On causality and comorbidity: 
A view from the ‘schizophrenia-blindness-language’ triangle

A number of linguistic studies have identified correlations either between different linguistic properties or between linguistic properties and non-linguistic properties of speakers’ environment. For example, in the first category, there exists a correlation between increased word-frequency and decreased word-length (Zipf 1935). In the second category, one finds a correlation is that between high elevation and the presence of ejective consonants in a language (Everett 2013). Upon observing a correlation, the usual aim is to infer causal relationships (Ladd et al. 2015). At times, it is not possible to determine whether correlation entails causality (see Ladd et al. 2015 on why we cannot test whether there is a causal relationship between altitude and ejectives). In other cases, causal correlations can be determined on the basis of tracing the evolutionary origins of two features. For example, Dediu & Ladd (2007) test a hypothesis concerning ASPM and Microcephalin, and linguistic tone, suggesting a negative correlation between the population frequencies of ASPM-D and MCPH-D with the use of tone by that population.

The present study focuses on correlations that aim to link language to non-linguistic features, thus belonging to the second type. The goal is to approach the schizophrenia-blindness-language triangle through evaluating proposals that seek to determine causal relationships among different cognitive phenotypes, on the basis of the presence or the absence of case-reports of individuals with congenital blindness and schizophrenia. In the literature, one finds a claim in favor of shared evolutionary origins and causality between schizophrenia and language. According to this claim, schizophrenia is the price we pay for language (Crow 1997 et seq.). Another proposal suggests, based partly on the absence of case-reports of individuals with both congenital blindness and schizophrenia, that schizophrenia is the price we pay for vision (Landgraf & Osterheider 2013). In this work, first we show that the hypotheses on causality between different phenotypes on the basis of the observed patterns of comorbidity should be revisited in the case of schizophrenia and blindness, in light of the recent discovery of case-reports that feature both these two conditions (Leivada & Boeckx 2014). Second, we discuss the nature of the argument that links patterns of comorbidity to causality, also reflecting on Ladd et al. (2015). Last, we extend the argument from schizophrenia to psychosis and we discuss the implications that the newly uncovered case-reports have for claims suggesting that visual impairment is a cause of schizophrenia.

References


