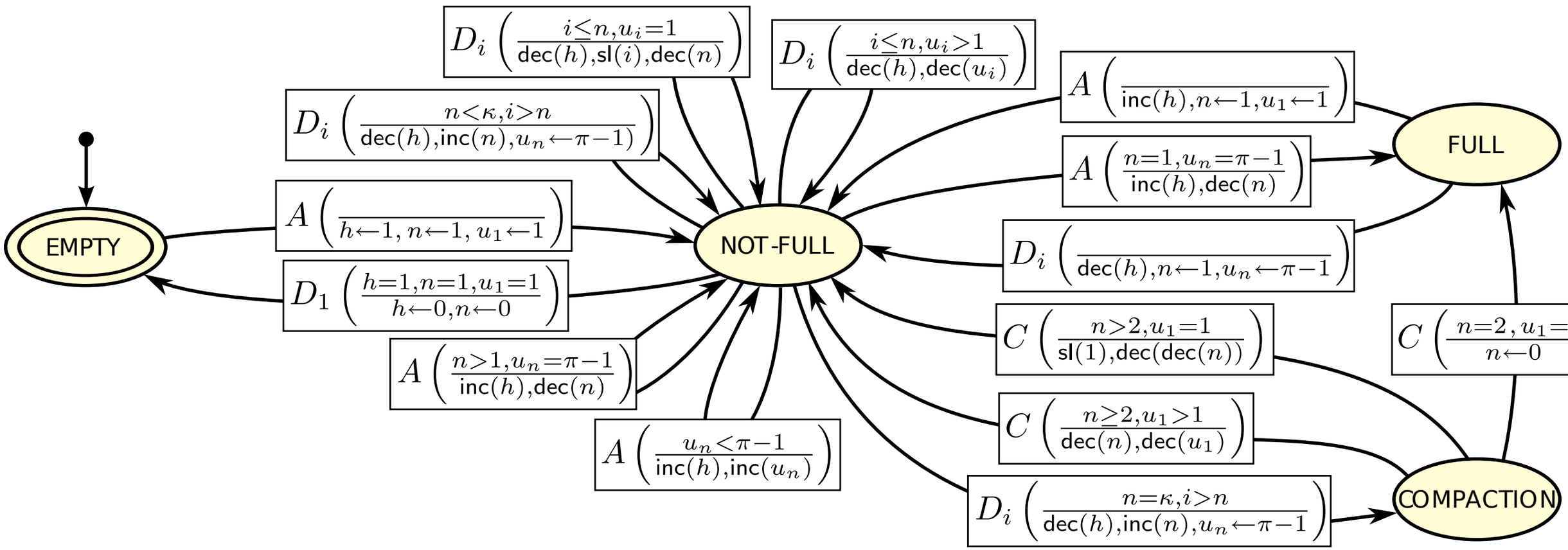
Size-Class Automaton for π > 1

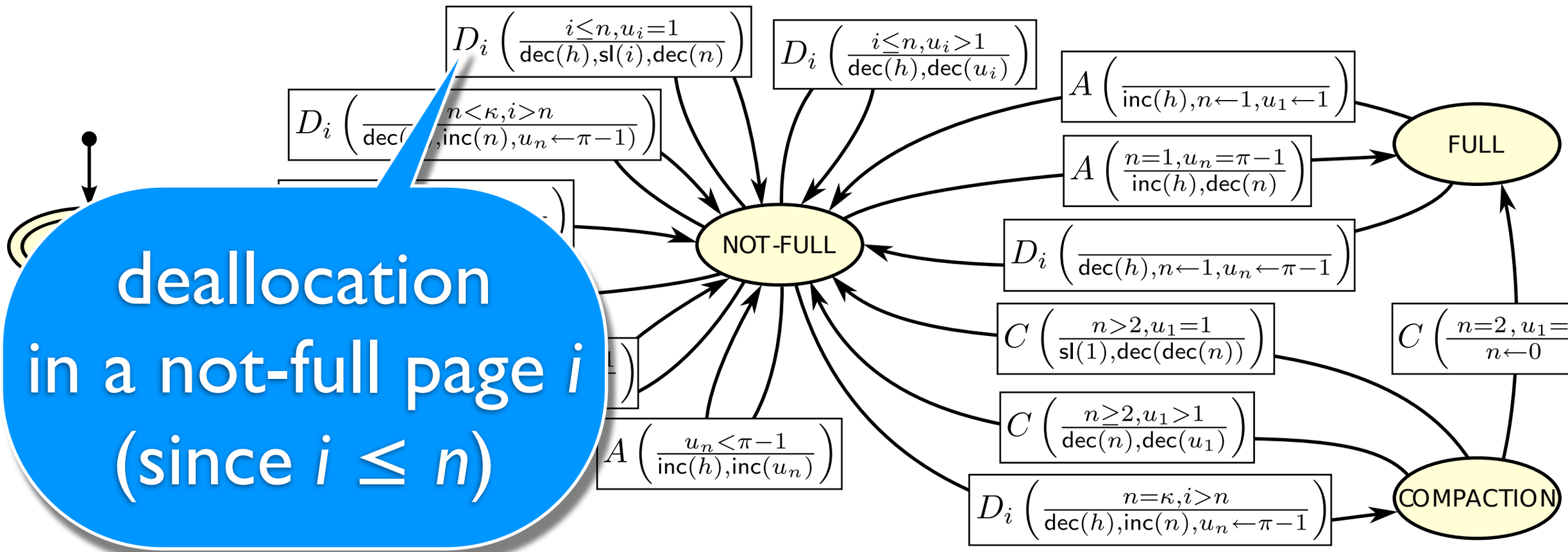


h is the total # of allocated page-blocks in the size-class

n is the # of not-full pages

u_i is the # of used page-blocks in a not-full page *i*

Size-Class Automaton for π > 1



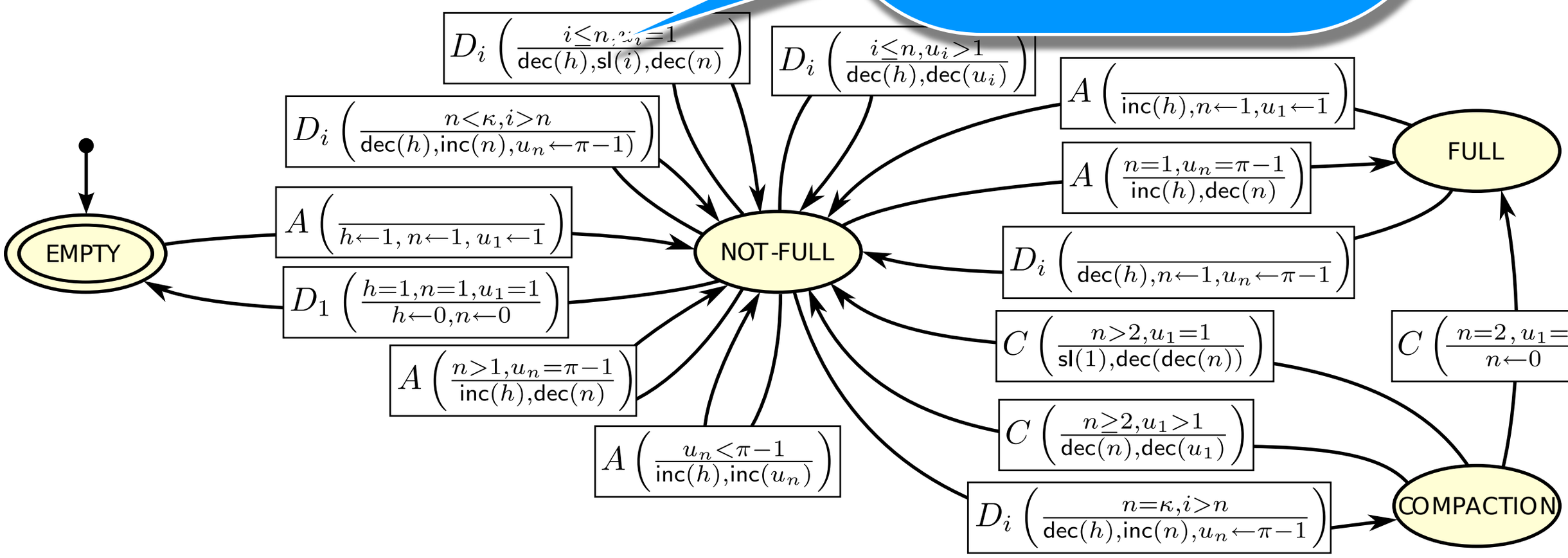
