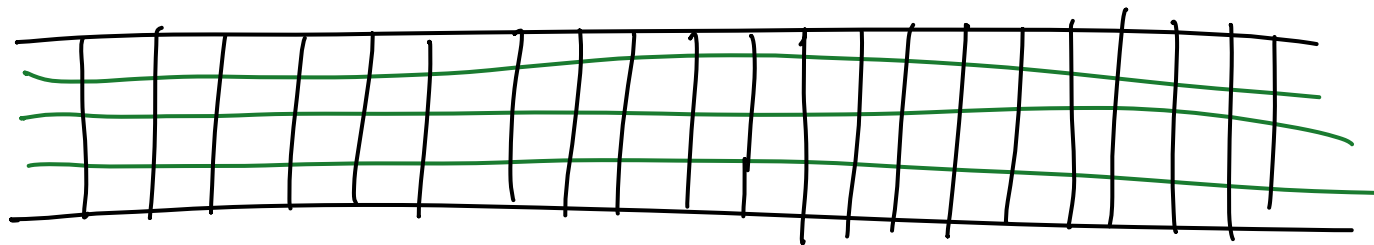


Multitape TMs

A TM with k tapes, each with its own head. Transitions done based on contents of all heads.

Multitrack TMs

TMs with one tape that has multiple tracks, each with its own head.



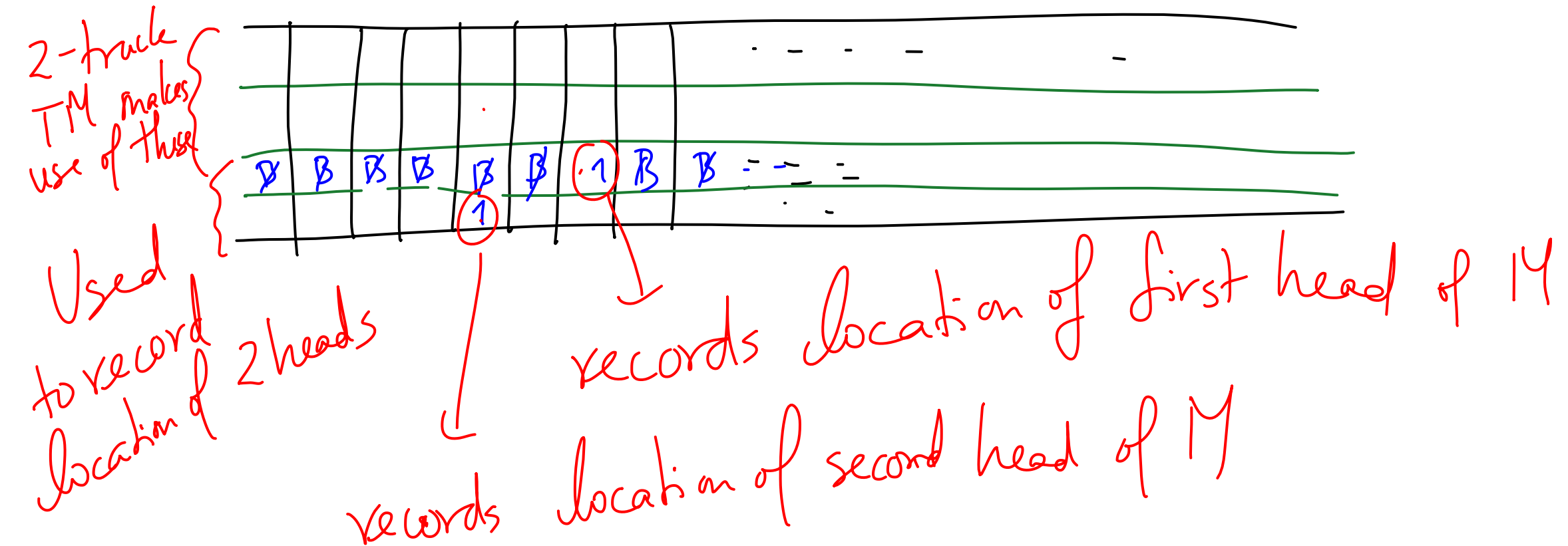
Theorem: Multitape TMs are equivalent to multitrack TMs

