

How to Merge

Charles Bailey, Bloomberg LP

Why do we merge?

- We've worked in parallel on the same thing

When do we merge?

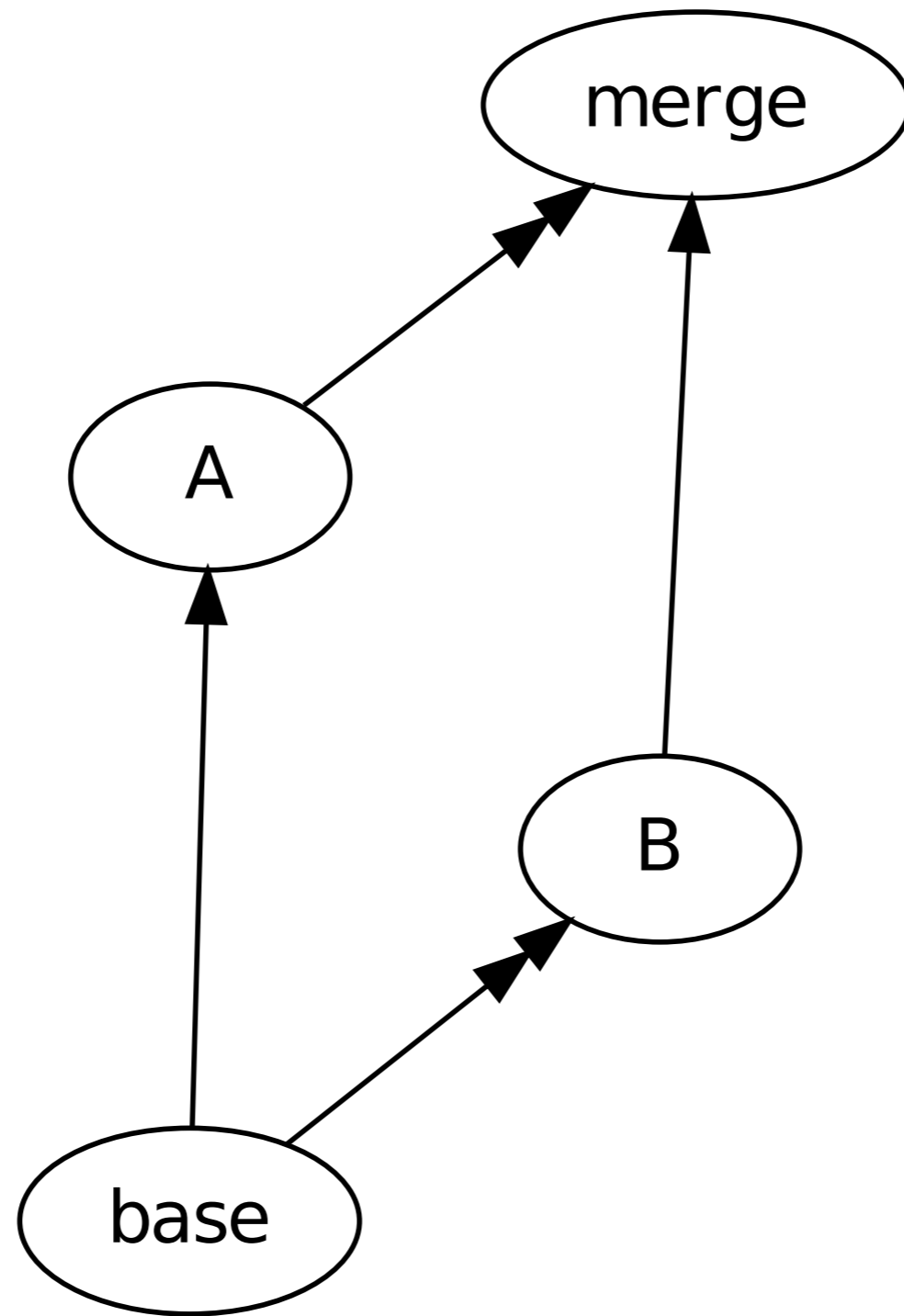
- On “update” in centralised world
- When we pull, merge or rebase explicitly

When should we merge?

- When we want to incorporate changes from elsewhere
- Merge early; merge often?

