

discuss each of these types.

**Object Properties** These properties relate individuals to other individuals. Examples are `:rents` and `:livesIn`:

```
:rents rdf:type      owl:ObjectProperty ;  
      rdfs:domain    :Person ;  
      rdfs:range     :Apartment ;  
      rdfs:subPropertyOf :livesIn .
```

**Datatype Properties** These properties relate individuals to literal values of a certain data type. Examples are `:name` and `:age`:

```
:age rdf:type  owl:DatatypeProperty ;  
     rdfs:range xsd:nonNegativeInteger .
```

Just as in RDF, OWL2 allows one to use XML Schema datatypes for indicating the type of a literal or specifying the range of a datatype property.<sup>5</sup> User-defined datatypes can be specified in an XML schema and then used in an OWL2 ontology (see section 4.4.6).

Because of the restrictions of the direct semantics, of the following property types only the *functional property* type can be assigned to datatype properties in OWL2 DL.

**Annotation Properties** Annotation properties are properties that do not carry any meaning under the direct semantics of OWL2 DL. That is, they are ignored by a DL reasoner. However, they will be taken into account by RDF Schema and OWL2 Full reasoners.

Annotation properties are typically used for adding readable labels, comments, or explanations to OWL2 ontologies, classes, properties, and individuals:

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<sup>5</sup>OWL2 introduces two additional datatypes `owl:real` and `owl:rational` defined as super types of `xsd:decimal`.