typically containing temples and some public buildings and used as places of refuge. [AAT, Tern ID 300000700]

Term: Hamlets

Scope note: Small rural centres which contain basic community, education, and religious facilities and which generally do not exceed 250 residents; may also refer to the smallest incorporated units of a municipal government. [AAT, Tern ID 300008369]

Hierarchy “Physical features”

This hierarchy comprises types of specific formations that are integrally adapted to certain material objects. They cannot, therefore, be separated from the carrier-object, but they also do not identify with it, since it is only a part of the carrier-object that carries the entire feature. In this sense, the feature is fixed, with respect to the carrier-object, while any attempt to remove it will result in the loss of part of the carrier-object. They may have two- or three-dimensional geometric extent, but there are no natural borders that separate them completely, in an objective way from the carrier-objects. Instances of Physical Features can be features in a narrower sense (scratches, holes, reliefs, surface colours etc.), while in the wider sense, they are portions of particular objects with borders that are not absolutely defined, such as the core of the Earth or the head of a marble statue.

Top term: Physical features

This term classifies specific formations that are integrally adapted to certain material objects. They cannot, therefore, be separated from the carrier-object, but they also do not identify with it, since it is only a part of the carrier-object that carries the entire feature. In this sense, the feature is fixed, with respect to the carrier-object, while any attempt to remove it will result in the loss of part of the carrier-object. They may have two- or three-dimensional geometric extent, but there are no natural borders that separate them completely, in an objective way from the carrier-objects. Instances of Physical Features can be features in a narrower sense (scratches, holes, reliefs, surface colours etc.), while in the wider sense, they are portions of particular objects with borders that are not absolutely defined, such as the core of the Earth or the head of a marble statue.

Narrower Term Examples

Term: Reliefs

Scope note: Sequences of depictions that are raised above that background surface.

Term: Granules

Scope note: Globules (usually made of gold) with very small diameter which are used to decorated metal foils.

Hierarchy “Structural parts of material objects”

This hierarchy comprises types of objects especially constructed to be parts of a complex material object. These objects have autonomy in relation to the complex object of the appropriate type, to which they are intended to be added. Despite their autonomy, however, they are not independent in terms of their intended function, but are structural parts of the object, ie they have a specific function within the module to which they belong and which they form.

Top term: Structural parts of material objects

This class classifies objects especially constructed to be parts of a complex material object. These objects have autonomy in relation to the complex object of the appropriate type, to which they are intended to be added. Despite their autonomy, however, they are not independent in terms of their intended function, but are

structural parts of the object, ie they have a specific function within the module to which they belong and which they form.

Narrower Term Examples

Term: Strings

Scope note: not available

Term: bases (object components)

Scope note: Relatively massive elements at the bottoms of structures or objects upon which the upper parts rest or are supported. For terminal elements upon which objects rest and that are small in relation to the body of the object, use "feet." [AAT, term ID300001656]

Facet “Epochs”

Scope note: This facet comprises types of cultural, social, intellectual phenomena consistent with each other thus creating intelligible unities. These types of phenomena are spatially and temporally limited and their consistency relies on the appearance of at least one qualitative element that links them in a unity. The spatial and temporal restriction is a formal feature of the facet “epochs”. That means that the facet “epochs” has no reference to specific realizations of these types of phenomena. Consequently, this facet does not include time periods such as the Renaissance or the Roman period, or the period of the Balkan wars etc., but the types of their categorization, i.e. the abstract concepts by virtue of which it is possible to conceive the cultural, social and intellectual phenomena as coherent.

Top term: Epochs

This term classifies cultural, social, intellectual phenomena consistent with each other thus creating intelligible unities. These phenomena are spatially and temporally limited and their consistency relies on the appearance of at least one qualitative element that links them in a unity. The spatial and temporal restriction is a formal feature of the facet “epochs”. That means that this term has no reference to specific realizations of these types of phenomena. Consequently, this term does not include

time periods such as the Renaissance or the Roman period, or the period of the Balkan wars etc., but their categorization, i.e. the abstract concepts by virtue of which it is possible to conceive the cultural, social and intellectual phenomena as coherent.

Narrower Term Examples

Term: geological epochs

(without scope note)

Term: epochs of Art

(without scope note)

Term: epochs of technology

(without scope note)

Facet “Conceptual Objects”

Scope note: This facet comprises types of objects whose essence remains the same regardless of the carrier. They are products of the human activity supported by the use of technical or electronic devices (digital photos, geometric measurements etc.) or without it (concepts, thoughts). The fact that they are materially produced does not determine their identity. Conceptual objects have the ability to exist on more than one particular carrier at the same time (paper, electronic signals, photos, human memories etc.), without the latter changing or altering their identity. On the contrary, any alteration of the conceptual object itself (removal of a part, revision etc.) changes the definition of its identity.

Conceptual objects exist as long as they can be found on at least one carrier (human memory included). Their existence ends when the last carrier and the last memory are lost.

Top term: Conceptual objects

This term classifies objects whose essence remains the same regardless of the carrier. They are products of the human activity supported by the use of technical or electronic devices (digital photos, geometric measurements etc.) or without it (concepts, thoughts). The fact that they are materially produced does not determine their identity. Conceptual objects have the ability to exist on more than one particular

carrier at the same time (paper, electronic signals, photos, human memories etc.), without the latter changing or altering their identity. On the contrary, any alteration of the conceptual object itself (removal of a part, revision etc.) changes the definition of its identity.