Merge mechanics

- Merges happen between directory structures
- Add, remove, change contents, change metadata of directory entries
- Traditional merge activities happen on “change contents” on the same entry



2-way merge

apples

<<<<<<< HEAD

bananas

=====

cherries

>>>>>>> master

dinosaur

apples

bananas

cherries

dinosaur

2-way merge

- Only the state of each side is shown
- No way to infer the changes

3-way merge

- Not a fundamentally different operation
- Merging with less information thrown away
- Ability to compose changes

apples

<<<<<<< HEAD

bananas

||||||| merged common ancestors

bananas

cherries

=====

cherries

>>>>>>> master

dinosaur

apples

<<<<<<< HEAD

bananas

||||||| merged common ancestors

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cherries

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cherries

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Manual merge

- Conflict markers
- Git config: `merge.conflictStyle = diff3`

Live Demo!

Lessons

- Don't try to merge generated files
- Take the easy option

Assisted Merge

- Learn the tool; use the tool

And now, with a tool...

Further lessons

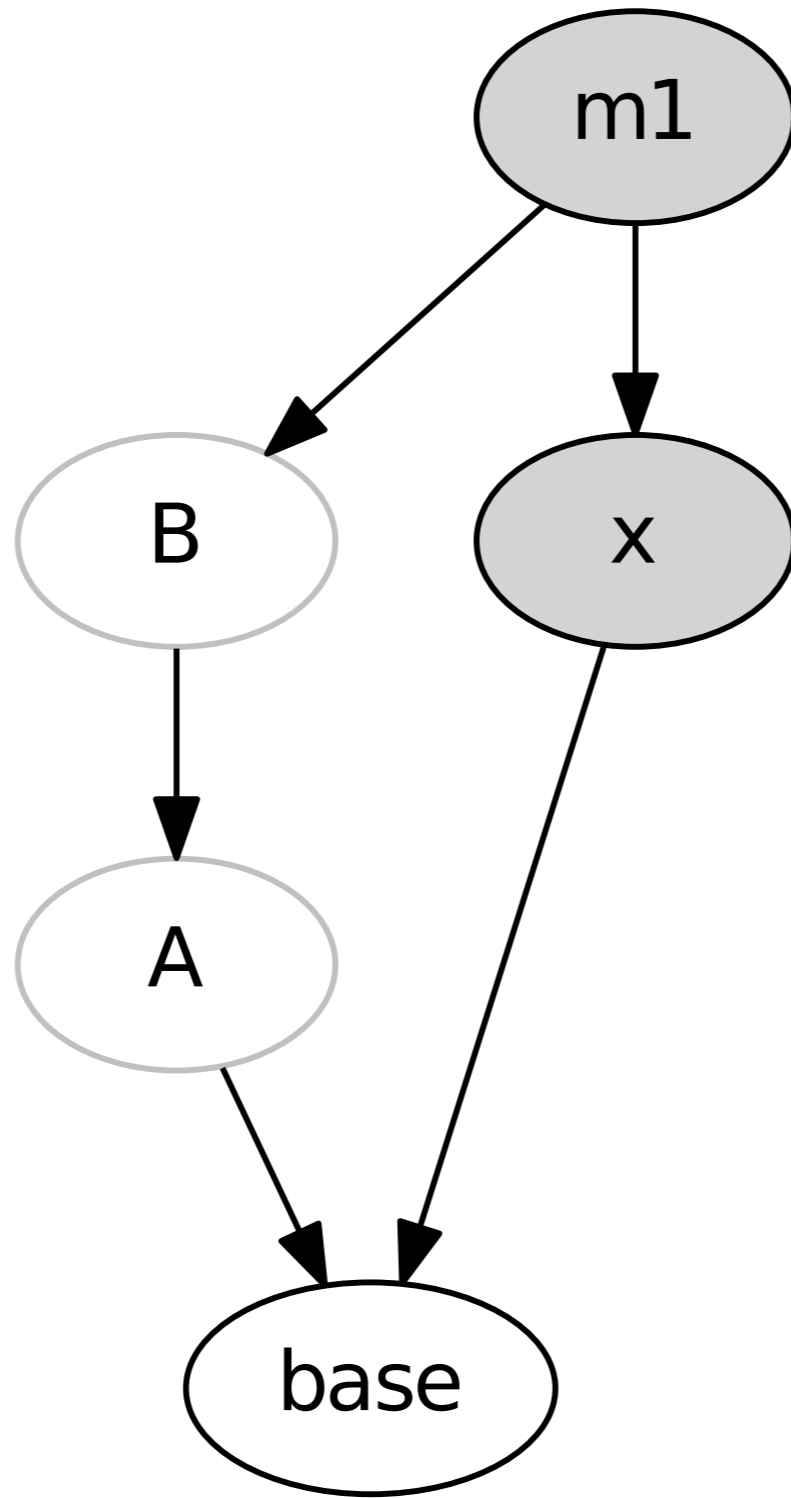
- Take the easy option (always!)

