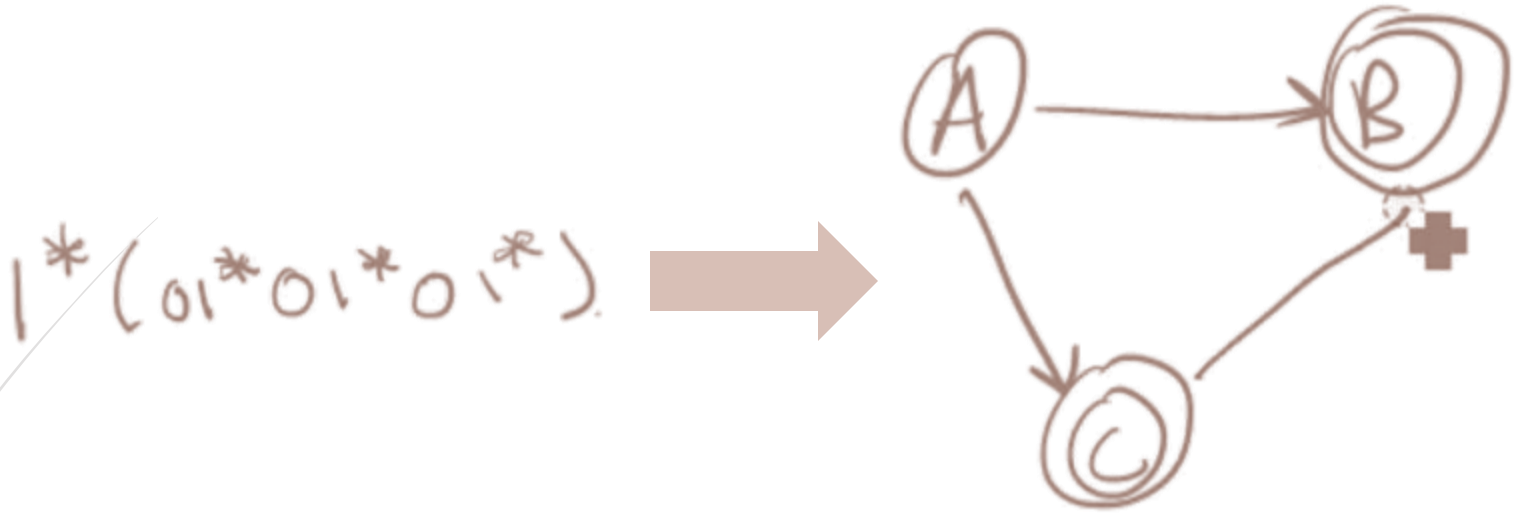


Theory of Computation

Lesson 5

Converting RegEx to NFA

RegEx to NFA

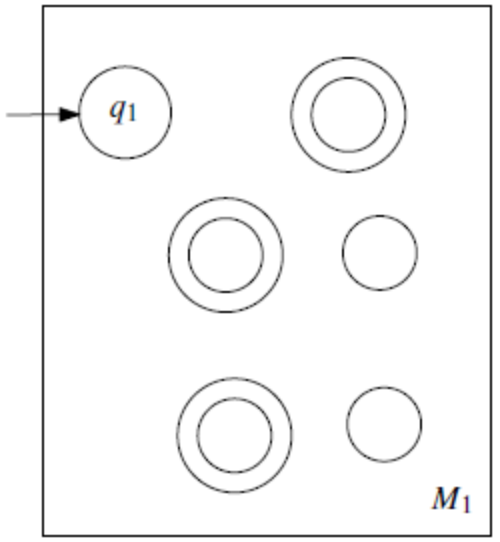
Since there are three types of operations in Regular Language, we need to define a transformation for each.

