

Hungarian National Library Platform

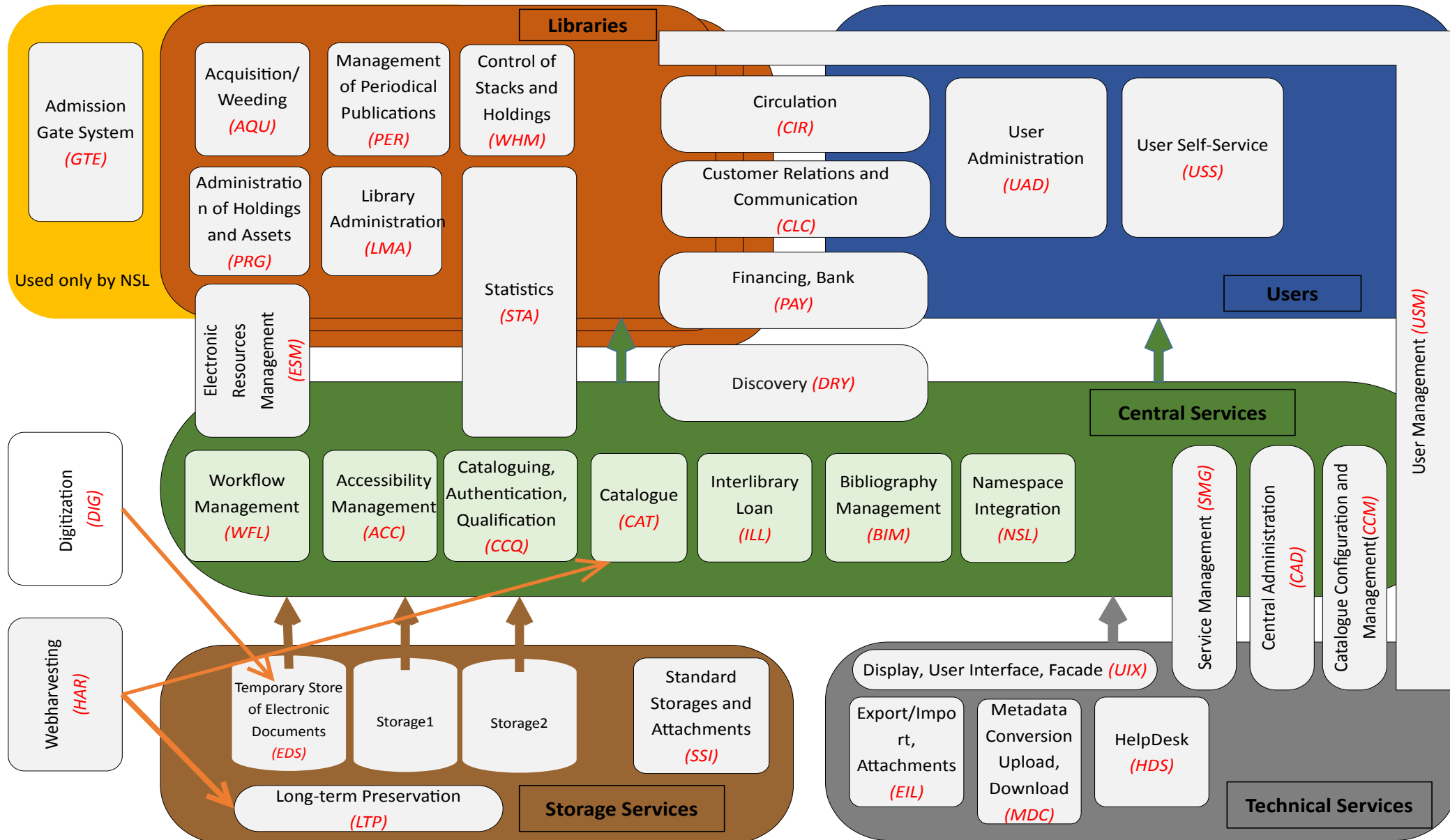
Data model: Quintuplet, MARC21, BIBFRAME and Dublin Core

Miklós Lendvay
Hungarian National Széchényi Library
Dublin Core Metadata Initiative virtual 2021, 5. October