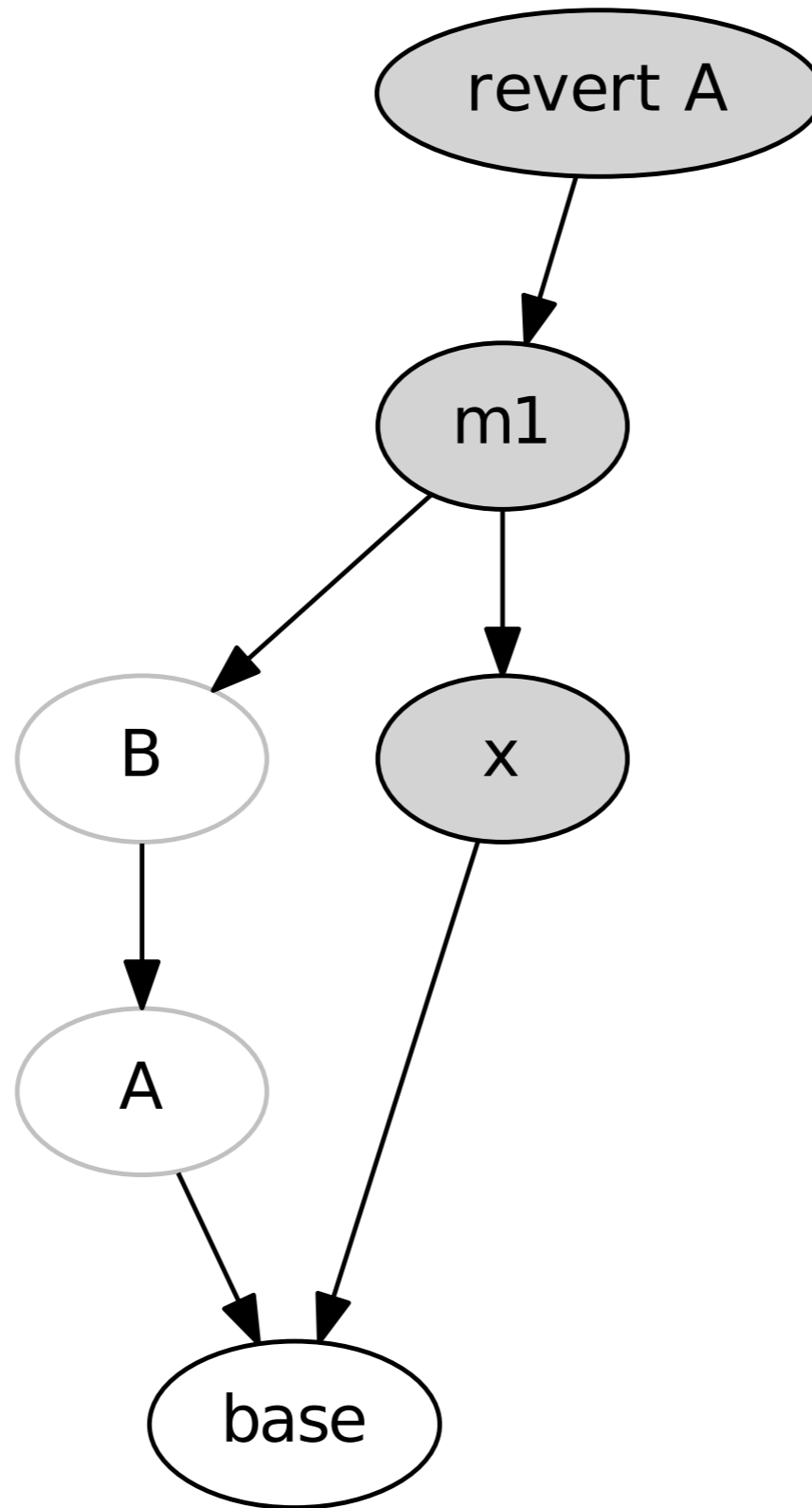
Pitfalls

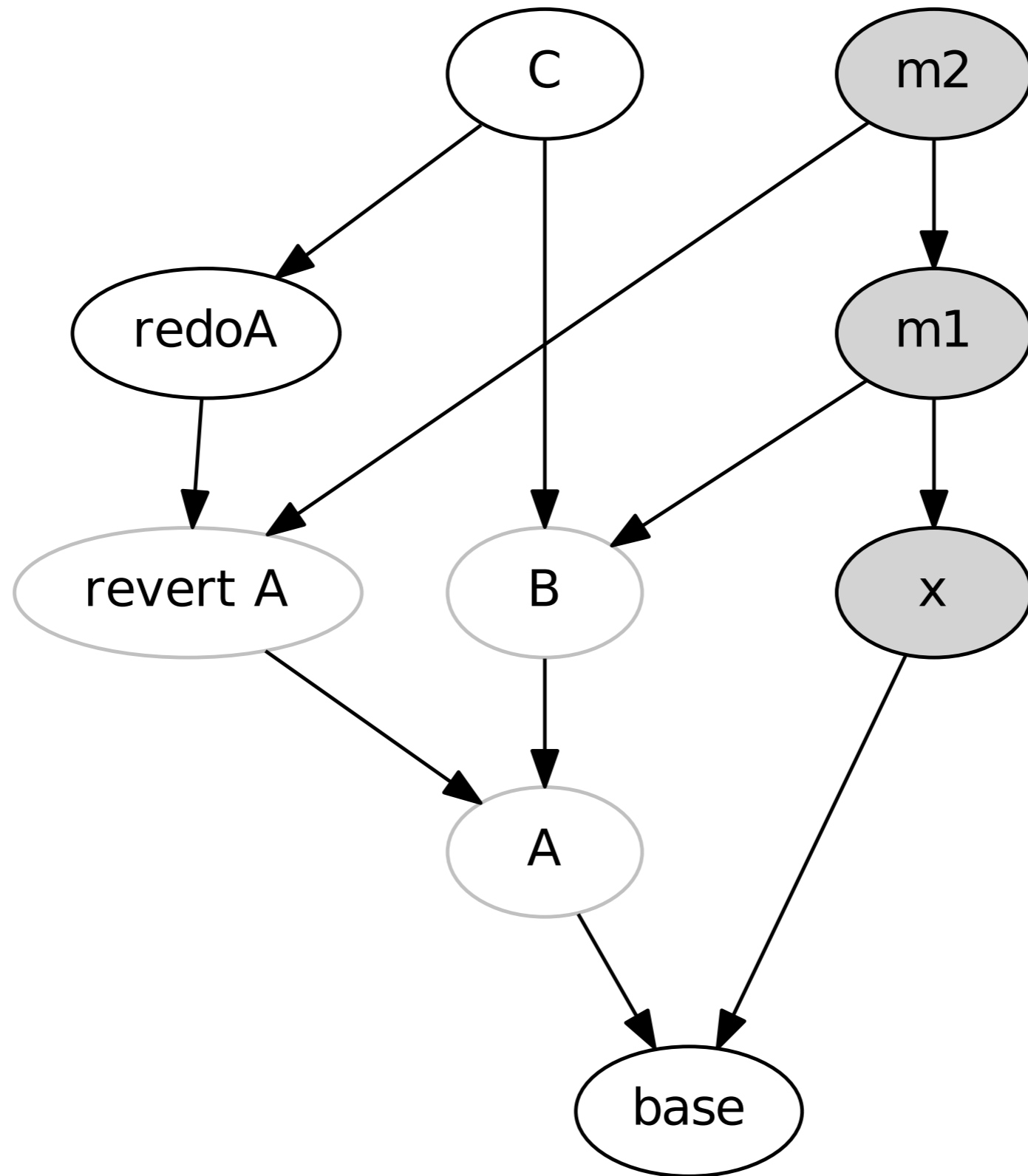
- Leave enough time
- Test that the result of the merge “works”
- Test that the changes of both sides still have the intended effects