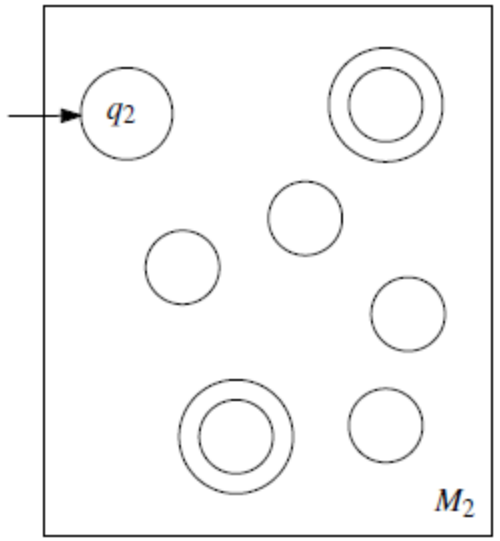
- Union
- Concatenation
- Star

Union

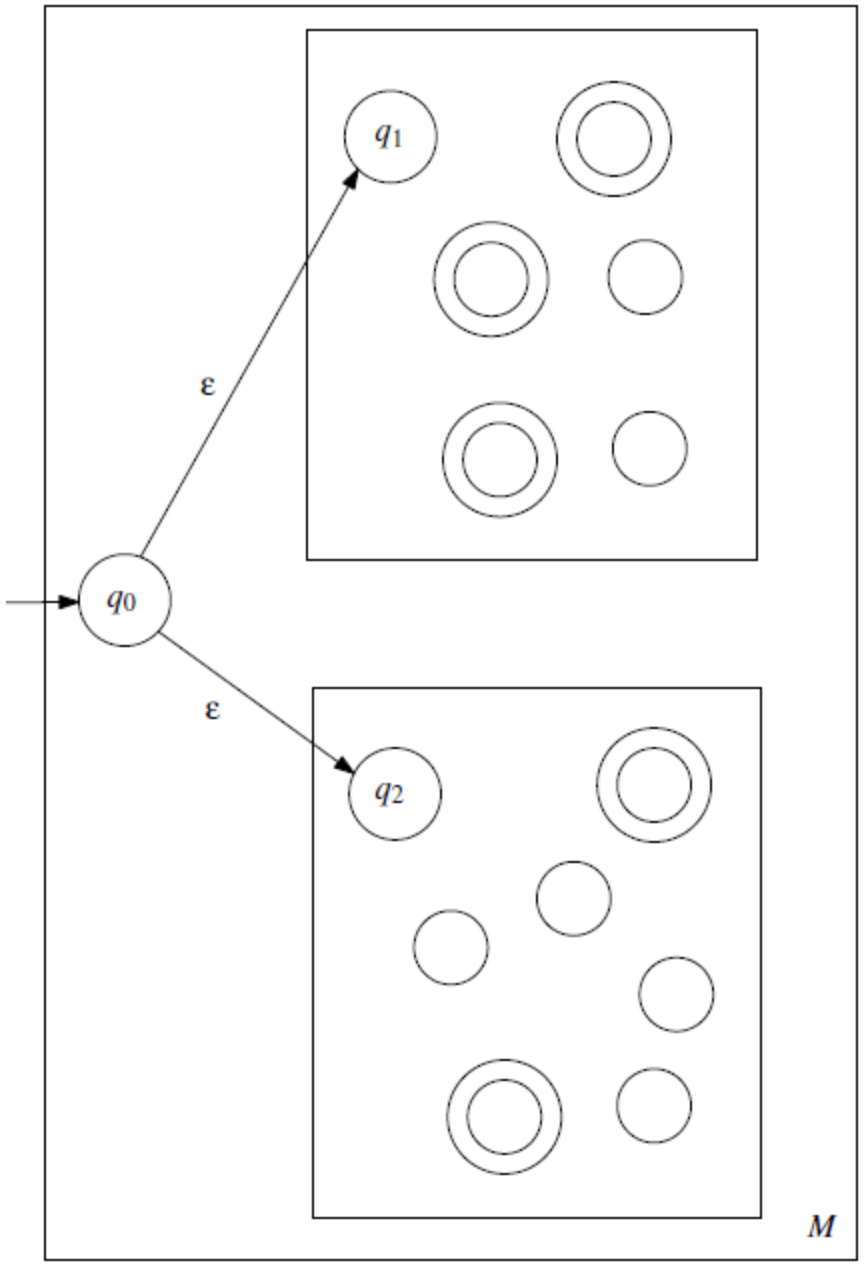
RegEx

(M_1 U M_2)