The Hungarian National Library Platform



ORSZÁGOS
SZÉCHÉNYI
KÖNYVTÁR



The Wiki Universe and the Library Domain



ORSZÁGOS
SZÉCHÉNYI
KÖNYVTÁR



WIKIDATA



WIKIPEDIA
The Free Encyclopedia



**Entity based
flexible data model**

**Distributed system
real multitenancy**

**Flexible workflows
Parameter- and
context-driven**

**Modularity; based
on microservices**

ORSZÁGOS
SZÉCHÉNYI
KÖNYVTÁR



**QUALITY
LEVEL**

**MULTIPLE DATA
EXCHANGE FORMATS**

**VARIATIONS
OF DATA AND
COMPETING
DATA**

DATA-RELATED REQUIREMENTS

**VALIDITY OF
DATA FOR
CERTAIN PERIOD
OF TIME**

**SOURCE OF
INFORMATION**

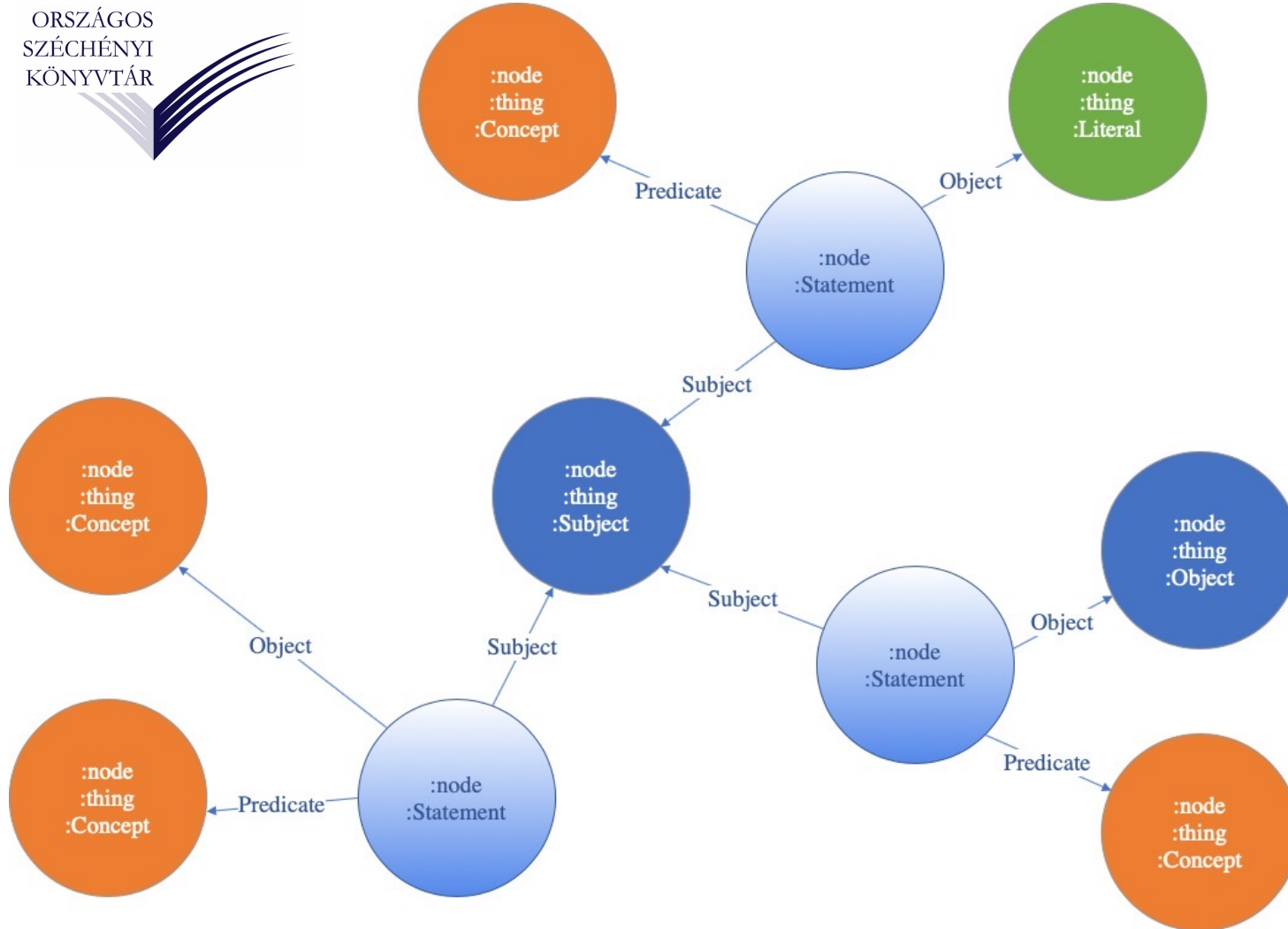
**FLEXIBLE
WORKFLOWS FOR
MANY TYPES OF
AGENTS; PARAMETER
AND CONTEXT-DRIVEN**

TRUSTWORTHINESS

Generic 'dynamically expandable value set' knowledge graph

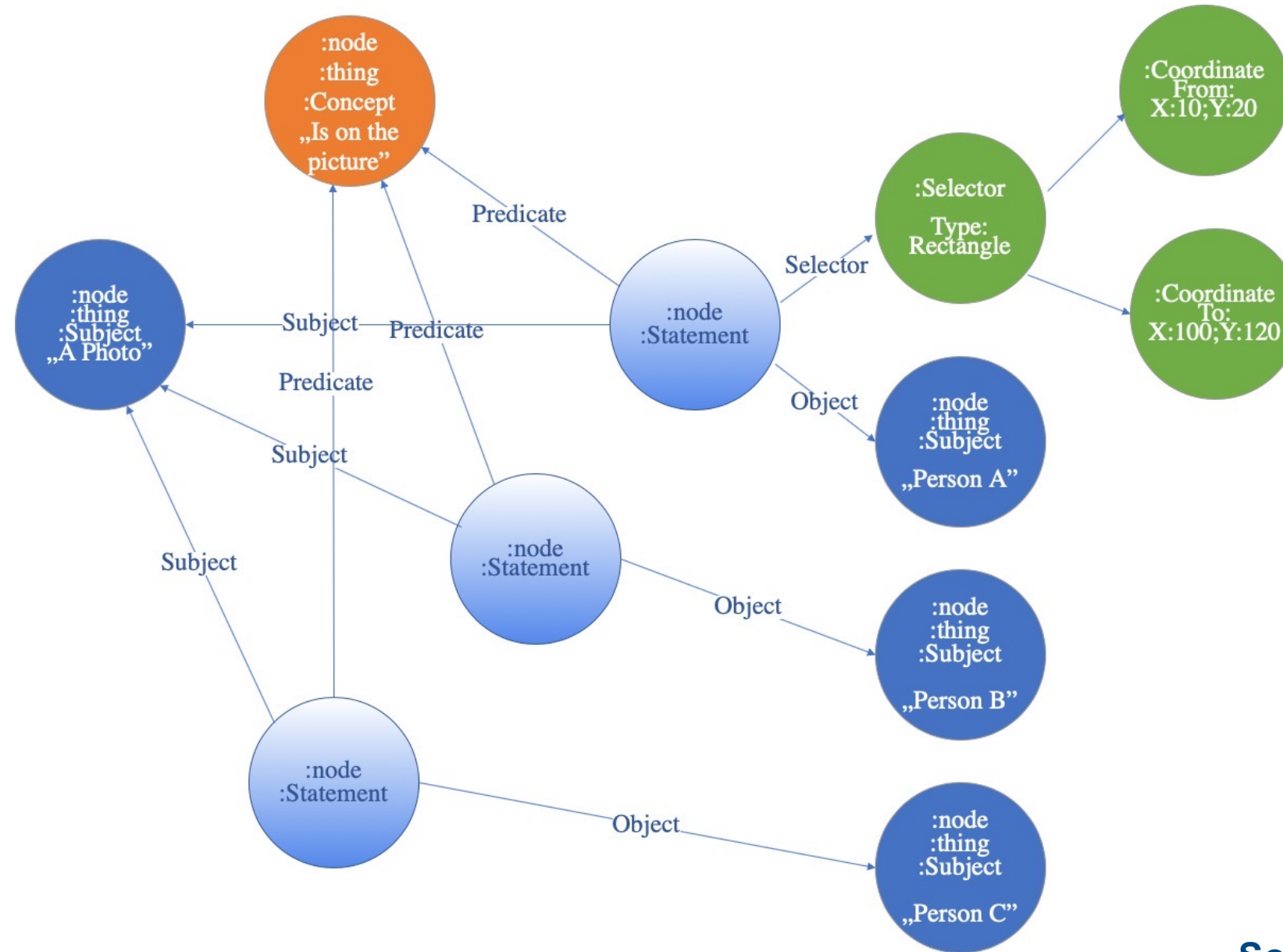


ORSZÁGOS
SZÉCHÉNYI
KÖNYVTÁR



- When creating a triplet, the predicate is not stored as the quality of the relationship between the records, instead the predicate is built into the relationship chain as a record.
- The common point of relationships is the statement that is able to make a piece of elementary statement about a given subject.
- The object of the statement may be another object, literal value, 'itemized' literal value.

The Structure of General Statements

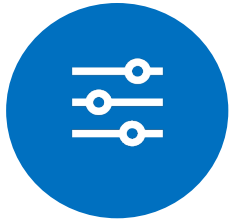


- The “triplet” is used to define elementary statements
- To add more specific data, statements must be made about a statement
- All statements are equally true until we make a “false” statement about that statement
- The statement “tree” can be branched to infinity
- The framework does not provide guidance on how to deal with competing statements

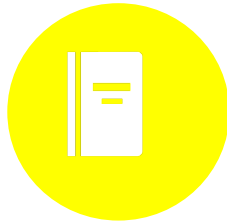
Anatomy of Statements: The Structure of a Quintuplet



