

Figure 3.6 RDF and RDFS layers

```
<rdf:RDF
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">

  <rdfs:Class rdf:ID="lecturer">
    <rdfs:comment>
      The class of lecturers
      All lecturers are academic staff members.
    </rdfs:comment>
    <rdfs:subClassOf rdf:resource="#academicStaffMember"/>
  </rdfs:Class>

  <rdfs:Class rdf:ID="academicStaffMember">
    <rdfs:comment>
      The class of academic staff members
    </rdfs:comment>
    <rdfs:subClassOf rdf:resource="#staffMember"/>
  </rdfs:Class>

  <rdfs:Class rdf:ID="staffMember">
    <rdfs:comment>The class of staff members</rdfs:comment>
  </rdfs:Class>

  <rdfs:Class rdf:ID="course">
    <rdfs:comment>The class of courses</rdfs:comment>
  </rdfs:Class>
```

```
<rdf:Property rdf:ID="involves">
  <rdfs:comment>
    It relates only courses to lecturers.
  </rdfs:comment>
  <rdfs:domain rdf:resource="#course"/>
  <rdfs:range rdf:resource="#lecturer"/>
</rdf:Property>
```

```
<rdf:Property rdf:ID="isTaughtBy">
  <rdfs:comment>
    Inherits its domain ("course") and range ("lecturer")
    from its superproperty "involves"
  </rdfs:comment>
  <rdfs:subPropertyOf rdf:resource="#involves"/>
</rdf:Property>
```

```
<rdf:Property rdf:ID="phone">
  <rdfs:comment>
    It is a property of staff members
    and takes literals as values.
  </rdfs:comment>
  <rdfs:domain rdf:resource="#staffMember"/>
  <rdfs:range rdf:resource="&rdf;Literal"/>
</rdf:Property>
</rdf:RDF>
```

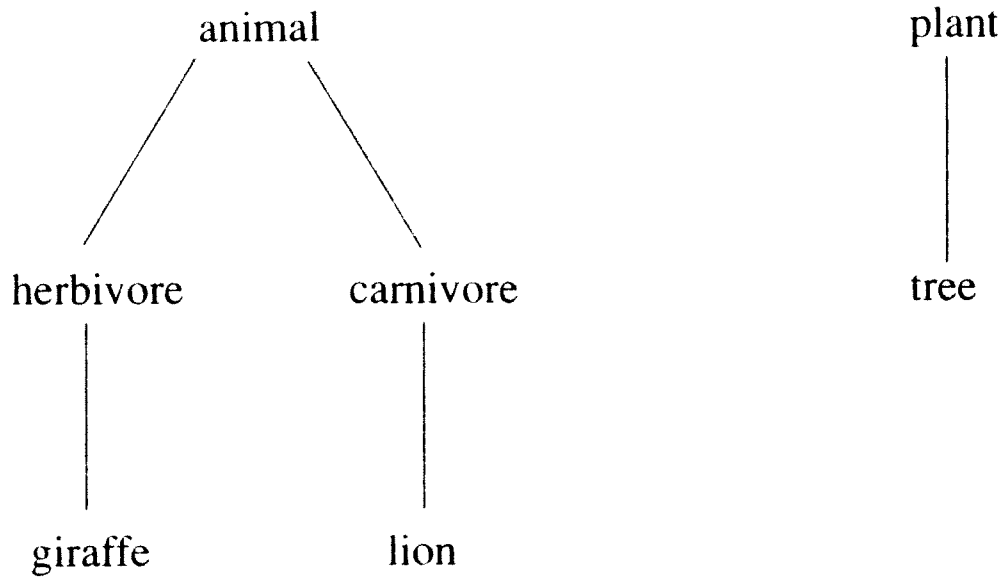


Figure 4.3 Classes and subclasses of the African wildlife ontology

```
<rdf:RDF
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:owl="http://www.w3.org/2002/07/owl#">
  <owl:Ontology rdf:about="xml:base"/>

  <owl:Class rdf:ID="animal">
    <rdfs:comment>Animals form a class.</rdfs:comment>
  </owl:Class>

  <owl:Class rdf:ID="plant">
    <rdfs:comment>
      Plants form a class disjoint from animals.
    </rdfs:comment>
    <owl:disjointWith rdf:resource="#animal"/>
  </owl:Class>

  <owl:Class rdf:ID="tree">
    <rdfs:comment>Trees are a type of plant.</rdfs:comment>
    <rdfs:subClassOf rdf:resource="#plant"/>
  </owl:Class>
```

```
<owl:Class rdf:ID="branch">
  <rdfs:comment>Branches are parts of trees.</rdfs:comment>
  <rdfs:subClassOf>
    <owl:Restriction>
      <owl:onProperty rdf:resource="#is_part_of"/>
      <owl:allValuesFrom rdf:resource="#tree"/>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>
```

```
<owl:Class rdf:ID="leaf">
  <rdfs:comment>Leaves are parts of branches.</rdfs:comment>
  <rdfs:subClassOf>
    <owl:Restriction>
      <owl:onProperty rdf:resource="#is_part_of"/>
      <owl:allValuesFrom rdf:resource="#branch"/>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>
```

```
<owl:Class rdf:ID="herbivore">
  <rdfs:comment>
    Herbivores are exactly those animals that eat only plants
    or parts of plants.
  </rdfs:comment>
  <owl:intersectionOf rdf:parseType="Collection">
    <owl:Class rdf:about="#animal"/>
    <owl:Restriction>
      <owl:onProperty rdf:resource="#eats"/>
      <owl:allValuesFrom>
        <owl:Class>
          <owl:unionOf rdf:parseType="Collection">
            <owl:Class rdf:about="#plant"/>
            <owl:Restriction>
              <owl:onProperty rdf:resource="#is_part_of"/>
              <owl:allValuesFrom rdf:resource="#plant"/>
            </owl:Restriction>
          </owl:unionOf>
        </owl:Class>
      </owl:allValuesFrom>
    </owl:Restriction>
  </owl:intersectionOf>
</owl:Class>
```

```
<owl:Class rdf:ID="carnivore">
  <rdfs:comment>
    Carnivores are exactly those animals that eat animals.
  </rdfs:comment>
  <owl:intersectionOf rdf:parseType="Collection">
    <owl:Class rdf:about="#animal"/>
    <owl:Restriction>
      <owl:onProperty rdf:resource="#eats"/>
      <owl:someValuesFrom rdf:resource="#animal"/>
    </owl:Restriction>
  </owl:intersectionOf>
</owl:Class>
```

```
<owl:Class rdf:ID="giraffe">
  <rdfs:comment>
    Giraffes are herbivores, and they eat only leaves.
  </rdfs:comment>
  <rdfs:subClassOf rdf:resource="#herbivore"/>
  <rdfs:subClassOf>
    <owl:Restriction>
      <owl:onProperty rdf:resource="#eats"/>
      <owl:allValuesFrom rdf:resource="#leaf"/>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>
```

```
<owl:Class rdf:ID="lion">
  <rdfs:comment>
    Lions are animals that eat only herbivores.
  </rdfs:comment>
  <rdfs:subClassOf rdf:resource="#carnivore"/>
  <rdfs:subClassOf>
    <owl:Restriction>
      <owl:onProperty rdf:resource="#eats"/>
      <owl:allValuesFrom rdf:resource="#herbivore"/>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>
```