M_1 U M_2

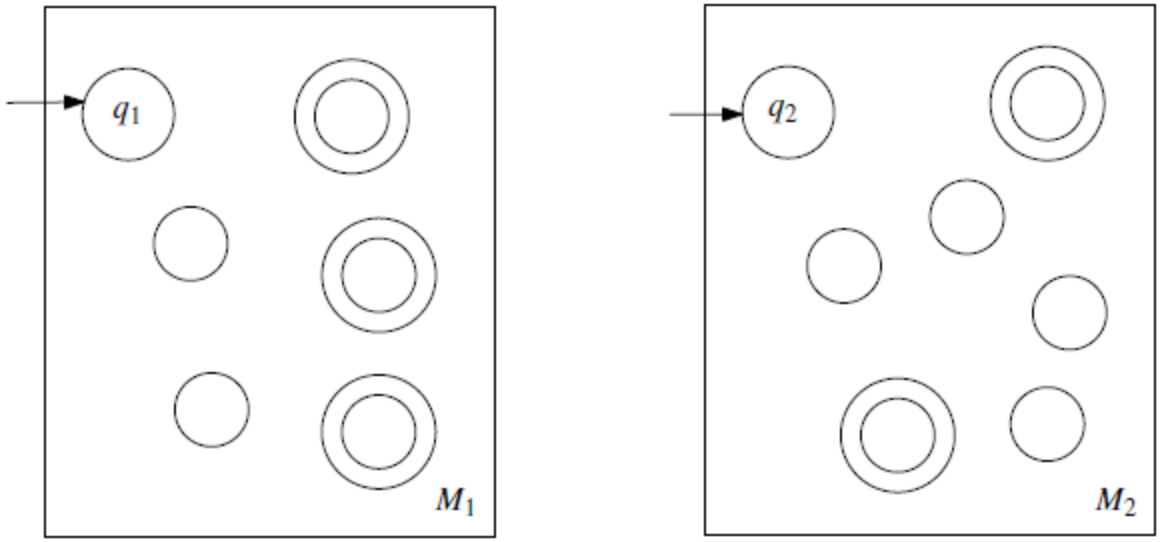


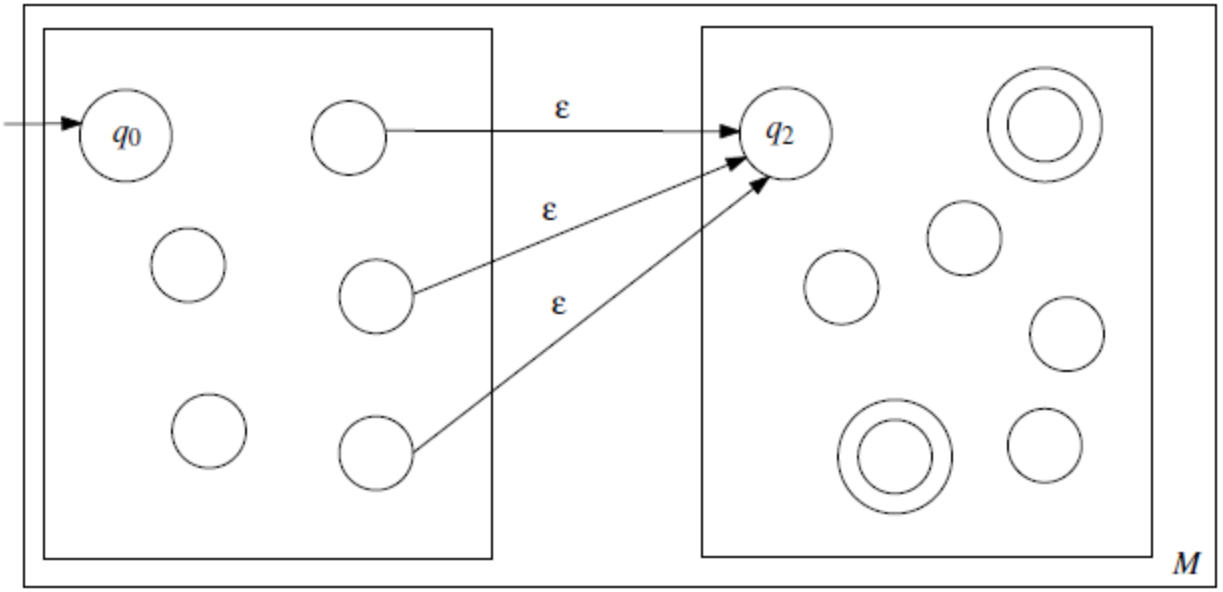
Concatenation

RegEx

M_1 M_2

M_1 M_2

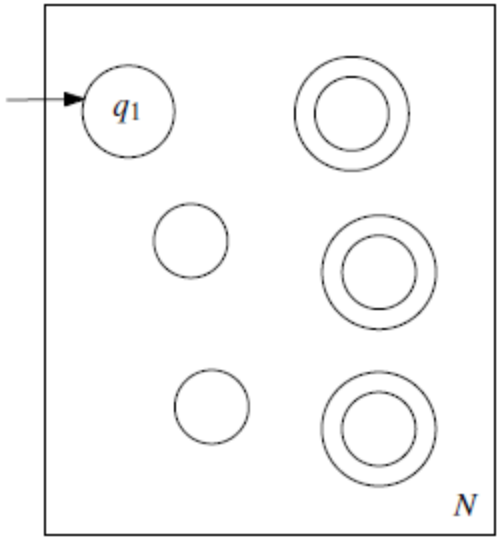