SUBJECT:
THE SUBJECT
IS THE
DOCUMENT
TO WHICH
THE
STATEMENT
APPLIES



SELECTOR:
THE POSITION
OF THE
STATEMENT
ALONGSIDE THE
DIMENSIONS OF
THE DOCUMENT
TYPE OF THE
SUBJECT



PREDICATE:
THE PREDICATE
IS A
VOCABULARY
ELEMENT
TIIFYING THE
STATEMENT,
WITH AN
EXTENDABLE
VALUE SET

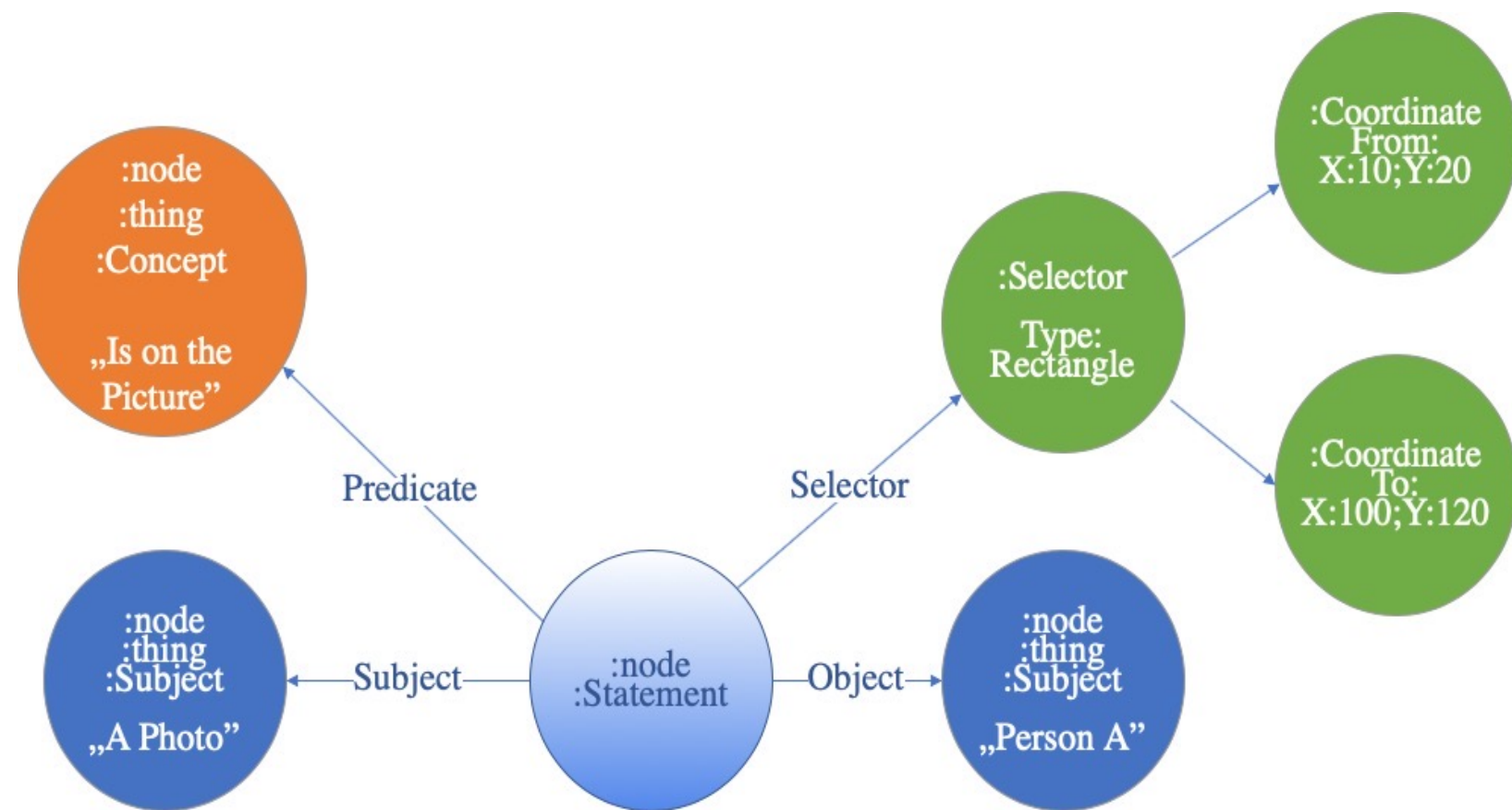


OBJECT:
THE OBJECT IS
THE BODY OF
THE STATEMENT
THAT CAN STORE
A LITERAL VALUE,
POINT TO AN
ENTITY
AVAILABLE IN
ANOTHER
SYSTEM



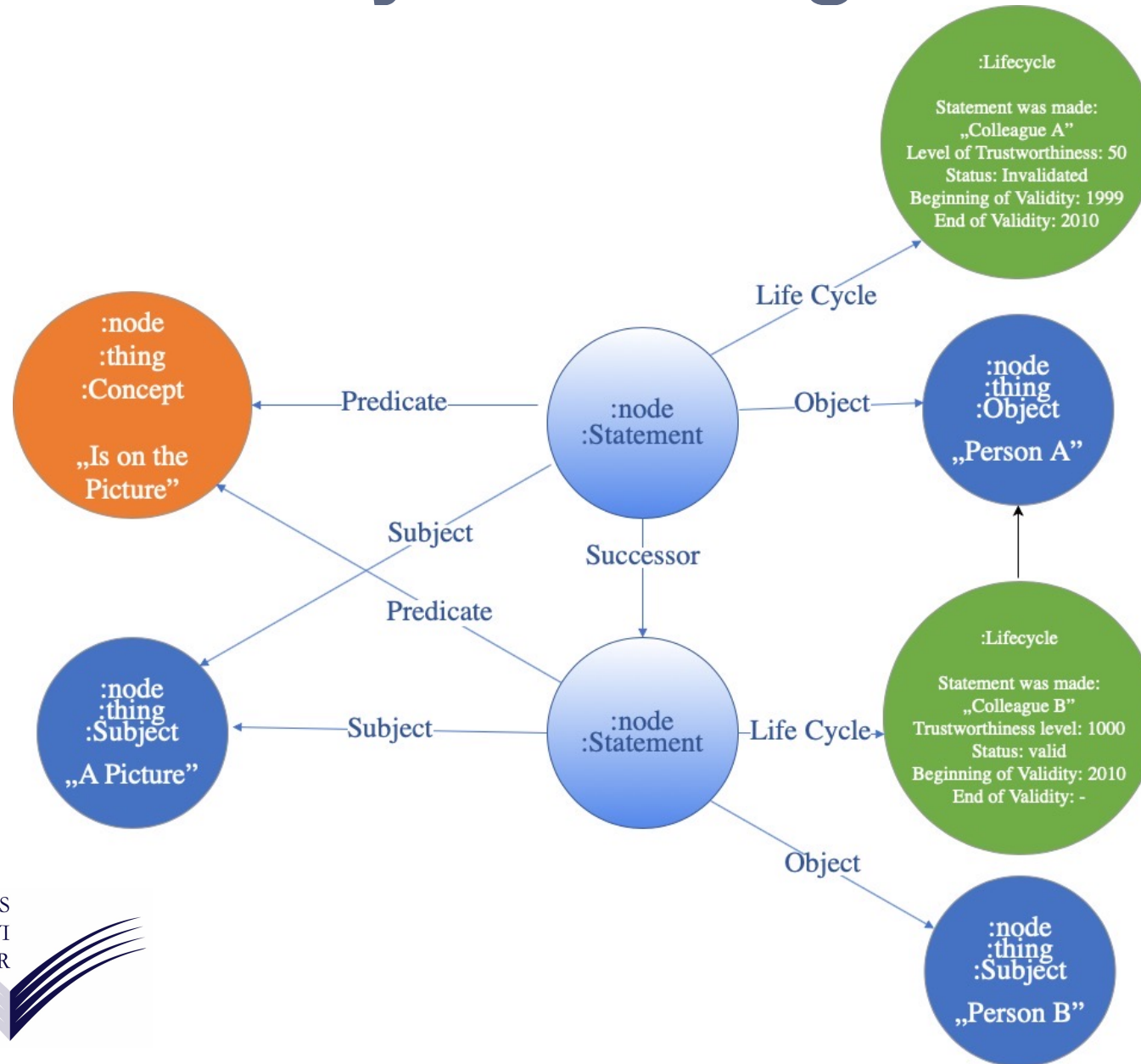
LIFECYCLE:
THE LIFE CYCLE OF A
STATEMENT CARRIES,
AMONG OTHER THINGS,
THE TIME OF CREATION,
THE CREATING AGENT, AS
WELL AS THE BEGINNING
AND THE END OF THE
VALIDITY PERIOD OF THE
STATEMENT, AND THE
“CERTAINTY”
CLASSIFICATION OF THE
STATEMENT.

