

SNAP:DRGN Cookbook 1.0

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Executive Summary:

The SNAP:DRGN recommendations assume five scenarios relating to the encoding, publication and linking of ancient person data in RDF, and connecting them to the SNAP graph. Only the first three scenarios are described in this version of the Cookbook.

Scenario 1. Putting your prosopography online

For you: you have a prosopographical collection in digital form, but need to put it online. This is a precondition for all further contribution to the SNAP graph.

Scenario 2. Contributing a summary of your online prosopography to SNAP

For you (SNAP:DRGN can help): your person database is online, all persons have unique and stable urls, you then need to generate some RDF so that the SNAP graph can import data about your persons.

Scenario 3. Establishing alignment between prosopographies by adding annotations to SNAP

For SNAP:DRGN: inevitably different prosopographies will contribute data about the same person. To make the URIs in the SNAP graph useful as a virtual authority of ancient persons, we need to disambiguate and co-reference as many of these duplicates as possible.

Scenario 4. Expressing relationships between persons or making other scholarly statements about entries in SNAP

To be added shortly.

Scenario 5. Annotating your text or other record with a SNAP uri to uniquely identify a person

To be added shortly.

Scenario 1. Putting your prosopography online

The first task is to put your prosopography online, with stable URIs for as many entities as you can identify (person, name, source etc.). You need to be able to point to (e.g.) <http://www.example.com/person/1234567> and reliably/persistently find here your record about (e.g.) Procopius. This may be no more than an HTML page intended for human consumption. Getting this far can be done in many ways, for example:

1. A relational database linked to web pages. For example, if you have a MySQL database with columns for id, name, date, place of birth, occupation etc, you might write a PHP script which connects to the database and creates an HTML page. So the URL <http://www.example.com/persondatabase/query.php?ID=53> would look up the ID for person 53 and create a dynamic web page about her. Turning that [persondatabase/query.php?ID=53](http://www.example.com/persondatabase/query.php?ID=53) into a “cool URI” such as www.example.com/person/53 would be done using rewrites in your web server.
2. Generate a set of static HTML web pages, one for each person, from your data, and put them on a web server.
3. Use an instance of a Content Management System (eg Drupal) and use a structured template for managing the components of your data.

Ask your local IT support for more ideas.

Scenario 2. Contributing a summary of your online prosopography to SNAP

You might go further and make the entirety of your prosopography available (or as much of it as you are comfortable with releasing openly) in a more formal way using RDF, using whatever ontology and format you think useful (CIDOC CRM can work well for normal prosopography, cf <http://www.lgpn.ox.ac.uk/id/V5a-35642/rdf>). This will enable software to get at the data as well as humans. To manage this, you'll need some sort of **transformation** of your data to RDF, using a categorisation of entities, and a set of names for the relationships (properties) between them. How to write a transformation to RDF is beyond the scope of this cookbook; <http://www.w3.org/wiki/ConverterToRdf> has many pointers to useful software.

It is only a *subset* of your data, defined below, that SNAP:DRGN will use to build on at the moment. For each of the person-like entities you want to expose to SNAP, you must have:

- a **URI** (i.e. the URL on your own website in 1. above)
- a **type**, drawn from this list:¹
 - lawd:Person
 - lawd:Deity

```
<http://www.lgpn.ox.ac.uk/id/V5a-35652#this> rdf:type lawd:Person .
```

```
<http://www.trismegistos.org/person/181#this> rdf:type lawd:Person .
```

```
<http://www.paregorios.org/resources/roman-elites/persons/pir2-a-0653>  
rdf:type lawd:Person .
```

If you have other tables, i.e. of personal names, attestations of persons (or names), citations of source texts, these may also be listed, with **types** from the following list:

- lawd:PersonalName

```
<http://www.lgpn.ox.ac.uk/nym/nSuntulch>  
rdf:type lawd:PersonalName ;  
lawd:primaryForm "Συντιύχη"@grc ,  
"Suntuch"@grc-Latn .
```

```
<http://www.paregorios.org/resources/roman-elites/names/pir2/a-0653>  
rdf:type lawd:PersonalName ;  
lawd:primaryForm "APPIVS ANNIVS GALLVS"@lat .
```

```
<http://www.trismegistos.org/name/860#this>  
rdf:type lawd:PersonalName ;  
lawd:primaryForm "Πετεαρσεμθευς"@grc ,  
"Peteharsomtous"@en .
```

