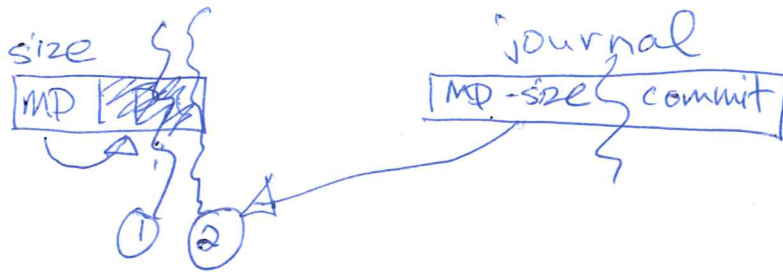Why selective data journaling?
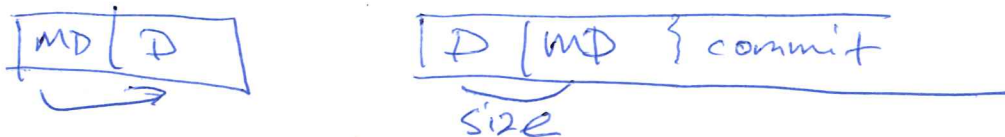
Ordered j. — semantics

    block overwrite? NO Atomicity

   — data block first

   — crash before journal

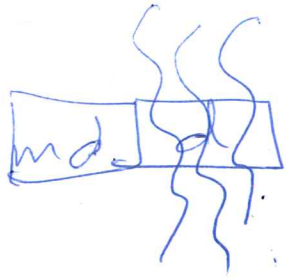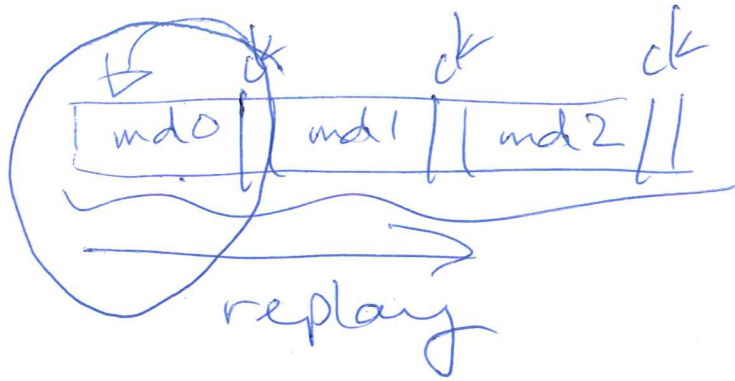   ⟶ mismatch btwn metadata + data

---

data journaling

  ① crash before commit

  ② crash after commit ~new data
      see overwrite w/ new size

---

selective d j. — perf. usually of ordered
           — data journaling if defect
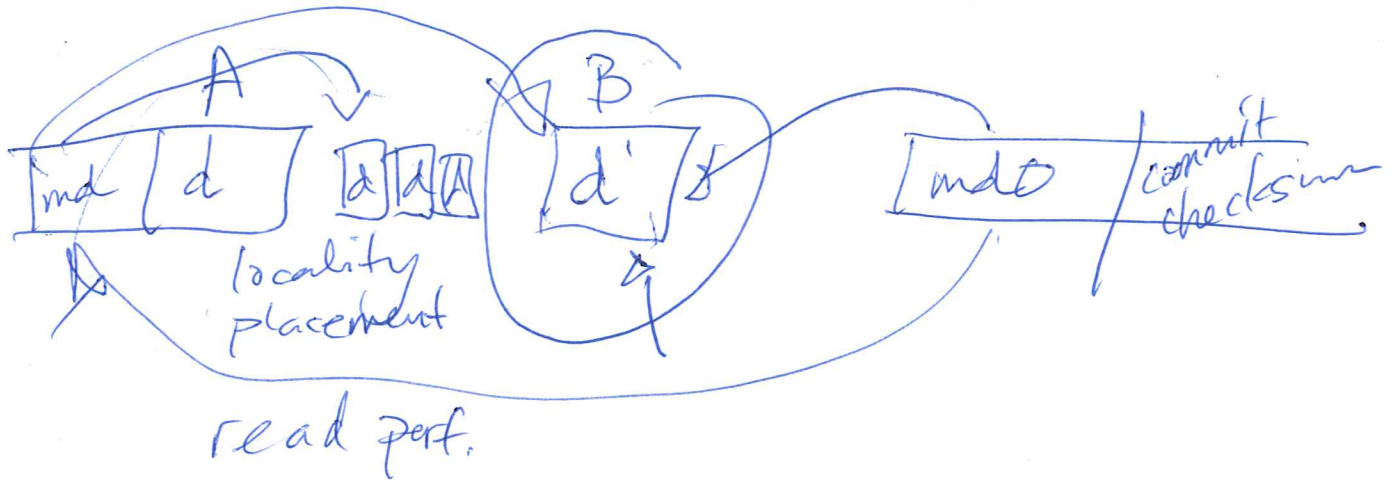   overwrite

optimistic w/o care:

matches?

replay

---

data journaling semantics?

1) reuse after notification

A   B

md | d   d d | d' | d   md0   commit checksum

locality placement

read perf.

2) selective dj.

— overwrite block?

d | md   d | md | commit

fixed

checkpoint in bg