

# The Merge on Write Pattern (MOW)

given:

some physical memory partitioned into units, e.g. blocks

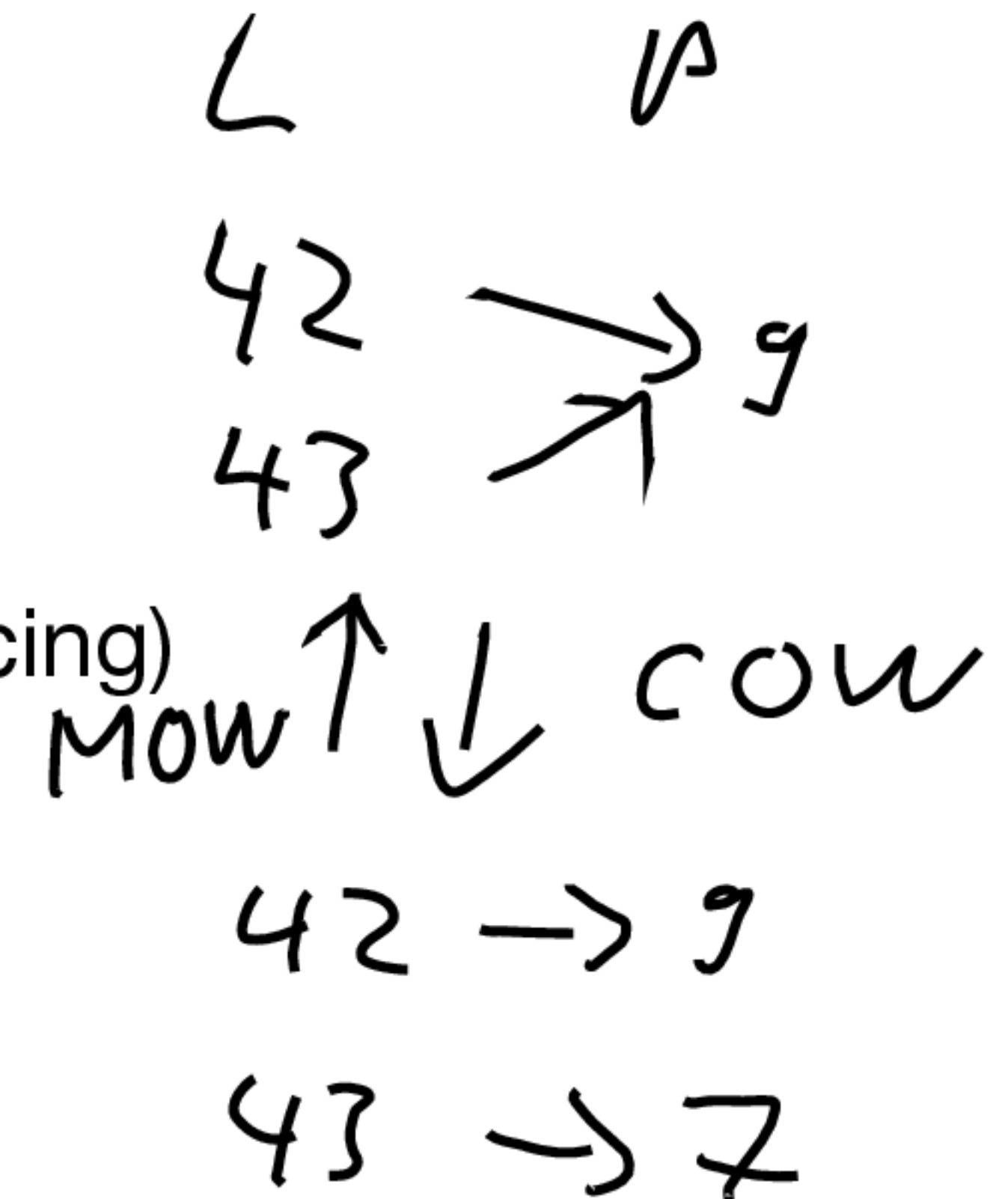
allocate/write/update-operations on units

solution:

hide physical addresses, e.g. LBA

make users share the data (without them even noticing)

