

Linkage mapping for complex traits : a regression-based approach

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Stellingen

- 1. We have yet to see studies adequately powered for detecting loci involved in the architecture of complex traits. High heritability does not guarantee large individual locus effects. *Dit proefschrift*.
- Genotyping error increases the type II error in ASP designs and the type I error
 in discordant sib-pair designs. Designs that combine the two types of sib pairs
 appear to be fairly immune to the effect of genotyping error. Dit proefschrift.
- 3. Classical meta-analytic methods can be easily adapted to linkage studies. In addition to a logistic advantage upon the pooling of raw data, it offers the opportunity to adequately take into account the varying levels of marker information across studies. *Dit proefschrift*.
- 4. Information on covariate effects at the population level should and can be incorporated into the linkage analysis of common traits. *Dit proefschrift*.
- 5. Sophisticated statistical methods are not a cure for limited and noisy data. The most straightforward route to mapping a complex trait is to make it simpler. One way to do so is to use extreme ascertainment.
- 6. Genome-wide association studies are no panacea, their advantage over linkage studies is based upon simplistic assumptions. Linkage studies still have a role in generating candidate regions as well as in confirming results from association studies.
- 7. Genes implicated in complex diseases are bound to have small effects and their identification will have very limited impact on public health policies.
- 8. In statistical genetics, the hard part is neither the statistics nor the genetics but the new terms the geneticists dubbed old statistical methods.
- 9. Ce qui se conçoit bien s'énonce clairement Et les mots pour le dire arrivent aisément,

Nicolas Boileau

10. Statistics - A subject which most statisticians find difficult but in which nearly all physicians are expert.

Guernsey McPearson

Jérémie Lebrec, 21 february 2007