IIIF – localisation of abstract statements



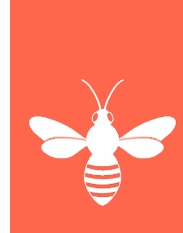
- The framework specializes in displaying / visualising metadata
- The statements are placed on a virtual canvas
- At the visualisation of an image the given annotations, metadata can be placed in the viewer in an exact manner
- The abstraction formulated in the framework can be extended to all types of media content, by defining the appropriate coordinate system

Normalized Life Cycle Management of Statements

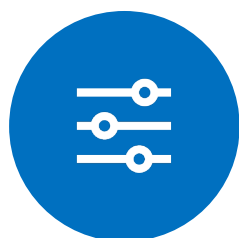


- An illustration of a hierarchy of conflicting statements
- Easy to select statements currently accepted
- Preserving the history of statements
- Statement protection: "Immutable" data

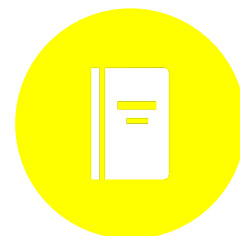
Cataloguing Module – Local Namespace



ENTITY TYPE:
THE DEFINITION OF
THE POSSIBLE
REPRESENTATIONS
OF THE ENTITIES
MANAGED IN THE
SYSTEM



**AVAILABLE
PROPERTY:**
THE DEFINITION
OF NAMESPACE
ELEMENTS
CREATED FOR
TYPES.



ENTITY:
ENTITIES AND
RECORDS
MANAGED IN
THE SYSTEM



PROPERTY:
STATEMENTS
MANAGED IN
THE SYSTEM

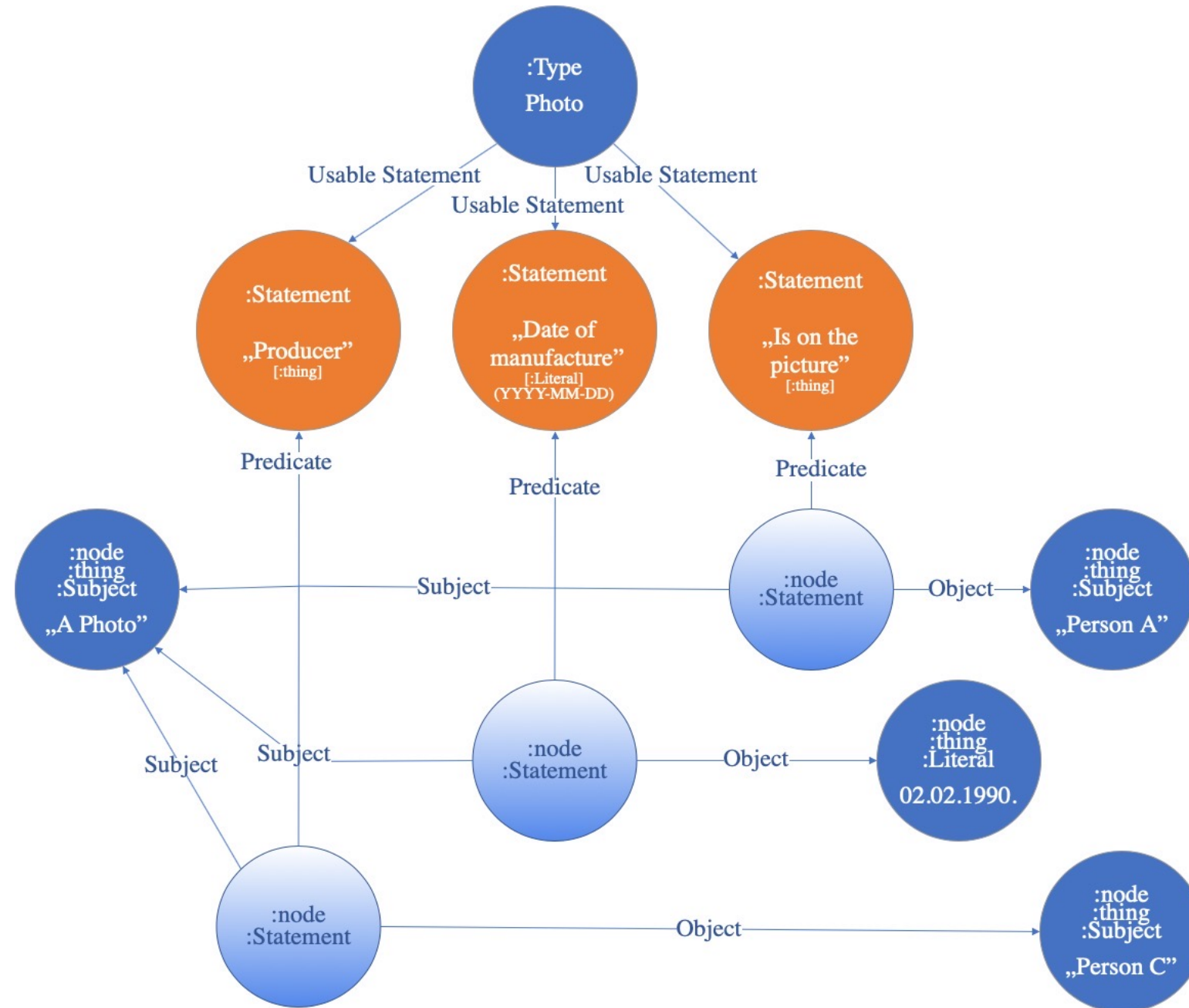


EVENT:
RECORD OF
THE CHANGES
IN THE
SYSTEM

Customizable Set of Values for Record Types



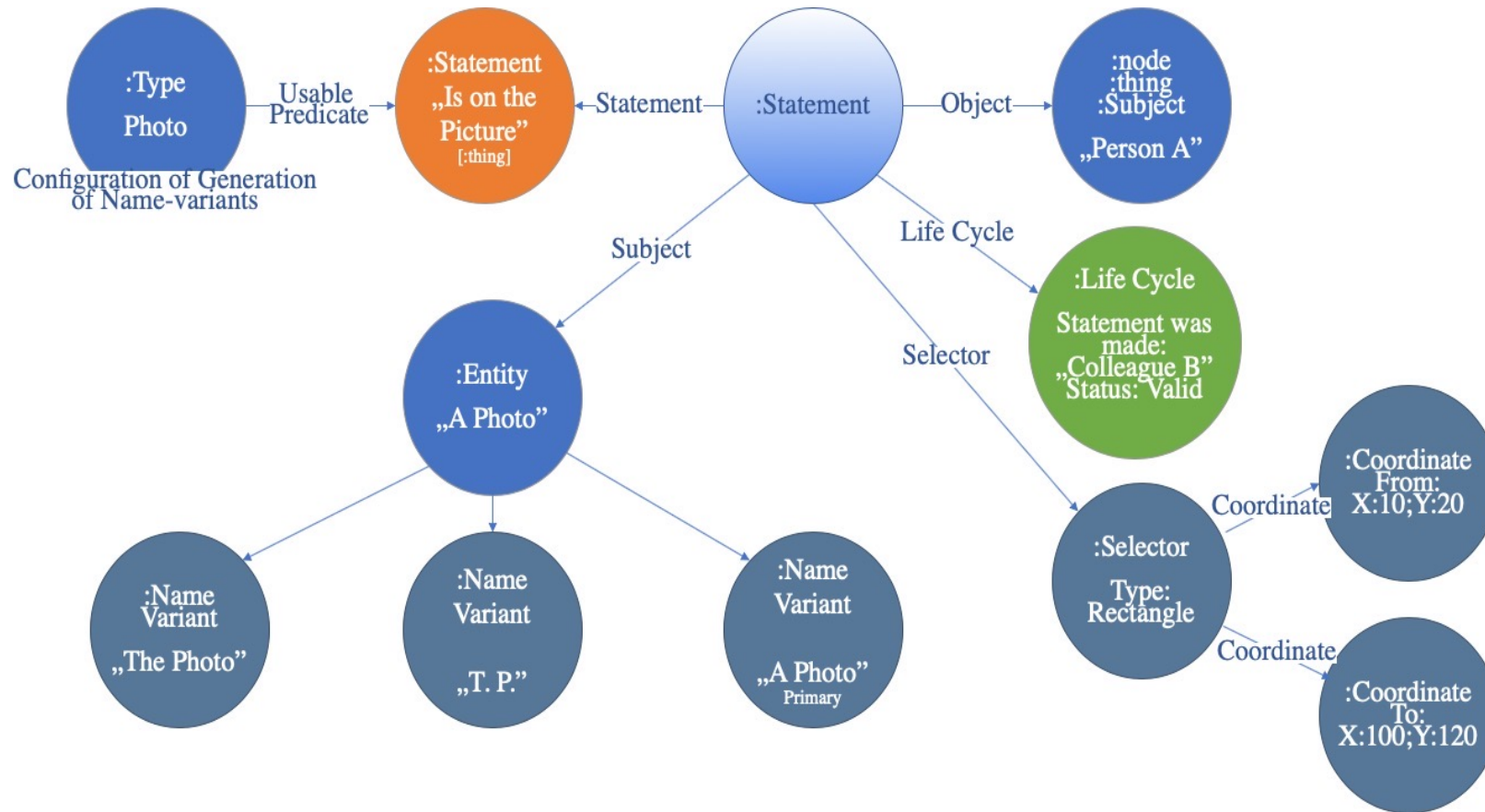
ORSZÁGOS
SZÉCHÉNYI
KÖNYVTÁR



- Entry types exist as part of the data model
- Possible statements (vocabulary) handled by a particular type are freely expandable
- At the statement level, the type of data, the precision of the data, the position of the data on the “canvas” defined by the statement can be defined
- Statement types protection: “Immutable” data