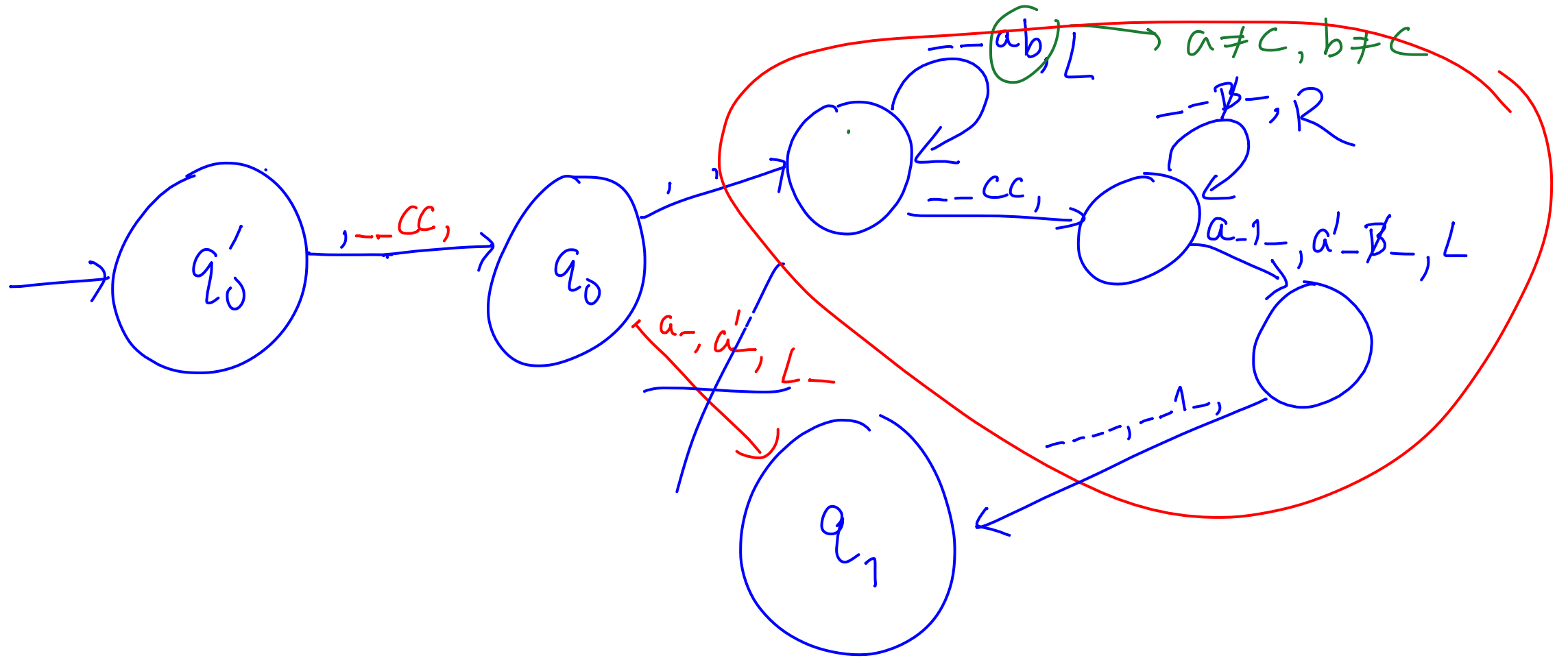
Multitrack TMs with one head

One head reading contents of all tracks in a cell simultaneously.