**deduplicate** physically only at write/update-time



# The Merge on Write Pattern (MOW)

## advantages:

- saves considerable storage space

## drawbacks:

- managing overhead for tables

- fragmentation

## use-cases:

- deduplication, file systems, information integration

compression

dictionary; compression

# Example

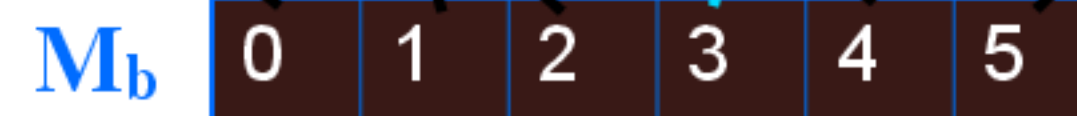
version a



file

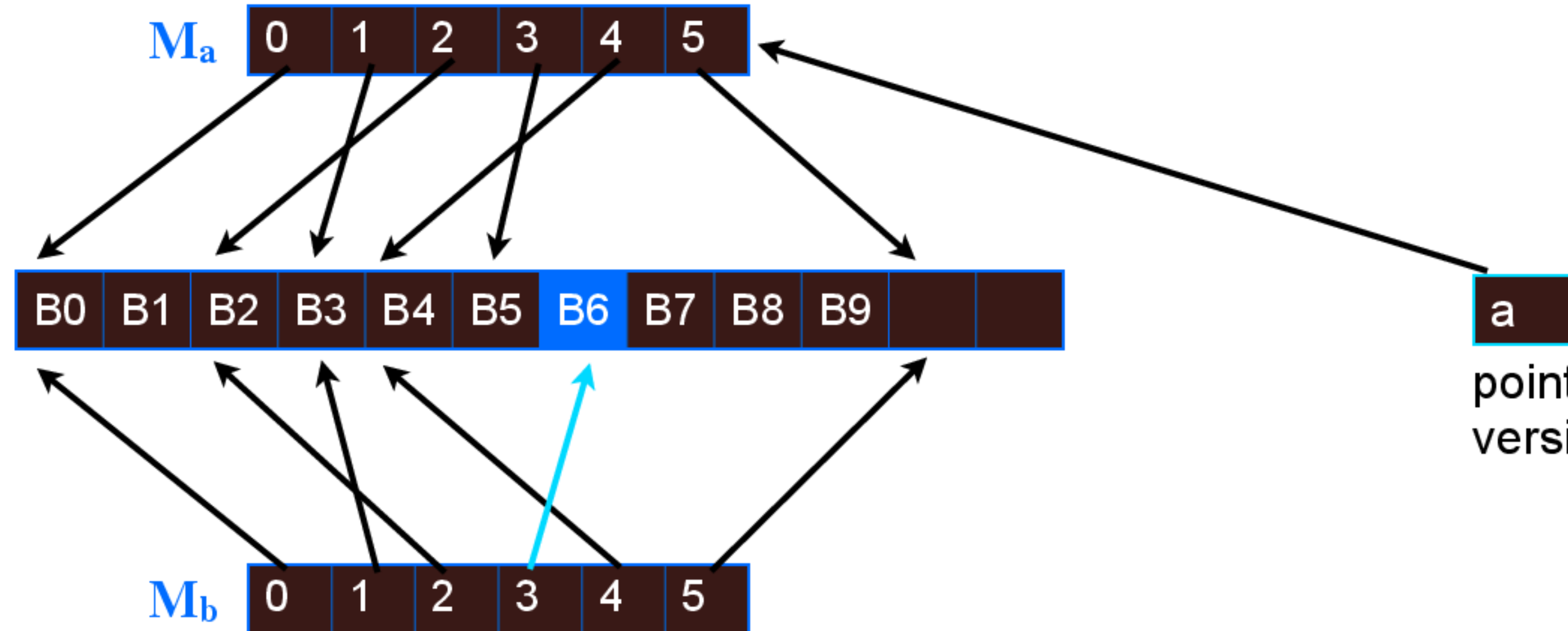


version b

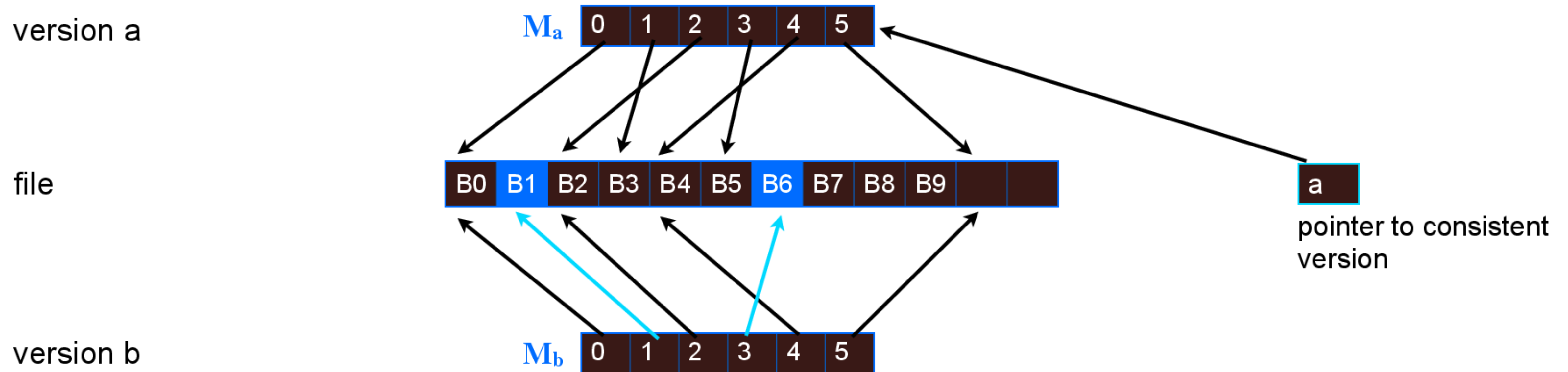


a

pointer to consistent  
version



# Insert and Update (as in Shadow Storage)



# Insert and Update (MOW)

