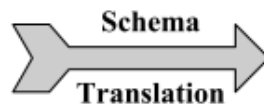
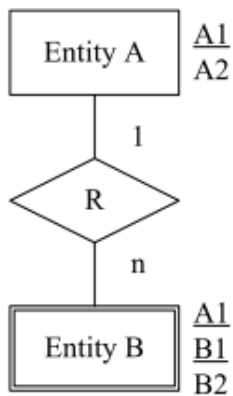
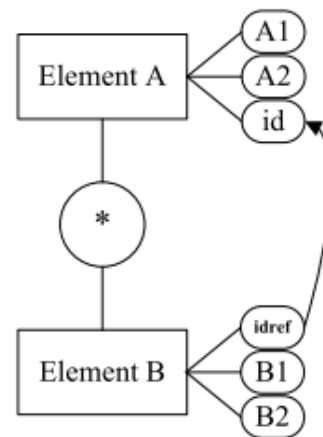


Entidad débil

EER Model



DTD Graph



Relational Schema

Relation A(A1, A2)
 Relation B(*A1, B1, B2)

DTD

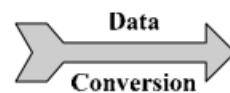
```
<!ELEMENT A(B)*>
<!ATTLIST A A1 CDATA #REQUIRED>
<!ATTLIST A A2 CDATA #REQUIRED>
<!ATTLIST A id ID #REQUIRED>
<!ELEMENT B EMPTY>
<!ATTLIST B B1 CDATA #REQUIRED>
<!ATTLIST B B2 CDATA #REQUIRED>
<!ATTLIST B idref IDREF #REQUIRED>
```

Relation A

<u>A1</u>	A2
a11	a21
a12	a22

Relation B

* <u>A1</u>	<u>B1</u>	B2
a11	b11	b21



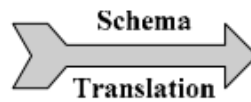
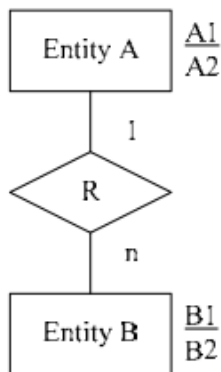
XML Document

```
<A A1="a11" A2="a21" id="1">
  <B B1="b11" B2="b21" idref="1"></B>
</A>

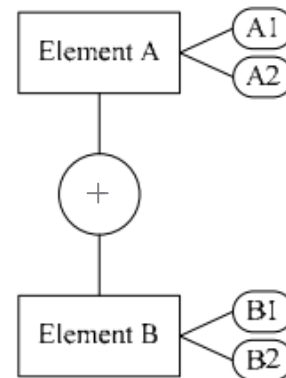
<A A1="a12" A2="a22" id="2"></A>
```

Relación 1:N Obligatoria

EER Model



DTD Graph



Relational Schema

Relation A(A1, A2)
Relation B(B1, B2, *A1)

DTD

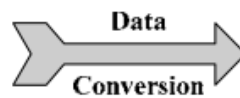
```
<!ELEMENT A(B)*>
<!ATTLIST A A1 CDATA #REQUIRED>
<!ATTLIST A A2 CDATA #REQUIRED>
<!ELEMENT B EMPTY>
<!ATTLIST B B1 CDATA #REQUIRED>
<!ATTLIST B B2 CDATA #REQUIRED>
```

Relation A

<u>A1</u>	A2
a11	a21
a12	a22

Relation B

<u>B1</u>	B2	*A1
b11	b21	a11
b12	b22	a12
b13	b23	a12



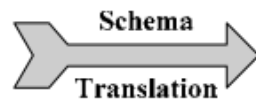
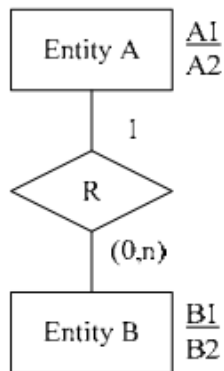
XML Document

```
<A A1="a11" A2="a21">
  <B B1="b11" B2="b21"></B>
</A>

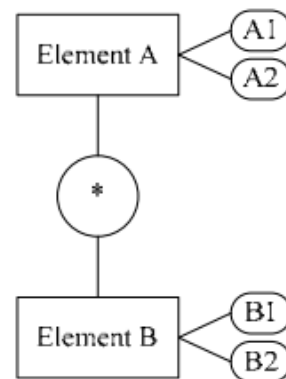
<A A1="a12" A2="a22">
  <B B1="b12" B2="b22"></B>
  <B B1="b13" B2="b23"></B>
</A>
```

Relacion 1:N Opcional

EER Model



DTD Graph



Relational Schema

Relation A(A1, A2)

Relation B(B1, B2, *A1)

Note: foreign key nullable

DTD

```

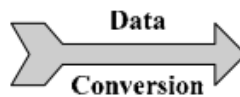
<!ELEMENT A(B)*>
<!-- ATTLIST A A1 CDATA #REQUIRED -->
<!-- ATTLIST A A2 CDATA #REQUIRED -->
<!ELEMENT B EMPTY>
<!-- ATTLIST B B1 CDATA #REQUIRED -->
<!-- ATTLIST B B2 CDATA #REQUIRED -->
  