Source / Copyright: HerMészSoft

Authority Record simplified Graph Representation

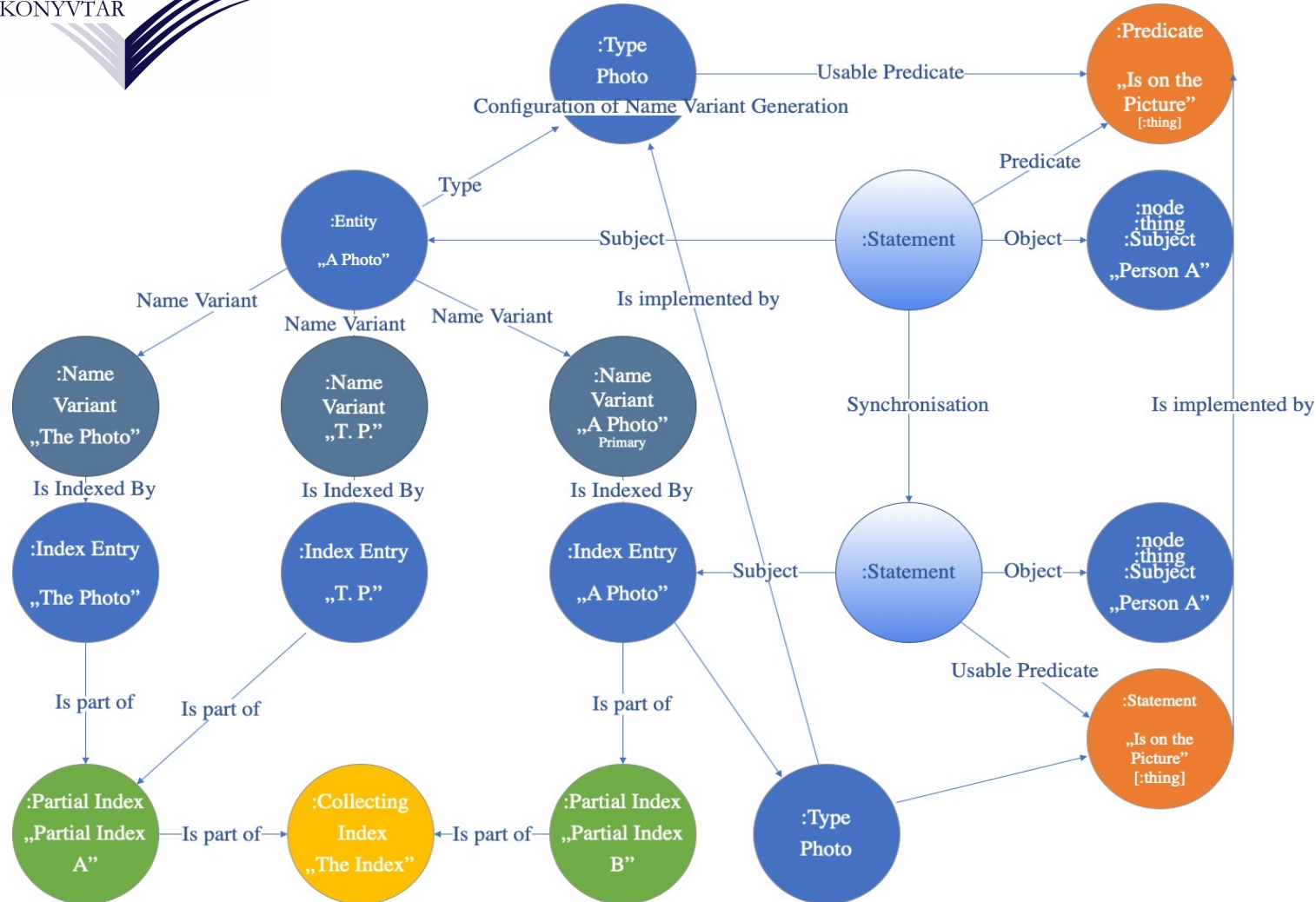


- Individually configurable vocabulary set
- Elemental, individually positionable statements
- Normalized handling of complex data
 - “Immutable” statements
 - Historical managing
- Automatically derived name variants based on statements