Names can have primary and variant forms applied to them, and can, like Persons, have Attestations:

```
<http://www.trismegistos.org/name/509#this>  
rdf:type lawd:PersonalName ;  
dc:publisher <http://www.trismegistos.org> ;
```

¹ The namespace prefixes used in these examples are listed at the end of this document.

```
lawd:primaryForm "Νεχθανούπιος"@grc , "Nechtanoupis"@en ;
lawd:hasAttestation <http://www.trismegistos.org/ref/852#this> .
```

- o lawd:Attestation

```
<http://www.lgpn.ox.ac.uk/id/V5a-35652#personref-1>
rdf:type lawd:Attestation , cnt:ContentAsText ;
dc:publisher <http://www.lgpn.ox.ac.uk/> ;
cito:citesAsEvidence <http://www.lgpn.ox.ac.uk/id/V5a-35652#ref-1> ;
cnt:chars "Ἀπολλώνιος" .
```

```
<http://www.trismegistos.org/ref/965#this>
rdf:type lawd:NameAttestation, lawd:PersonAttestation, cnt:ContentAsText ;
dc:publisher <http://www.trismegistos.org> ;
cito:citesAsEvidence <http://www.trismegistos.org/text/56#this> ;
lawd:hasCitation <http://www.trismegistos.org/ref/965#citation> ;
cnt:chars "Πετεαρσεμθεύς" .
```

- o lawd:Citation

```
<http://www.trismegistos.org/ref/965#citation>
rdf:type lawd:Citation, cnt:ContentAsText ;
cnt:chars "BGU 3 994, col. 1, 4" .
```

```
<http://www.lgpn.ox.ac.uk/id/V5a-36352#ref-1>
rdf:type lawd:Citation , cnt:ContentAsText ;
cnt:chars "ISmyrna 690 III, 3" .
```

Properties that you may attach to person-like entities, if you have the information available, include:

- **Name:** it is recommended you provide a human-readable and searchable name string even if you also have an unambiguous and machine-actionable uri to include. It may be useful to provide this in several languages or transliteration schemes (e.g. original language; Latin transliteration; common English or other modern language form).

```
<http://www.lgpn.ox.ac.uk/id/V5a-35652#this>
foaf:name "Ἀπολλώνιος"@grc , "Apollwnios"@grc-Latn ,
"Apollonius"@en , "ابولونيوس"@ar
lawd:hasName <http://www.lgpn.ox.ac.uk/nym/nApollwlnios> .
```

```
<http://www.trismegistos.org/person/181#this>
lawd:hasName <http://www.trismegistos.org/name/860#this> ;
foaf:name "Πετεαρσεμθεύς"@grc .
```

If you do not have uris for names in your database, the lawd:hasName property above may be omitted.

- **Date:** Your database may express a complex set of dating information related to your person, the sources for her, specific or approximate, certain or otherwise, etc.; or it may contain only a document date, only a date of death, an undifferentiated “floruit”, or no dating information at all. Many large datasets will not have the capacity to distinguish between dates relating to a person and associated dates relating to events or documents, and so the

SNAP:DRGN RDF will only contain a single date in as simple a form as possible, using the property **snap:associatedDate** to record a best-guess date range that can reasonably be assumed to overlap with the life of the person. Please express this date as an ISO 8601 date (YYYY[-MM-DD]) or time interval (<start>/<end>), as follows:

```
<http://www.example.com/person/123#this>
  snap:associatedDate "0101/0200" .
```

(example of a “second century” person)

```
<http://www.example.com/person/456#this>
  snap:associatedDate "0212-03-15/0270-12" .
```

(example of a person known to have been born on March 15th 212 CE, and to have died some time in December 270.)

```
<http://www.trismegistos.org/person/181#this>
  snap:associatedDate "-0199/-0062" .
```

```
<http://www.lgpn.ox.ac.uk/id/V5a-47783>
  snap:associatedDate "0183/0183" .
```

- **Place:** you may have several places of different kinds associated with a person, recorded in your RDF as attributes or associated with events. SNAP is only concerned with a place association that might help to identify a person, which we ask that you record as follows:

```
<http://www.trismegistos.org/person/1234#this>
  snap:associatedPlace <http://pleiades.stoa.org/places/246474#this> .
```

```
<http://www.lgpn.ox.ac.uk/id/V5a-41349>
  snap:associatedPlace <http://pleiades.stoa.org/places/550496> ;
  foaf:name "Aristoboulos"@grc-Latn .
```

```
<http://pleiades.stoa.org/places/550496>
  rdf:type lawd:Place, cnt:ContentAsText ;
  cnt:chars "Chios"@en .
```

```
<http://www.trismegistos.org/person/181#this>
  snap:associatedPlace <http://www.trismegistos.org/place/1628#this> .
```

```
<http://www.trismegistos.org/place/1628#this>
  rdf:type lawd:Place, cnt:ContentAsText ;
  cnt:chars "Egypt, U04a - Pathyris (Gebelein)" .
```

