A MONOGRAPH ON

Theoretical distributions & hypothesis testing

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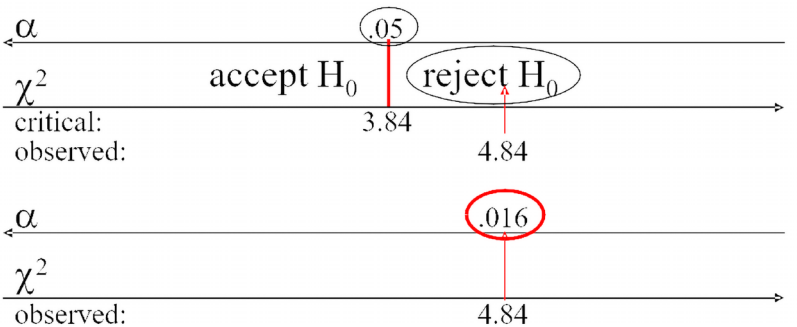
	early	late	Total
piedmont	29	20	49
plain	21	30	51
Total	50	50	100

$\alpha = .072$

- better to report the actual alpha value associated with the statistic, rather than just whether or not the statistic falls into an arbitrarly defined critical region
- most computer programs do return a specific alpha level
- you may get a reported alpha of .000
  - not the same as "0"
  - means $\alpha < .0005$ (←report it like this)



c) encourages misinterpretation of results

- it's tempting (but wrong) to reverse the logic of the test

– having failed to reject the H_0 at an alpha of .05, we are not 95% sure that the H_0 is correct

– if you do reject the H0, you can't attach any specific probability to your acceptance of H_1

d) the whole approach may be logically flawed:

- what if the tests lead you to reject H_0?
- this implies that H_0 is false
- but the probabilities that you used to reject it are based on the assumption that H0 is true; if H_0 is false, these odds no longer apply
- rejecting H_0 creates a catch-22; we accept the H_1, but now the probabilistic evidence for doing so is logically invalidated

Estimation

- [revisit later, if time permits…]