h is the total # of allocated page-blocks in the size-class

n is the # of not-full pages

u_i is the # of used page-blocks in a not-full page *i*

Size-Class A… for π

remove page since it is now empty



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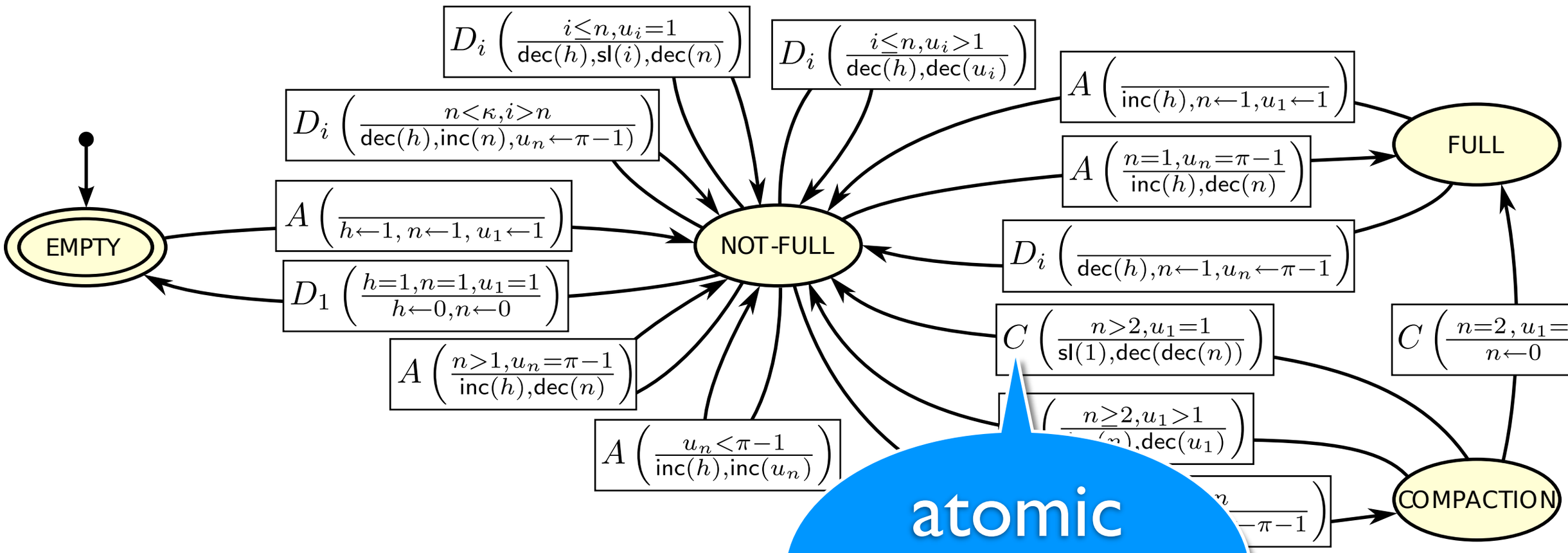
Size-Class Automaton for π > 1