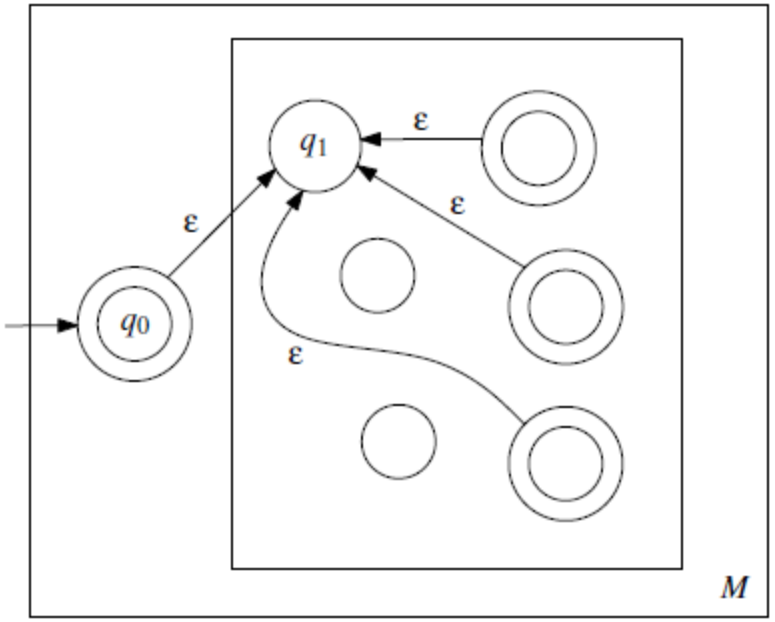
Star

RegEx

N*



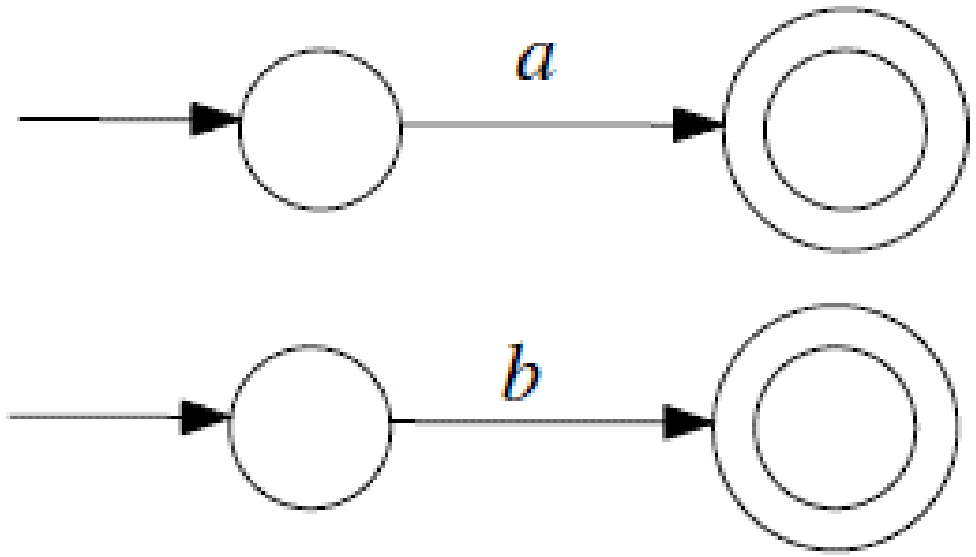
N*



A first example

(ab U a)*

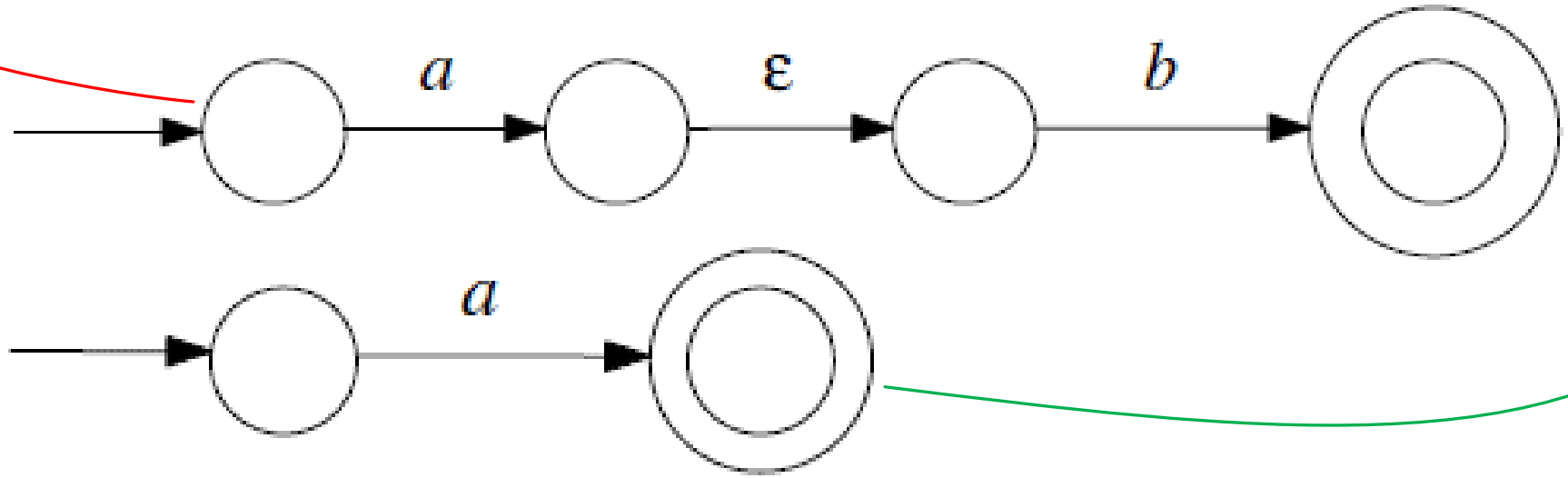