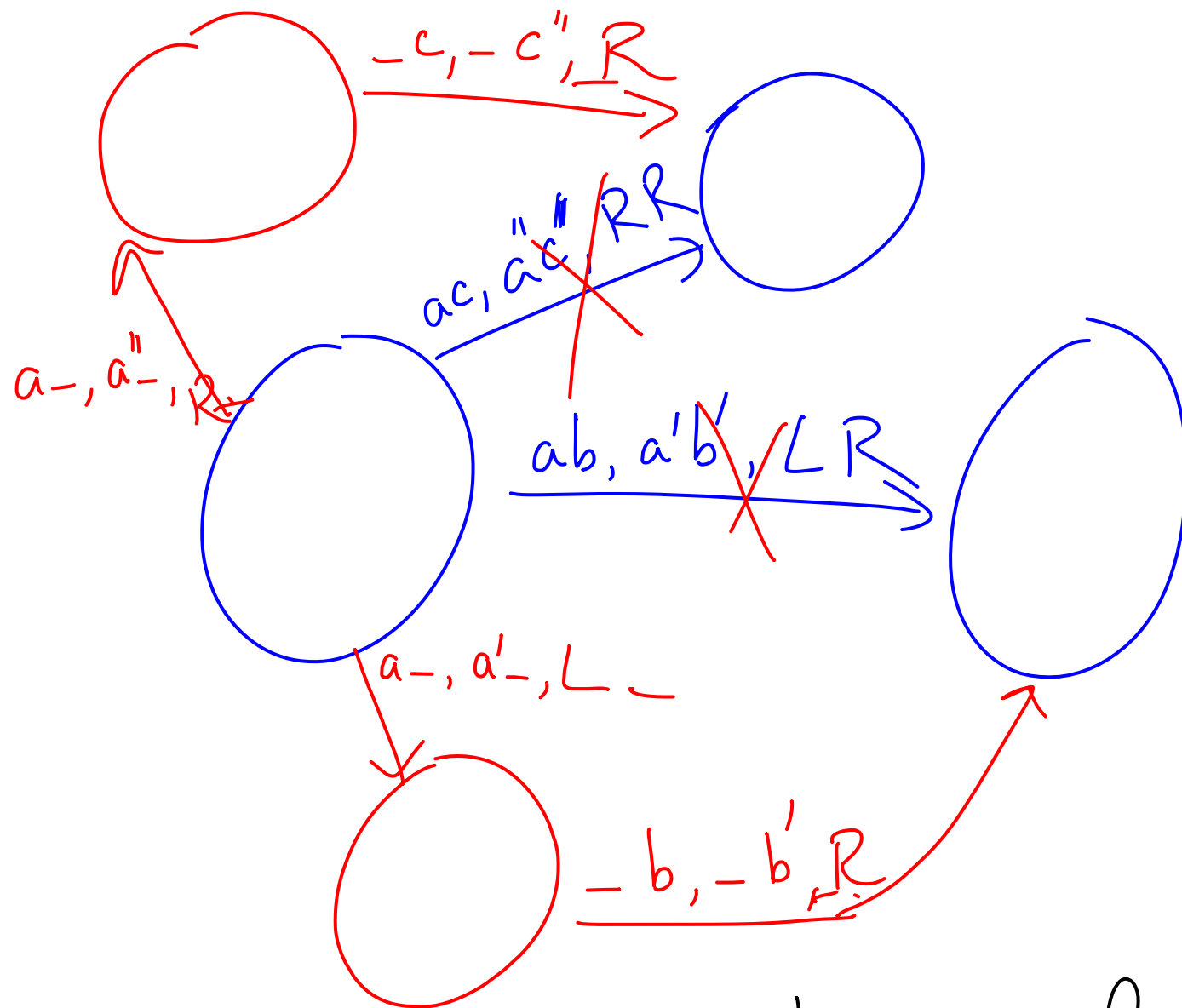
Theorem: Multitrack TMs are equivalent to multitrack TMs with one head.

proof: Consider a 2-track TM M with 2 heads.





Assumption : M uses only one head in any transition.



Transforming M so it uses only one head at a time.