h is the total # of allocated [illegible] the size-class

n is the # of not-full pages

u_i is the # of used page-blocks in a not-full page *i*

Incremental Compaction

- A page-block that is incrementally moved actually occupies two page-blocks:
  - source page-block
  - target page-block

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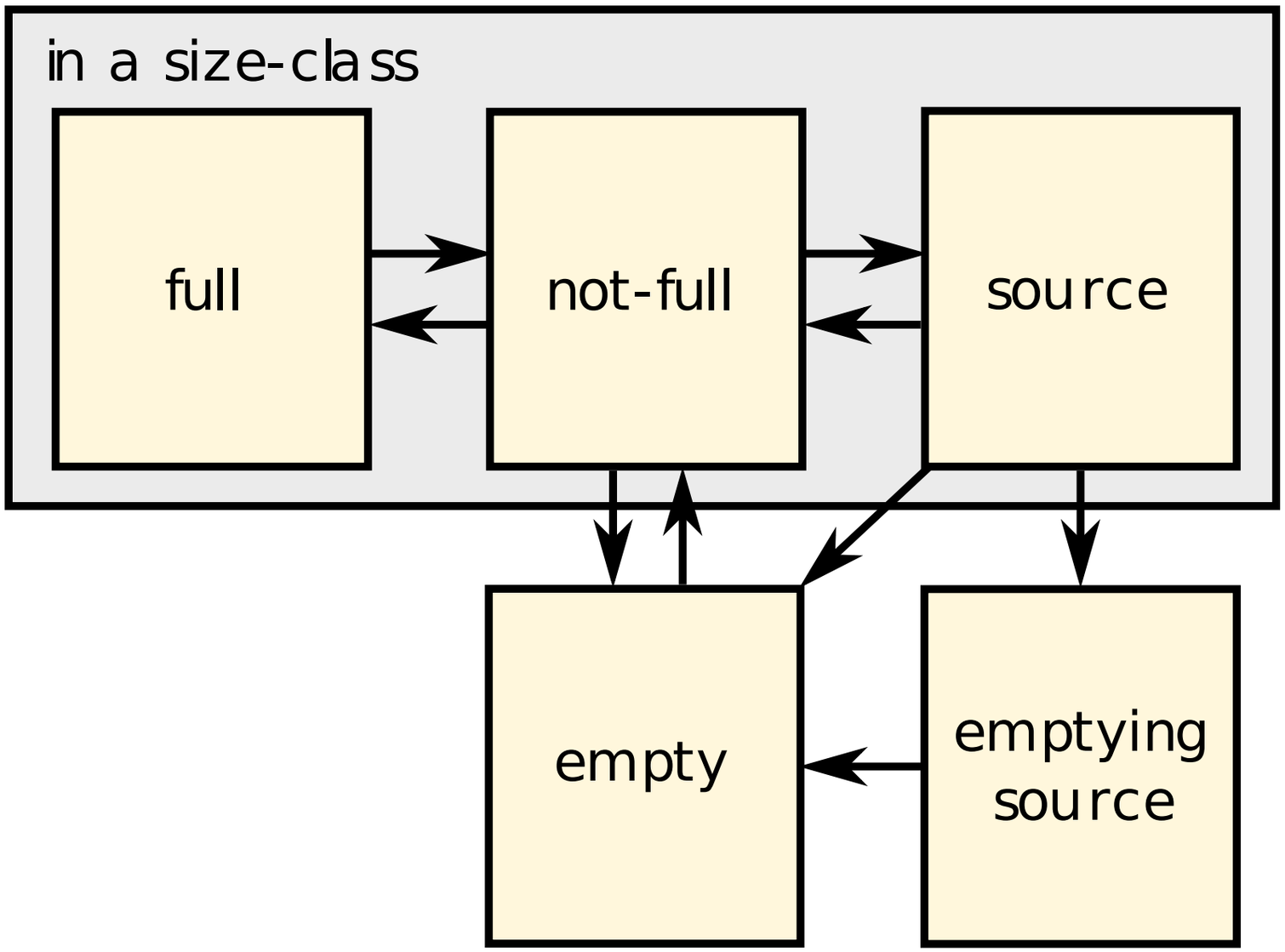
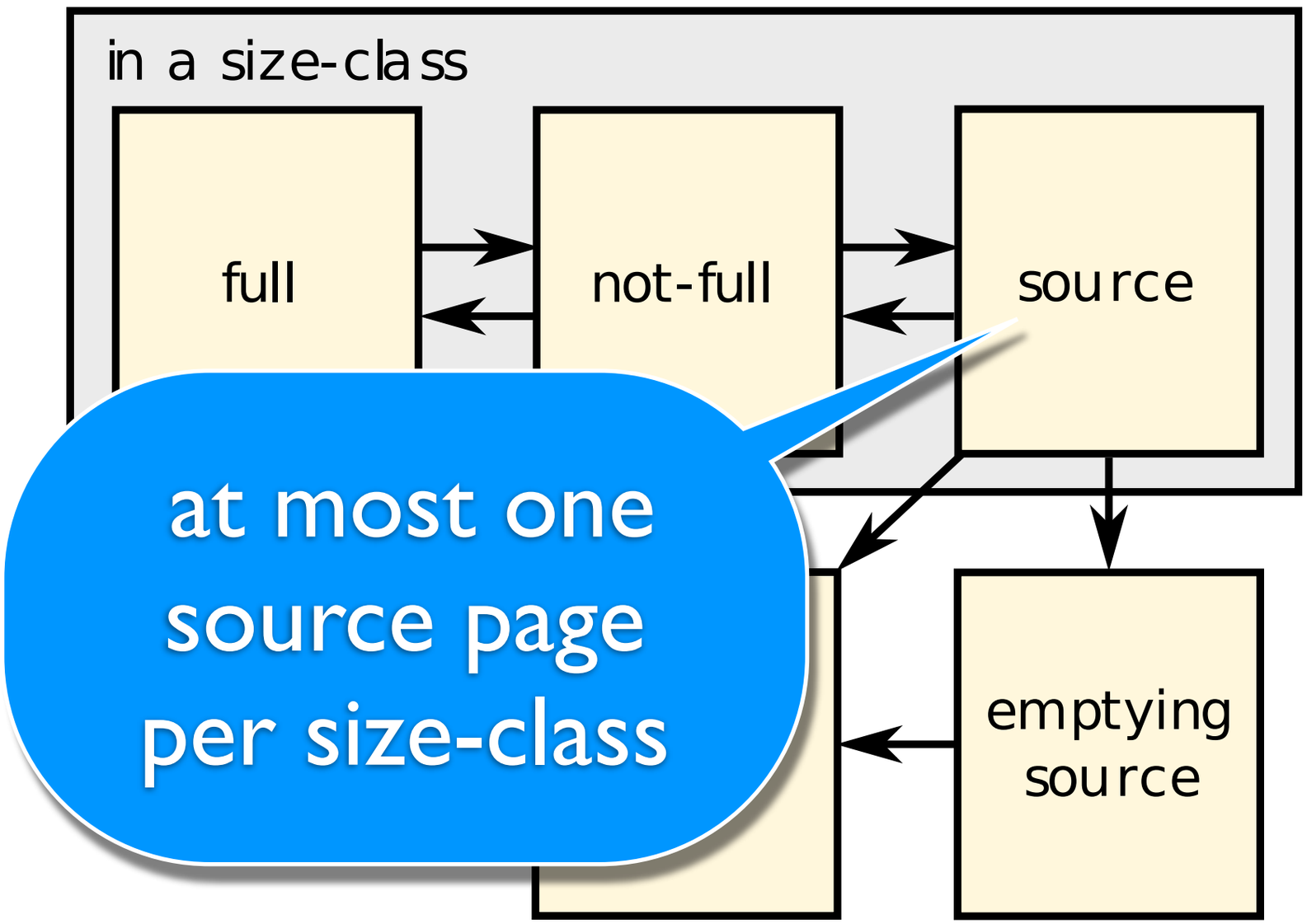
- A page-block that is incrementally moved actually occupies two page-blocks:
  - source page-block
  - target page-block
- A page containing source page-blocks is called source page
  - may also contain used and free page-blocks