```

Relation A

<u>A1</u>	A2
a11	a21
a12	a22

Relation B

<u>B1</u>	B2	*A1
b11	b21	a11
b12	b22	null



XML Document

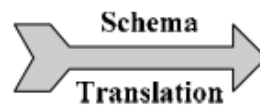
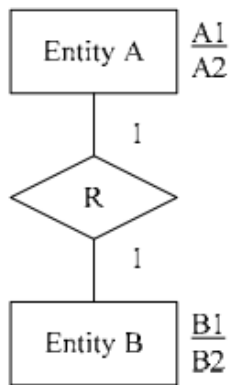
```

<A A1="a11" A2="a21">
  <B B1="b11" B2="b21"></B>
</A>

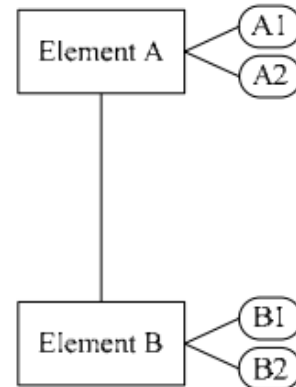
<A A1="a12" A2="a22"></A>
  
```

Relación 1:1

EER Model



DTD Graph



Relational Schema

Relation A(A1, A2)

Relation B(B1, B2, *A1)

DTD

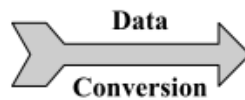
```
<!ELEMENT A(B)>
<!ATTLIST A A1 CDATA #REQUIRED>
<!ATTLIST A A2 CDATA #REQUIRED>
<!ELEMENT B EMPTY>
<!ATTLIST B B1 CDATA #REQUIRED>
<!ATTLIST B B2 CDATA #REQUIRED>
```

Relation A

<u>A1</u>	A2
a11	a21
a12	a22

Relation B

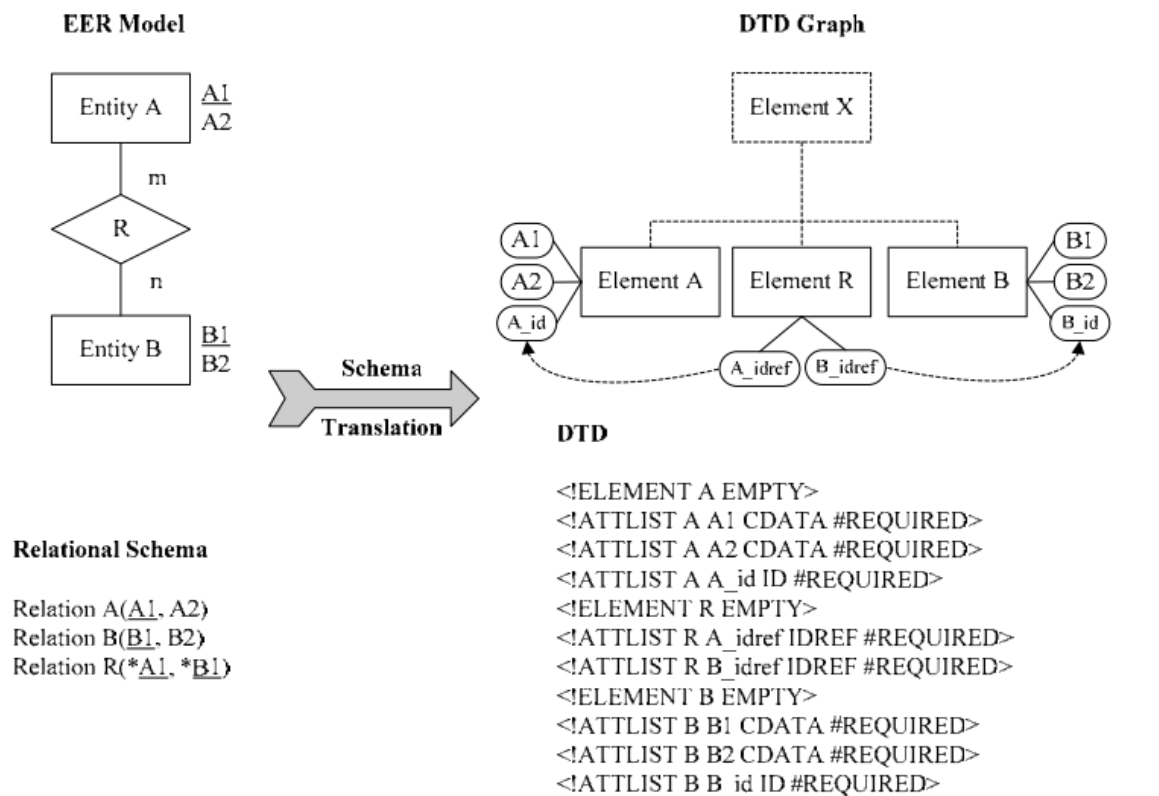
<u>B1</u>	B2	*A1
b11	b21	a11
b12	b22	a12



XML Document

```
<A A1="a11" A2="a21">
  <B B1="b11" B2="b21"></B>
</A>

<A A1="a12" A2="a22">
  <B B1="b12" B2="b22"></B>
</A>
```



Relational Schema

Relation A(A1, A2)
 Relation B(B1, B2)
 Relation R(*A1, *B1)

Relation A

<u>A1</u>	A2
a11	a21
a12	a22

Relation B

<u>B1</u>	B2
b11	b21
b12	b22

Relation R

* <u>A1</u>	* <u>B1</u>
a11	b11
a12	b12

XML Document

```

<A A1="a11" A2="a21" A_id="1"></A>
<B B1="b11" B2="b21" B_id="2"></B>
<R A_idref="1" B_idref="2"></R>

<A A1="a12" A2="a22" A_id="3"></A>
<B B1="b12" B2="b22" B_id="4"></B>
<R A_id="3" B_idref="4"></R>
  
```