

1-29-92

# Mary-Claire King: Berkeley: Molecular Epidemiology

## Causes of familiar clustering of traits

### Examples

① Deafness - major cause used to be viral exposure during pregnancies  
but now it's more genetic

Problems: deaf people marry deaf people

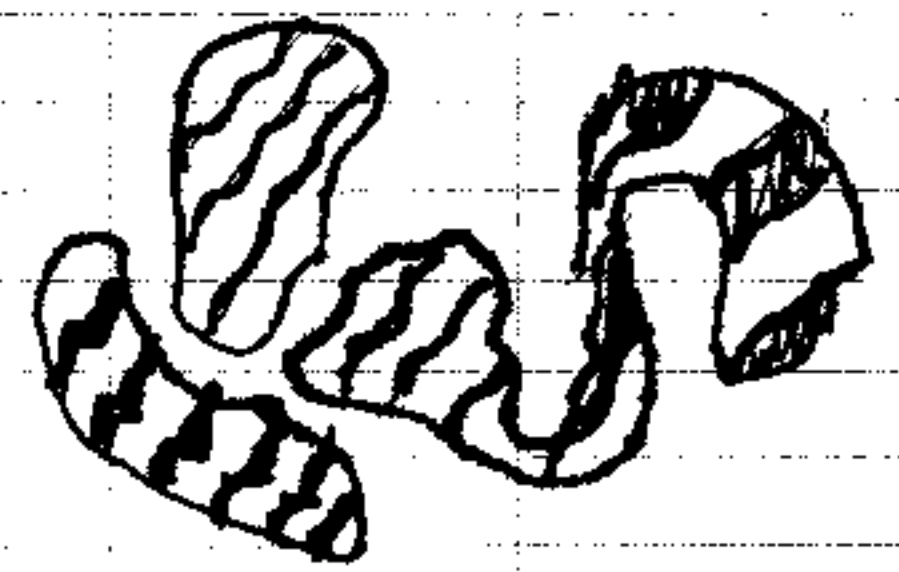
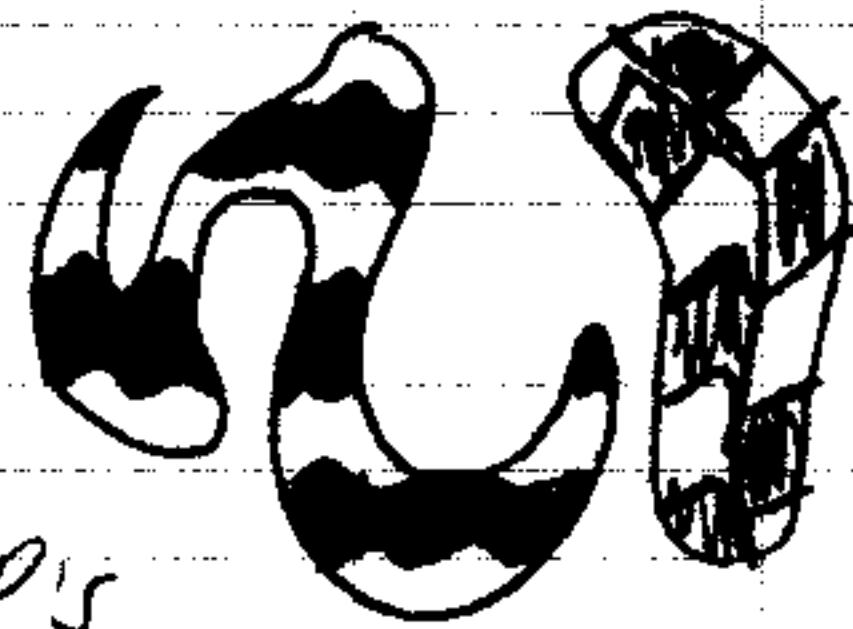
♂ } Familial deafness may be due to diff. genetic systems  
♀ }

### Family in Costa Rica

① Unherited deafness w/ no other problems (Autosomal dominant)

② good family histories

③ no inbreeding



### Positional cloning

① Find Mendelian RFLP's

② compare to disease (deafness)

③ close in on correlations between deafness + RFLP's

### ② Cancers

	Normal Risk Individ.		Genet. Susceptible Individ.	
At birth all cells	AA	or AAB <sup>B</sup>	A <sup>*</sup> A	A <sup>*</sup> A <sup>B</sup> B
Cancerous cells	A <sup>*</sup> A <sup>*</sup>	A <sup>*</sup> A <sup>B</sup> <sup>*</sup> B	A <sup>*</sup> A <sup>*</sup>	A <sup>*</sup> A <sup>B</sup> <sup>*</sup> B
# mutations needed	2	2	1	1
Cellular genetics	Recessive	Dominant at A + B	Recessive	Dominant at A + B
Pedigree genetics	None	None	Dominant	Dominant at A