Relationship between Authority Record and Index Items Indexing Records



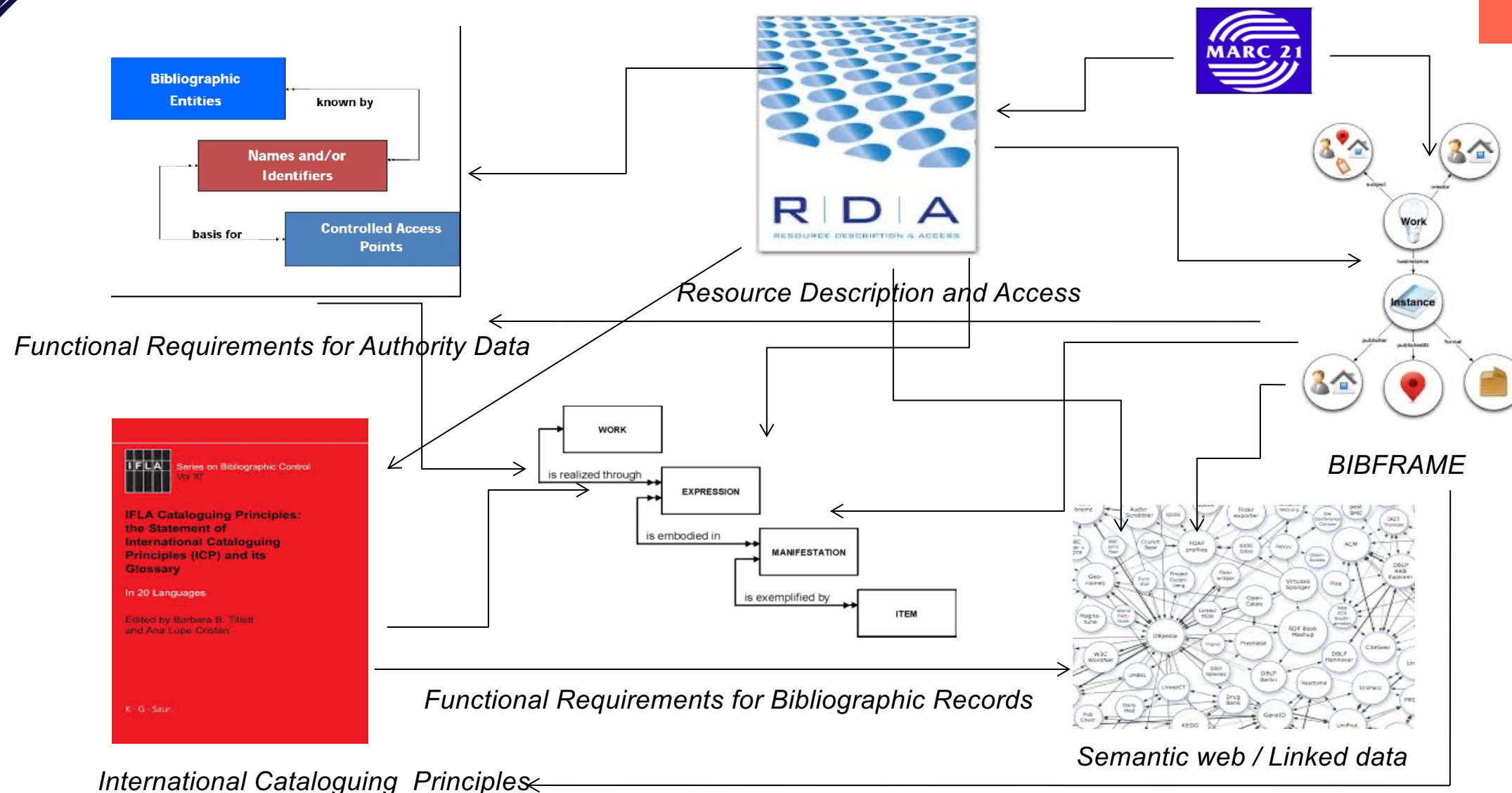
ORSZÁGOS
SZÉCHÉNYI
KÖNYVTÁR



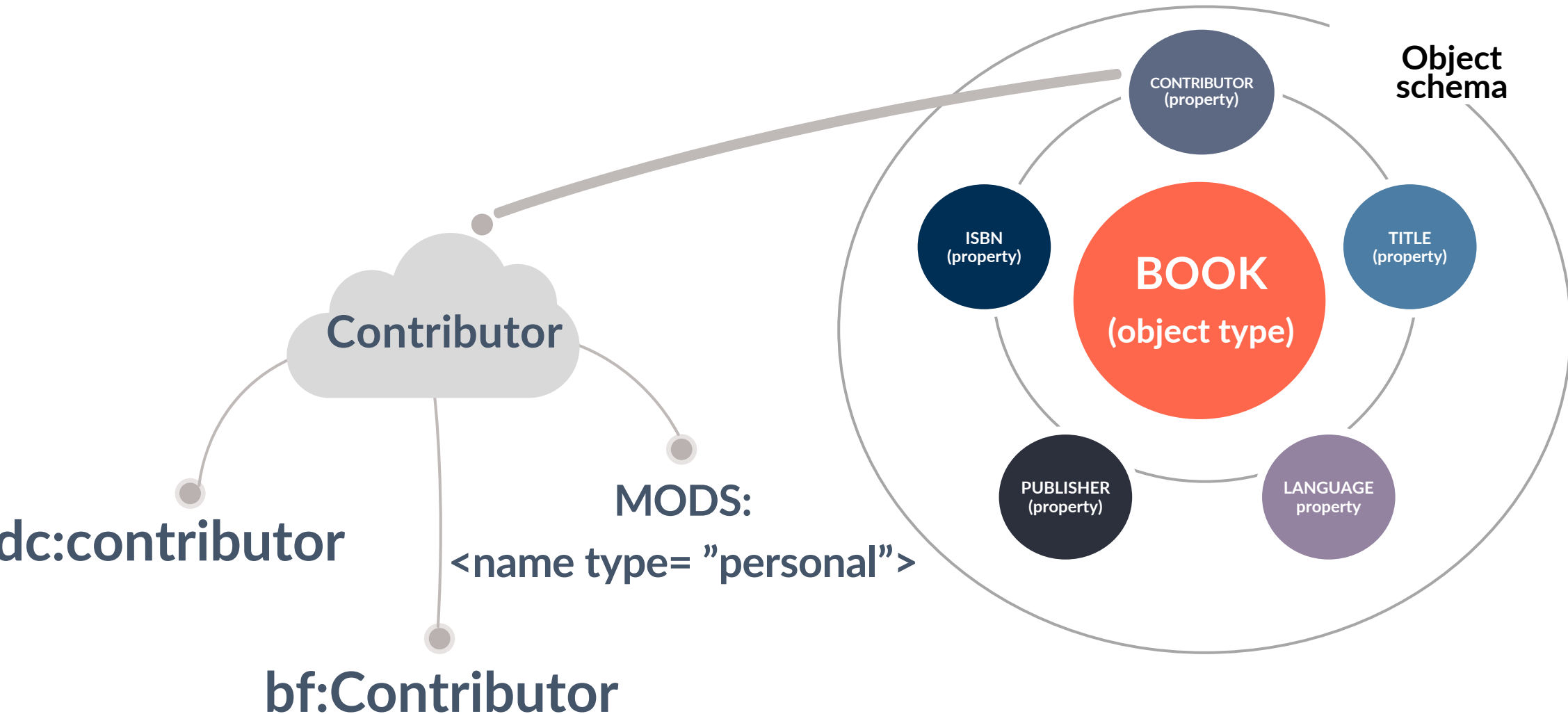
- Entity name variants are formed automatically based on the statements on the entity and the specified configuration
- Each name variant is represented by a separate Index item
- For namespace entities, index items are populated.
- The item is constantly synchronized to changes in the entity.
 - "Immutable" data
 - Historical management

Source / Copyright: HerMészSoft

Identifying and Linking of Data



Property Mapping





folio



future of libraries is open

More information about the projects:
Hungarian National Library Platform:
<http://hnlp.oszk.hu>
FOLIO: <https://www.folio.org>
<https://wiki.folio.org>

Miklós Lendvay, National Széchényi Library Hungary, lendvay.miklos@oszk.hu