We can start to define input symbols as follow



A first example

(ab U a)*

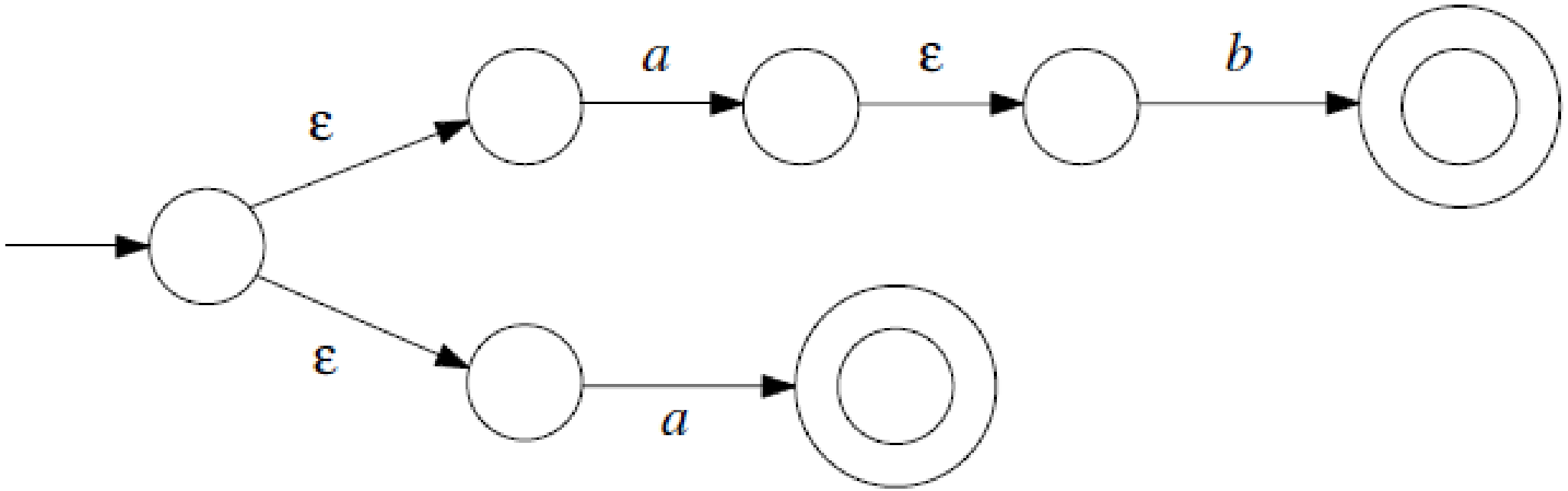
Then we can combine both symbols to get concatenation of a and b.