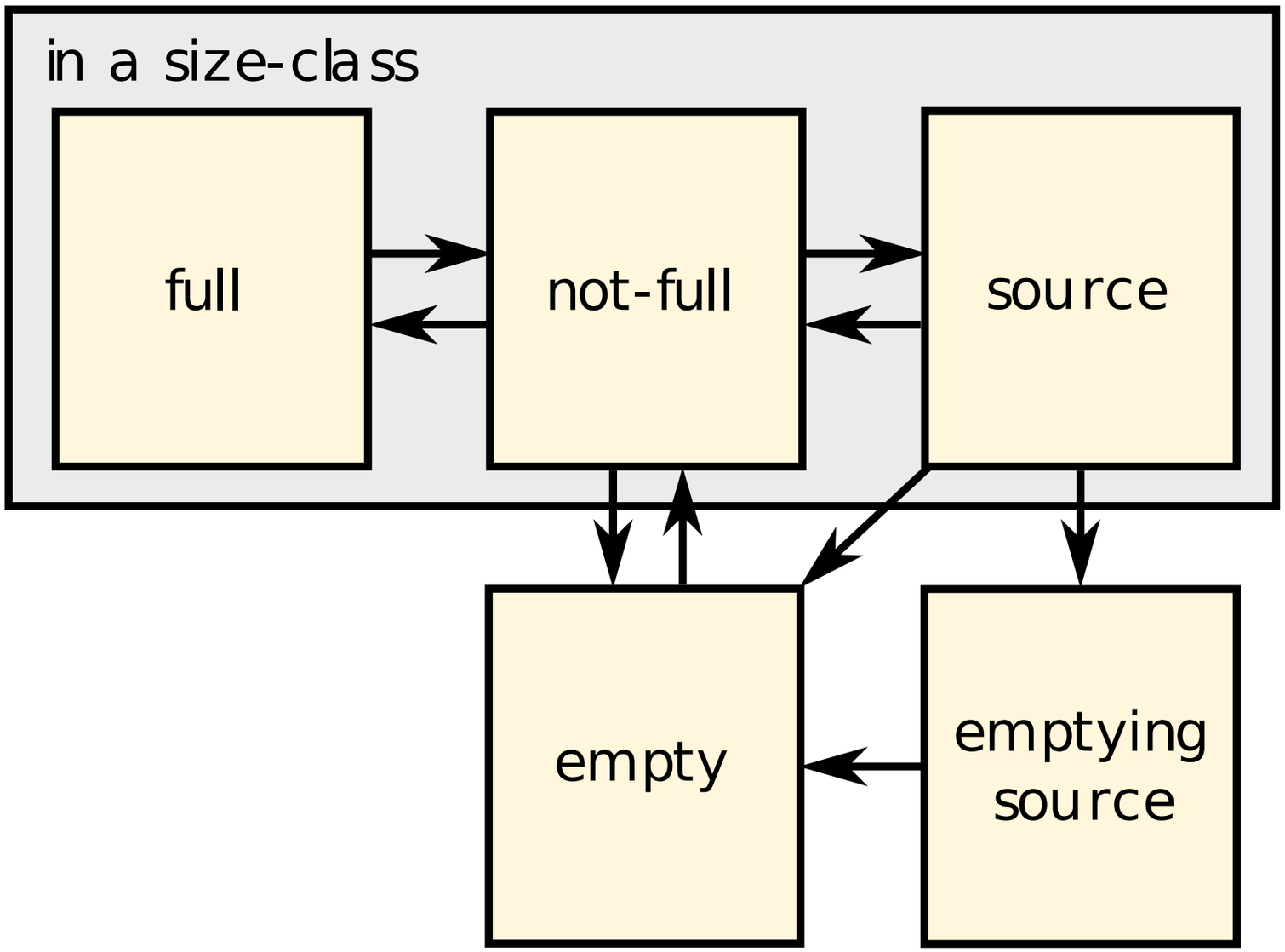
The Lifetime of a Page



The Lifetime of a Page

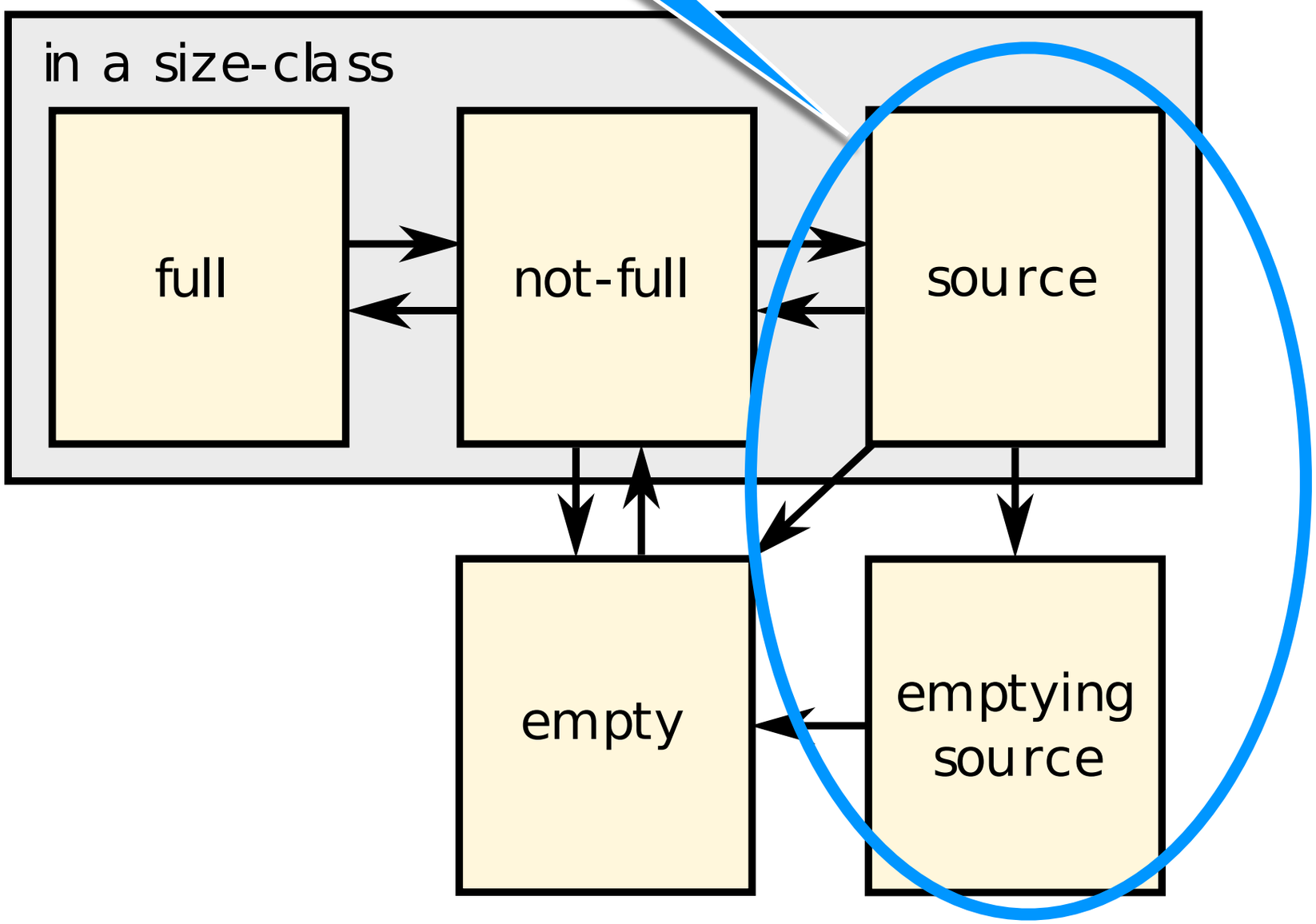


The Lifetime of a Page