If you only have a text string, rather than a Pleiades uri, for the place, you should mint your own uri for this purpose, to which a text string will be attached:

```
<http://iospe.kcl.ac.uk/person/789#this>
  snap:associatedPlace <http://iospe.kcl.ac.uk/person/789#place> .
```

```
<http://iospe.kcl.ac.uk/person/789#place>
  rdf:type lawd:Place, cnt:ContentAsText ;
  cnt:chars "Chersakes"@en , "Χέρσακες"@grc .
```

- **Person Attestation:** to cite a plain-text bibliographic reference, either to the primary source in which the person appears, or the secondary work that describes the existence of the person,

```
<http://www.lgpn.ox.ac.uk/id/V5a-57002#this>
  rdf:type lawd:Person ;
  lawd:hasAttestation <http://www.lgpn.ox.ac.uk/id/V5a-57002#personref-1> .
```

```
<http://www.lgpn.ox.ac.uk/id/V1-1006#personref-1>
  rdf:type lawd:Attestation ;
  dc:publisher <http://www.lgpn.ox.ac.uk/> ;
  lawd:hasCitation <http://www.lgpn.ox.ac.uk/id/V1-1006#ref-1> .
```

```
<http://www.lgpn.ox.ac.uk/id/V1-1006#ref-1>
  rdf:type lawd:Citation , cnt:ContentAsText ;
  cnt:chars "IG XII Suppl. p. 132 no. 796, 2" .
```

If you have a web page with information about this attestation (as Trismegistos does, for example) you may use this as the URI rather than the #attestation link above. Likewise, if there is a direct link to the primary or secondary text (Papyri.info, Jstor, EDH, etc.), that can also be linked, as in the following example. In any case, it is useful to include the plain text (“ContentAsText”) citation as well as any pages or links.

```
<http://www.trismegistos.org/person/1234#this>
  lawd:hasAttestation <http://www.trismegistos.org/ref/4321> .

<http://www.trismegistos.org/ref/4321>
  rdf:type lawd:Attestation ;
  lawd:hasCitation <http://www.trismegistos.org/ref/4321#citation> ;
  cito:citesAsEvidence <http://papyri.info/ddbdp/bgu;1;100> .

<http://www.trismegistos.org/ref/4321#citation>
  rdf:type lawd:Citation, cnt:ContentAsText ;
  cnt:chars "BGU I, 100" .
```

- **Name Attestation:** if you separately record the attestation of the name, either as a bibliographic citation, a link to a bibliographic reference, or a link to the primary text itself, please encode this attestation as follows:

```
<http://www.trismegistos.org/ref/1661#name>
  rdf:type lawd:Attestation, cnt:ContentAsText ;
  lawd:conjunctOf <http://www.trismegistos.org/ref/1661#person> ;
  dc:publisher <http://www.trismegistos.org> ;
  cito:citesAsEvidence <http://papyri.info/ddbdp/bgu;3;993#this> ;
  lawd:hasCitation <http://www.trismegistos.org/ref/1661#citation> ;
  cnt:chars "Ἀπολλώνιος" .

<http://www.trismegistos.org/ref/1661#citation>
  rdf:type lawd:Citation, cnt:ContentAsText ;
  cnt:chars "BGU 3 993, col. 3, 14" .
```

- **Relationships:** familial relationships and similar bonds that are part of the identity of a person may be expressed by means of the **snap:has-bond** property, pointing to a generated identifier for each relationship. The relationships are then defined by means of (1) one or more classes (e.g. “FatherOf”, “WifeOf”,

