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Developmental dyslexia

Stuttering is not the only "evolutionary" disorder that could be affected by the chronology of the origins of the articulated speech. Significant differences in the chronology of the emergence of spoken language in different human populations could have caused differences in the distribution of other forms of innate speech pathologies. According to the suggested model, different forms of innate speech pathologies should be less common in East Asia and among indigenous populations of America and Australia. So, the correlation again is expected to be "more polyphony – more speech pathology".

One such pathology, developmental dyslexia, is also related to this problem. Dyslexia is a developmental disorder connected not to speech, but to reading and writing. Several important factors link developmental dyslexia and stuttering:

(1) Both pathologies have a major innate component;

(2) Atypical dominance of brain hemispheres is crucial to both;

(3) Incidence prevails among the male population; and

(4) The magnificent array of dyslexic scholars (which includes Einstein and Edison) proves that developmental dyslexia is not connected with mental retardation (see review in Snowling & Thomson, 1991; DeFries et al. 1987).

(5) Another coincidence between stuttering and developmental dyslexia is that the latter also reveals "impressive differences in the degree of incidence" in different regions of the world.

According to one cross-cultural survey, reported in the "Cambridge Encyclopedia of Language", the prevalence of dyslexia can be as different as 1% and 33% (Crystal, 1987:274). The most interesting fact for our discussion is that the lowest incidence (1%) was found in China (Crystal, 1987:274). Such a drastic difference of developmental dyslexia is usually attributed to the peculiarities of the Chinese logographic writing system. Rozin, Ponitzky, and Sotsky reported that American dyslectic children did not have substantial problems learning to read Chinese characters (Rozin et al. 1971). At the same

time the evidence available does not support this suggestion, as the same low incidence of developmental dyslexia is also found in Japan, where the writing system kana is much closer to European writing systems than to Chinese characters. Makita (1968) suggested that the perfectly shallow characteristic of Japanese kana was the main reason for the very low incidence of dyslexia among the Japanese population. This suggestion has been criticized. As Flores d'Arcais writes: "...if for Japanese children, as Makita (1968) proposed, the completely shallow kana orthography could favor reading activation, the same low incidence should be found for Serbo-Croatian, or, almost to the same extent, in Italian or Spanish, and this is not the case. To summarize the points made in this section, we can conclude that the evidence available is not clear and strong enough to support the notion of a real advantage of logographic systems in reducing the risk of developmental dyslexia" (Flores d'Arcais, 1992:45).

On the other hand some North European populations show an excess of this condition (Benton, 1975; Rutter, 1978:25). Unfortunately, due to literacy problems, the incidence of developmental dyslexia in many regions of the world is not available. The most important in this connection would be data about African populations. I would expect dyslexia to be higher among African populations than among European populations (let alone Chinese and Japanese populations where according to available publications this disorder seems to be much lower than among European populations).

On the basis of the data currently available, we can assume that the principle "more polyphony in a musical culture – more speech related problems in a population" seems to be working in case of the of developmental dyslexia as well.

New studies about the distribution of the stuttering phenomenon (and dyslexia) in different countries and continents could shed new light not only on the origins of articulated speech, but also on the problem of the origins of stuttering and developmental dyslexia. This should not be surprising. A study of the earliest history of our species could reveal answers to some contemporary health problems of humanity.