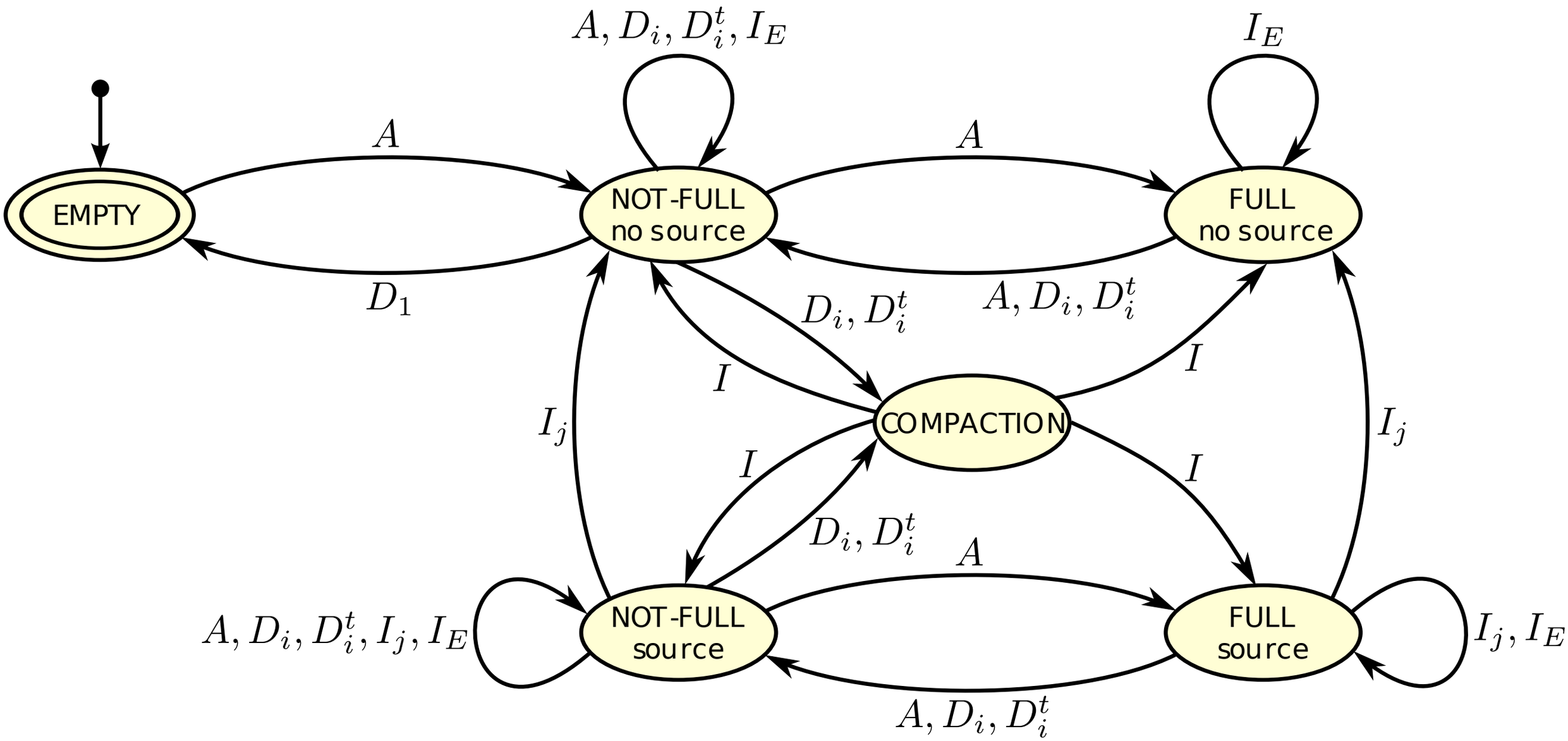


# of a Page

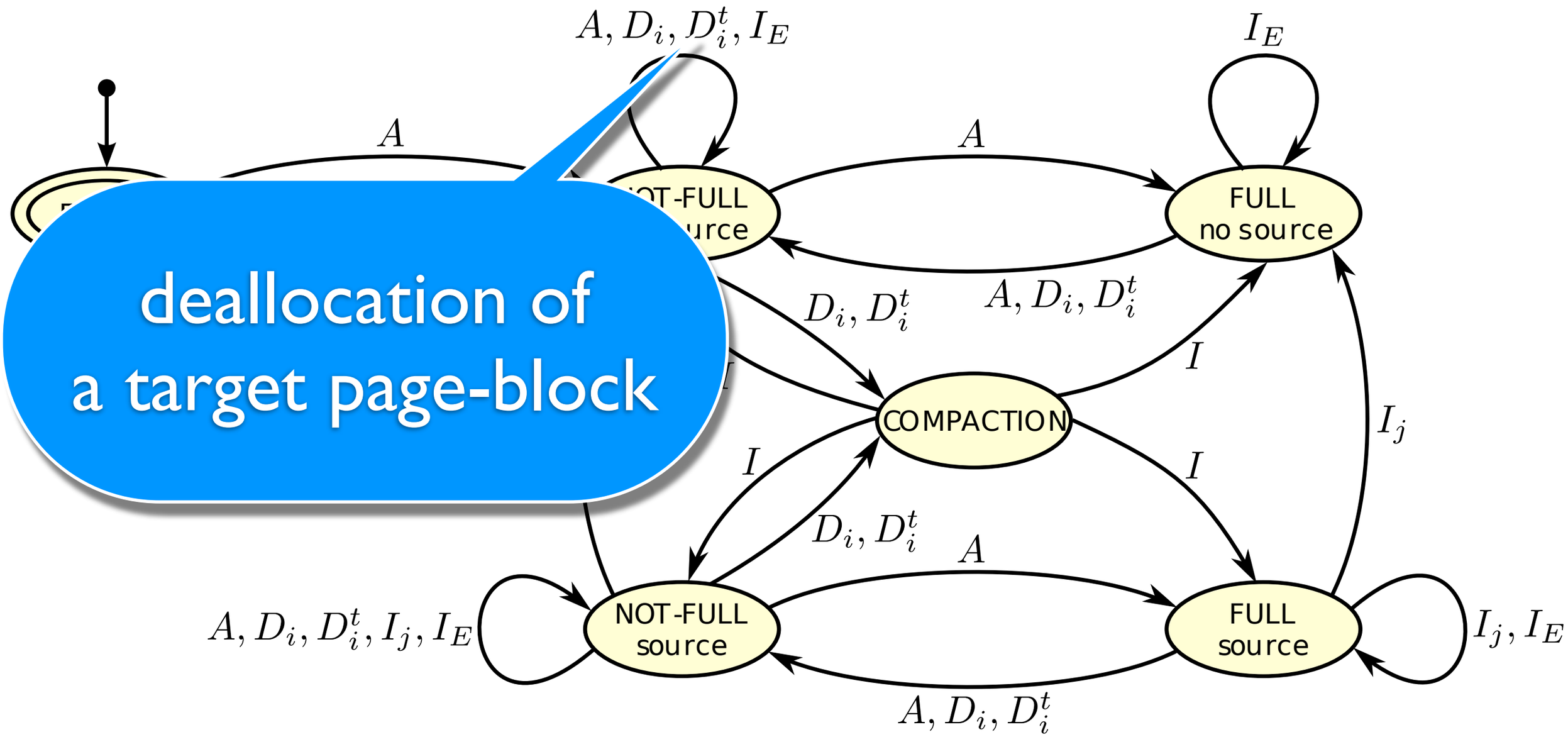
transient size-class fragmentation



Incremental Size-Class Automaton for π > 1