“AdoptedFamilyRelationship”²; (2) a target with the property **snap:bond-with**, indicating the person with whom this relationship is held.

```
<http://www.trismegistos.org/person/181#this>
  snap:has-bond <http://www.trismegistos.org/person/181#rel-father-180> ;
  snap:has-bond <http://www.trismegistos.org/person/181#rel-son-531> ;
  snap:has-bond <http://www.trismegistos.org/person/181#rel-spouse-13423> .

<http://www.trismegistos.org/person/181#rel-father-180>
  rdf:type snap:SonOf, cnt:ContentAsText ;
  snap:bond-with <http://www.trismegistos.org/person/180#this> ;
  cnt:chars "Father: Panebchounis" .

<http://www.trismegistos.org/person/181#rel-son-531>
  rdf:type snap:SonOf ;
  snap:bond-with <http://www.trismegistos.org/person/531#this> .

<http://www.trismegistos.org/person/181#rel-spouse-13423>
  rdf:type snap:SpouseOf ;
  snap:bond-with <http://www.trismegistos.org/person/13423#this> .
```

In the next example, we do not have formal identifiers for a father and mother, just their names, so use the **cnt:ContentAsText** notation.

```
<http://www.lgpn.ox.ac.uk/id/V5a-52993>
  snap:has-bond <http://www.lgpn.ox.ac.uk/id/V5a-52993#relationship-1> ,
  <http://www.lgpn.ox.ac.uk/id/V5a-52993#relationship-2> .

<http://www.lgpn.ox.ac.uk/id/V5a-52993#relationship-1>
  rdf:type snap:DaughterOf , cnt:ContentAsText ;
  cnt:chars "d. Ἀπολλώνιος" .

<http://www.lgpn.ox.ac.uk/id/V5a-52993#relationship-2>
  rdf:type snap:DaughterOf , cnt:ContentAsText ;
  cnt:chars "d. Ἀφφιάς" .
```

- **Other identifiers:** if your database links to one or more external identifiers from other resources for your person, please include this information in the form:

```
<http://www.example.com/person/1234#this>
  dc:identifier <http://viaf.org/viaf/18013086> ,
  <http://dbpedia.org/resource/Augustus>.
```

² The common relationship classes available in the SNAP ontology include: MotherOf, FatherOf, DaughterOf, SonOf, SisterOf, BrotherOf, WifeOf, HusbandOf, SpouseOf, AuntOf, UncleOf, NieceOf, NephewOf, GrandmotherOf, GrandfatherOf, GranddaughterOf, GrandsonOf, SlaveOf, FreedmanOf, FreedwomanOf. Optionally you can dual class the bond to indicate the relationship axis. Examples include: AdoptedFamilyRelationship, StepFamilyRelationship, InLawFamilyRelationship, MaternalFamilyRelationship, PaternalFamilyRelationship. (See the ontology for the full list of currently defined classes: <http://snapdrgn.net/ontology>).

Scenario 2, adfix: our part

SNAP:DRGN will then generate a new SNAP identifier, at which human-readable HTML information on the person may be displayed, for all person-like entities in the form:

```
<http://data.snapdrgn.net/person/1>  
  rdf:type lawd:Person ;  
  prov:wasDerivedFrom <http://www.lgpn.ox.ac.uk/id/V3a-40899> .
```

Scenario 3. Establishing alignment between prosopographies by adding annotations to SNAP

```
<http://data.snapdrgn.net/person/1001234>
  rdf:type lawd:Person, snap:MergedResource ;
  dc:replaces <http://data.snapdrgn.net/person/1231> ;
  dc:replaces <http://data.snapdrgn.net/person/1232> ;
  dc:publisher <http://snapdrgn.net> ;
  prov:wasAttributedTo <http://orcid.org/0000-0001-5186-0738> ;
  snap:reason <urn:foo:bar.1234> .

<urn:foo:bar.1234>
  rdf:type cnt:ContentAsText ;
  cnt:chars "Both sources cite the same inscription, IG II2 4321." .
```

The “replaced” persons are both SNAP identifiers derived from partner project IDs. The merge is done on the derived SNAP Persons rather than on the partner source data (see <http://snapdrgn.net/archives/152> for discussion of the reasons for this). Merging is accomplished by the creation of a new `lawd:Person` which replaces two or more existing ones. Such resources have the additional type `snap:MergedResource` (signaling that they are the result of a merge operation) and the additional property `snap:reason`, which can point at evidence or justification for the merge. The `dc:publisher` of this new, merged person is the entity responsible for the merge.

Namespaces

The namespace prefixes used in this document are:

dc	http://purl.org/dc/terms/
cito	http://purl.org/spar/cito
cnt	http://www.w3.org/2011/content#
foaf	http://xmlns.com/foaf/0.1/
lawd	http://lawd.info/ontology/
prov	http://www.w3.org/ns/prov#
rdf	http://www.w3.org/1999/02/22-rdf-syntax-ns#
snap	http://onto.snapdrgn.net/snap#