Conceptual objects exist as long as they can be found on at least one carrier (human memory included). Their existence ends when the last carrier and the last memory are lost.

Hierarchy “Symbolic objects”

This hierarchy comprises types of identifiable symbols and/or any aggregation of symbols, that have an objectively recognizable structure and that are documented as single units (sets or arrays of signs). Symbolic objects may serve to designate something, or to communicate some propositional content, but they don’t depend on what they designate or communicate. They can exist on one or more carriers simultaneously without this feature adding to or removing from the identity of the symbols. Being objectively recognizable and documented as single units, symbolic objects are independent of the material carrier and the symbolized content as well. Consequently Symbolic Objects may or may not have a specific meaning.

Top term: Symbolic objects

This term classifies identifiable symbols and/or any aggregation of symbols, that have an objectively recognizable structure and that are documented as single units (sets or arrays of signs). Symbolic objects may serve to designate something, or to communicate some propositional content, but they don’t depend on what they designate or communicate. They can exist on one or more carriers simultaneously without this feature adding to or removing from the identity of the symbols. Being objectively recognizable and documented as single units, symbolic objects are independent of the material carrier and the symbolized content as well. Consequently symbolic objects may or may not have a specific meaning.

Narrower term

Information objects:

This term classifies all products of human mental activity having an objectively recognizable structure and being documented as single semantic units. Information Objects give us information on the propositional content of a conceptual object. The content and the symbols used are linked in such a way that any attempt at transcription to another set of symbols normally leads to the alteration of the information. Being a semantic unit that connects the information and the symbol, every information object assumes in advance the symbolic one, but not vice versa. That is why the informational object is a subdivision not only of the propositional object but of the symbolic as well. It allows us to draw conclusions about the socio-historic and cultural framework of the object, its creator and the way it was created. For example the various forms of primary reference data (archives etc.) used in scientific research.

Hierarchy “Propositional objects”

This hierarchy comprises types of mental contents produced by human activity, representing data of physical, logical or psychological realities or even fiction. These objects, though expressed by the use of symbols, do not depend on them, a fact that allows their transcription to another set of symbols. However a propositional object sometimes can not be differentiated distinctively from the used symbols (e.g. a poem).

Top term: Propositional objects

This term classifies mental contents produced by human activity, representing data of physical, logical or psychological realities or even fiction. These objects, though expressed by the use of symbols, do not depend on them, a fact that allows their transcription to another set of symbols. However a propositional object sometimes cannot be differentiated distinctively from the used symbols (e.g. a poem).

Narrower term

Information objects:

This term classifies all products of human mental activity having an objectively recognizable structure and being documented as single semantic units. Information

Objects give us information on the propositional content of a conceptual object. The content and the symbols used are linked in such a way that any attempt at transcription to another set of symbols normally leads to the alteration of the information. Being a semantic unit that connects the information and the symbol, every information object assumes in advance the symbolic one, but not vice versa. That is why the informational object is a subdivision not only of the propositional object but of the symbolic as well. It allows us to draw conclusions about the socio-historic and cultural framework of the object, its creator and the way it was created. For example the various forms of primary reference data (archives etc.) used in scientific research.

Narrower Term Examples

Term: Decrees

Scope note: Texts drawn up and balloted by the institutional bodies of the Greek city-states (boulē, the assembly [*ekklēsia*]) through varying procedures in the different city-states.

Term: Honorific decrees

Scope note: Decrees attributing honour (materially or morally) to an individual for the services he provided to the city-state (polis).

Term: Identity

Scope note: The distinct features, whose combined conceptualisation and expression substantiate persons and/or groups.

Term: Social identity

Scope note: An individual's self-concept based on specific biological, social and cultural parameters (ethnicity, religion, language, social class, gender etc.), as derived from his or her interaction with the broader social environment.

Term: Gender Identity

Scope note: Gender identity is an aspect of the social identity referring to stereotypes about the characteristics and the roles of its bearers,

according to the dominant social and cultural norms regarding their biological sex.

Hierarchy “Methods”

This hierarchy comprises types of systems of specifications, restrictions and regulations about the design (this involves setting the principles, specifying the requirements and the means for achieving the desired result, estimating the consequences and the expected outcome) and / or the performance of the necessary activities (application of the selected principles and rules, provision and activation of the means and requirements for the realization of the chosen goals, re-estimation of the consequences) in order to achieve certain results of a specific type.

Top term: Methods

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Narrower terms

Procedures:

This term classifies restrictions, standards and rules concerning the succession of steps that should be followed in order to achieve a certain type of result.

Techniques:

This term classifies rules, restrictions and requirements relating to the performance of activities aiming at the production of material objects.

Facet “Groups and Collectivities”

Scope Note: This facet comprises types of groups of people of any kind (economic, religious, athletic, political, national, etc.) that are the result of the joint actions

of at least two people. These relations should be based on the adoption of common beliefs and / or goals and / or activities and should present organizational features.

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Narrower term Examples

term: Ethnicities

(without scope note)

term: Political parties

(without scope note)

term: Artistic groups

(without scope note)

term: Groups of demonstrators

(without scope note)

Facet “Offices”

Scope Note: This facet comprises properties that are assigned to a person or are acquired by him or arise from his relationship with other persons or objects. The assignment of these properties to a person is statutory and / or socially recognized, even if it stands for a very short period of time. Therefore the properties included in this facet are not the physical properties of the subjects as living beings. They are socially mediated and acquire their meaning within the framework of an organized community.

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