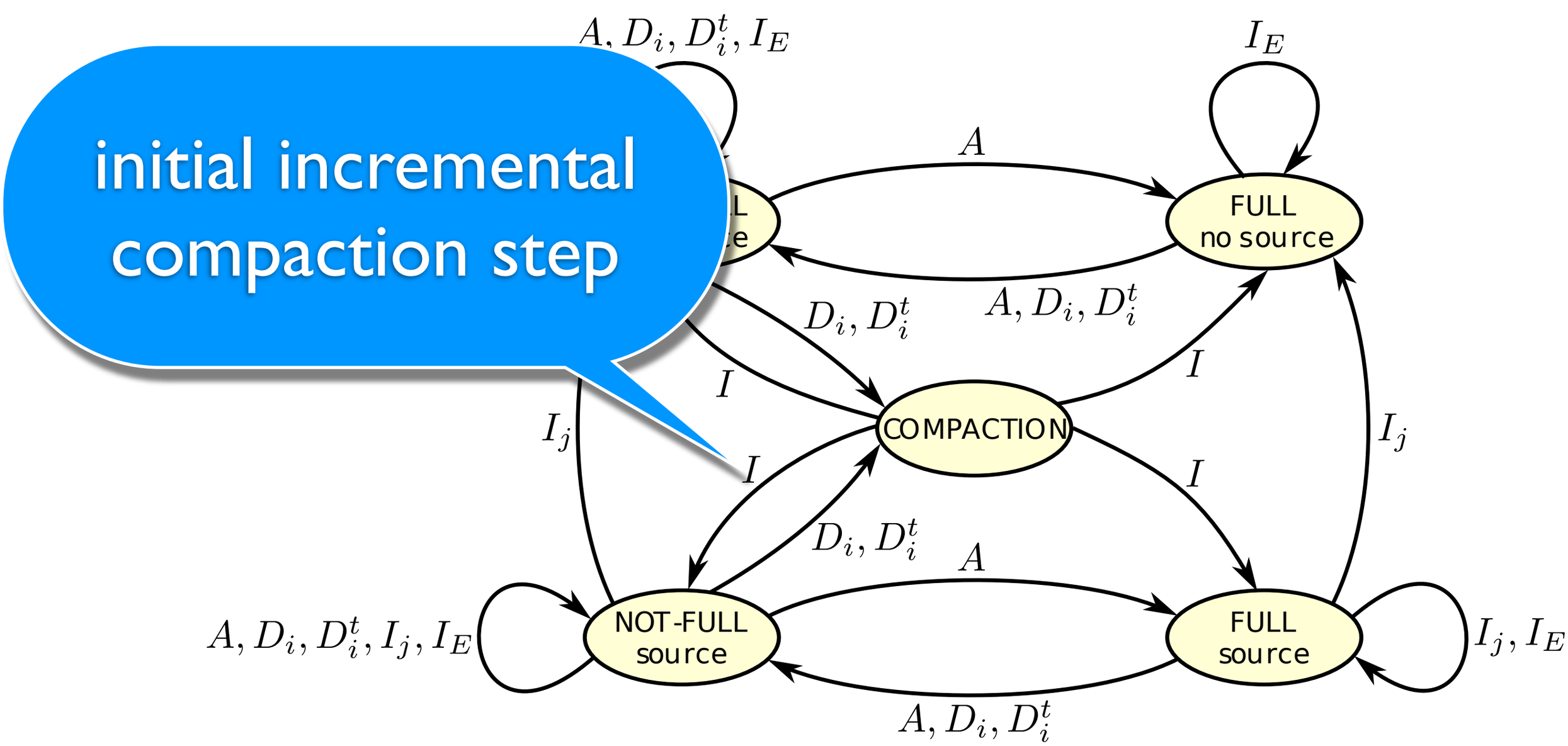


Incremental Size-Class Automaton for π > 1



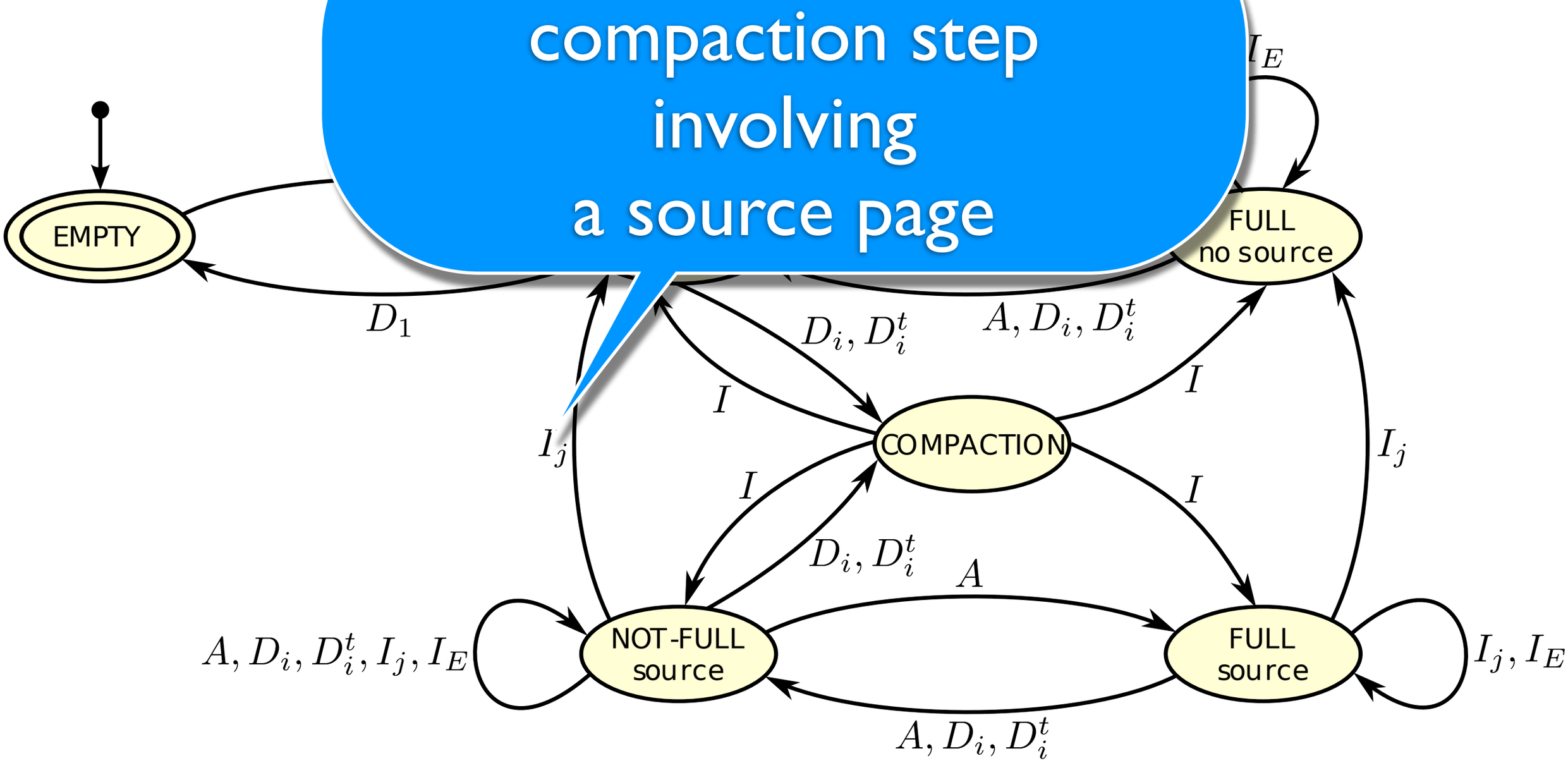
deallocation of
a target page-block

Incremental Size-Class Automaton for π > 1



Incremental Size-Class Automaton for $\Pi > 1$

further incremental compaction step involving a source page



Incremental Size-Class Automaton for π > 1