A first example

(ab U a)*

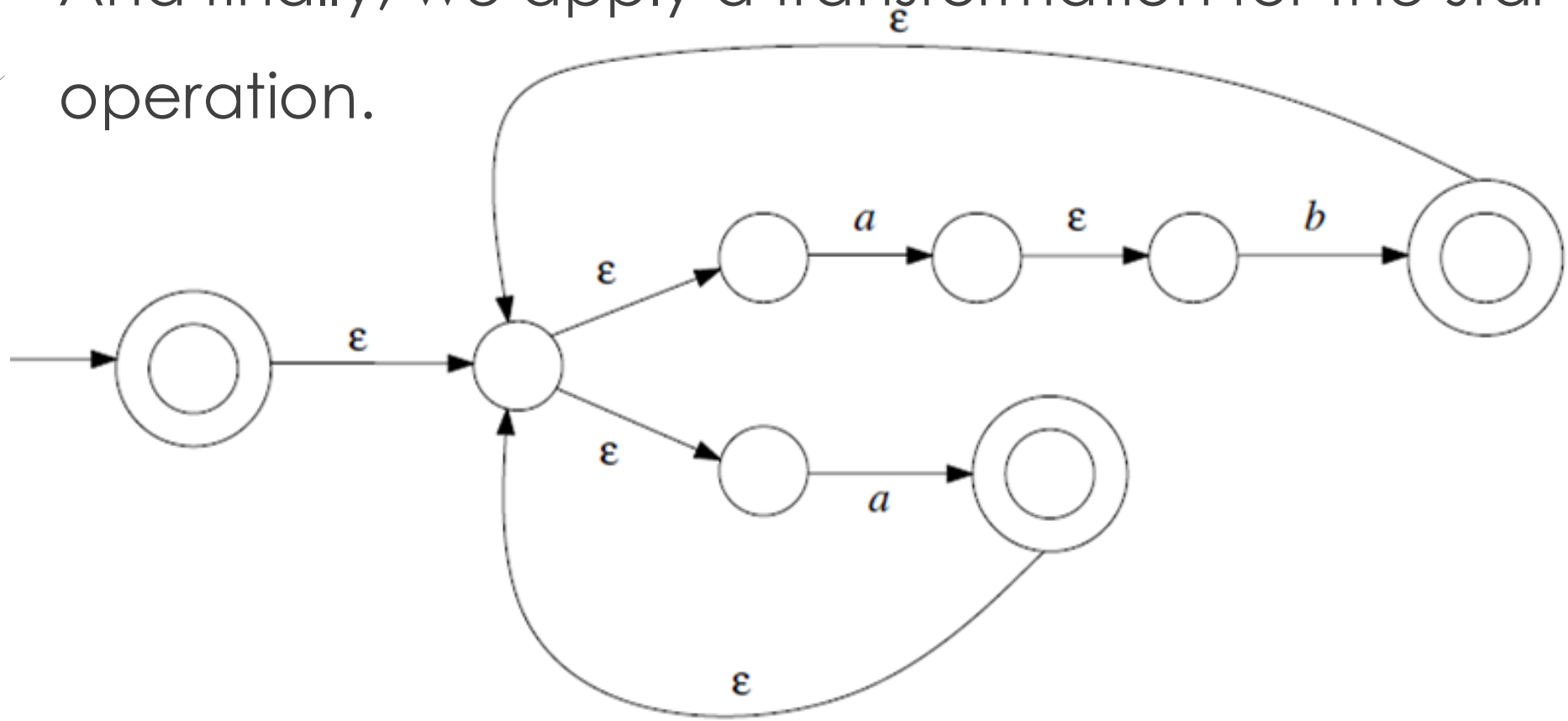
After that, we should use parallel epsilon transitions to get union operation.



A first example

(ab U a)*

And finally, we apply a transformation for the star operation.



- That’s all.
- Thanks for listening.