Some Git specifics

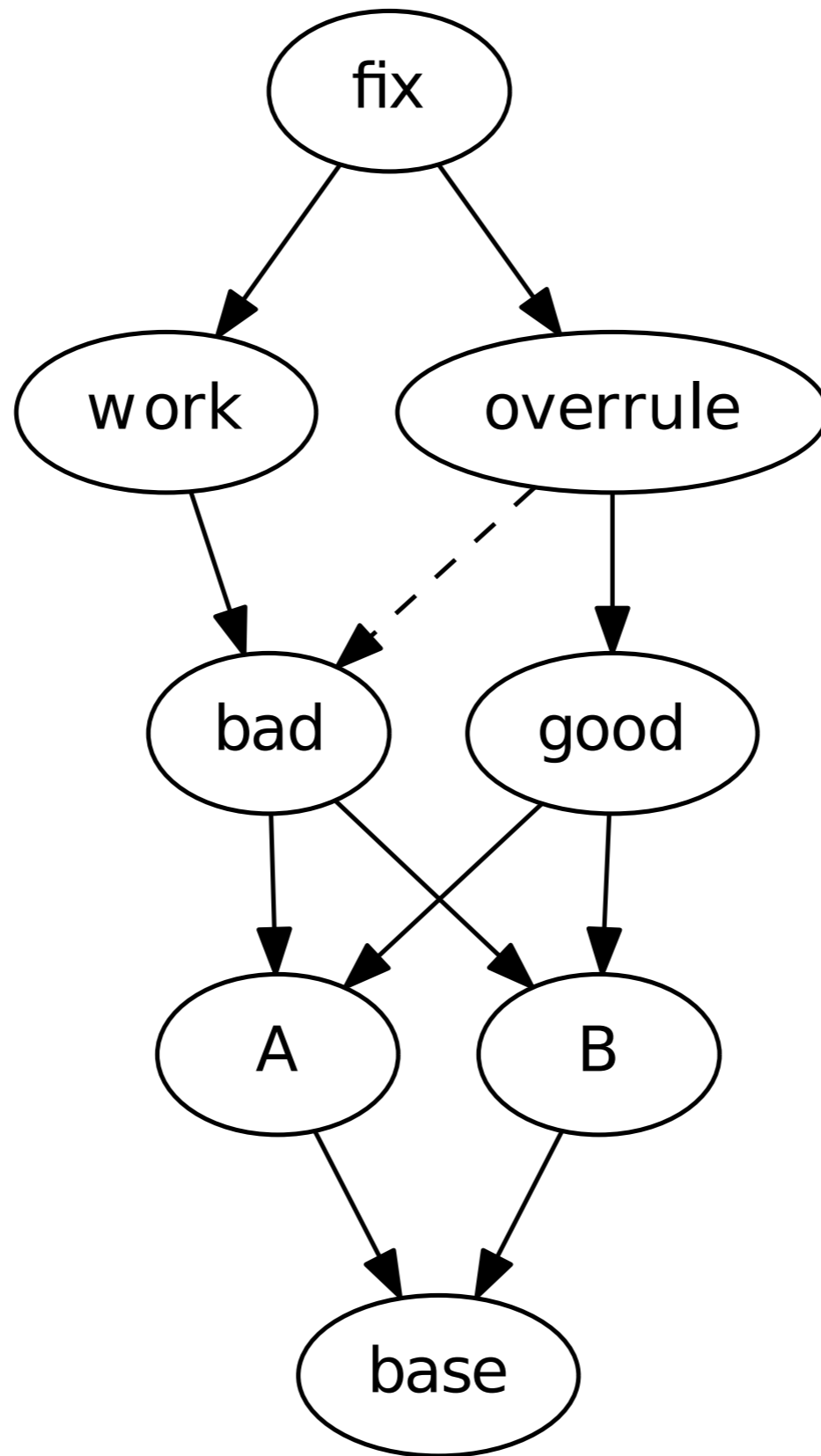
Temporary Reversions







Fixing bad merges



rerere

- Records previous merge resolutions
- `mkdir .git/rr-cache`
or `git config rerere.enabled`

Questions...
and war stories