It seems now clear that dyslexia differs by the mode of how a child gets the ability to read and, by implication, by the differences in the principles underlying the script (not that it 'differs by language' as the news media would have it while reporting the Hong Kong work). What has been established is that modes of brain development activity may differ in at least in two ways depending on the mode of initial training, either phonetic or logographic.

In 2001, I wrote a note in *Current Science*[1], when I learned, much to my surprise, that an astonishing 8–15% of persons are dyslexic in the English-speaking world. In contrast, near absence of dyslexia has been claimed for the more phonetically 'exact' Italian. I tried to draw the attention of researchers and others interested, to a neglected area of India-based studies of dyslexia.

I began to wonder about the prevalence of dyslexia among persons who have undergone literacy training in any of the phonetically exact major Indian scripts. The scripts of major languages indigenous to India have evolved out of ancient Sanskrit thinking dating as far back as the 8th Century BPE. Their 'alphabets' (not really 'alphabets' because they do not begin with α, β... or their variants) are arranged, uniquely to India, by the mode of pronunciation, the vowels and consonants listed separately. All of the scripts employ standard alterations/extensions to show how a vowel governs a given consonant to form a phoneme. In the North Indian scripts, writing the consonant symbol and ligating it with a smaller version of the 'second' consonant represents, for example, the compounding of two consonants. Extending this with the standard alteration for a vowel leads to the principle of representing a syllable with one symbol. In some Peninsular (South) Indian scripts (Telugu, Kannada) compounding is achieved, by subscripting the 'second' consonant near the first. Tamil and Malayalam use a combination of these methods. Contrasting with the manner of serial writing in Western scripts, these Indian scripts leave no room for different ways of reading a given piece of writing – there is no 'spelling'. The method (which may differ somewhat among the different Indian orthographies) completely contrasts with the Roman and Cyrillic method of juxtaposition that may have built-in uncertainty regarding pronunciation because of limitation in the number of symbols. Continental European languages use a large number of diacritical marks in trying to represent what is said in a more phonetically exact manner.

The point I tried to make in my article was that since there is no uncertainty in the way the letters represent speech a lesser incidence of dyslexia could be possible in the Indian population. I discussed the necessary precautions that must be borne in mind while designing methods of gathering Indian data and for making statistical comparisons with data from the West.

The Hong Kong work has admirably demonstrated the differences in the brain development of children raised to read English or Chinese. But then the 'phonetic' English (and related European) and the logographic Chinese represent two extreme variations in the manner they use the potential to convert written representation into sound. One may even go so far as to say that a difference in the brain structures of even *non-dyslexic* persons should be expected for the two extremes.

A question arises now: Can one drive a wedge between what can justifiably be termed as 'partially phonetic' European systems and the wholly phonetic and nearly exactly representative Indian system that evolved out of ancient Sanskrit thinking? A related question would be: Can differences in the brain development be demonstrated through fMRI and other non-invasive means between those trained to read exclusively in a given script native to India and those (Indians) knowing only how to read English?

India currently offers a unique opportunity to carry out the required tests and find answers to such questions. It will be an interesting investigation, even if the answers turn out to be negative.

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Sunscreens: Do they need screening?

Sunscreens and other cosmetic utilities have been flooding the personal care industry in recent years. The purpose of suntan preparations is to assist the skin in tanning without painful effects and that of anti-burn preparations is to minimize the harmful effects of sunburn. The materials used for the above purposes are known as suntanning agents and sunburn preventive agents respectively. Combined together, these are known as sunscreens[1]. These formulations protect the skin from the damaging ultraviolet (UV) rays of the sun. The history of observation of human exposure to the sun and its effects dates around 1500 BC in both Egypt and India. Ancient Egyptians used inorganic clays and mineral powders to protect their skin. The first effective sunscreen may have been developed by the chemist, Franz Greiter in 1938. In Florida, the US pharmacist, Benjamin Greene invented a sun-care product in 1944, known as coppertone suncare cream[2]. Greiter is accredited with introducing the concept of sun protection factor (SPF) in 1962, which has become a worldwide standard for determining the effectiveness of sunscreens when applied at an even rate of 2 mg/cm^2. The effectiveness of all sunscreens is rated on the SPF. The SPF explains consumers about the extent of protection against UVB (ultraviolet B) rays. A number of sunscreens contain titanium dioxide, kaolin, talc, zinc oxide, calcium carbonate and magnesium oxide. Depending of the individual skin type, a sunscreen product protects to different extents for different individuals. Product category designation is a classification system developed for sunscreen products by the United States Food and Drug Administration, to meet the requirement of consumers with different types of skin. Some experts say that the Indian skin is already ensured for better protection against the sun. In India, sunscreens are regulated by the Drug and Cosmetic

Act, under the category of cosmetics. But unlike the guidelines mentioned by the Food and Drug Administration (FDA) in the United States, India possesses no separate regulations for sunscreen products available in the Indian market. Some Indian companies follow the US guidelines for ingredients and get their products tested in Germany[3].

The notable fact is that sunscreens are categorized as over-the-counter drugs in USA and non-prescription drugs in Canada[4]. The critical concern here is whether the ingredients present in the sunscreen formulations penetrate the skin? Due to lack of regulatory guidelines in India, tall claims can be made to promote these products as more beneficial than the existing conventional regulated products. It is high time that the Indian regulatory authorities prescribe regulatory guidelines for sunscreens to check which products are safe for the Indian consumers.

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CSIR–UGC NET life sciences exam: A harsh nightmare for biotechnology students

The All-India CSIR–UGC NET exam is intended primarily to provide an index for selection of faculty to teach undergraduate and postgraduate courses. Those who qualify in the exam are provided with a fellowship to pursue research. According to estimates made by DBT, there are more than 300 college-level educational and training institutions across the country offering degrees and diplomas in biotechnology, bioinformatics and biological sciences, producing nearly 500,000 students annually. However, a large number of biotechnology students who appear for the NET exam are unable to qualify. Most institutions accept only a NET (JRF) exam qualified candidate to pursue research.

Topics related to biotechnology find little space in the syllabus for CSIR–UGC NET life sciences exam. The matter needs a thorough debate among educationists, policy makers and scientists. Biotechnology is one of the fastest growing fields in India. In addition, as the Pharmaceutics biotech industry is entering into the R&D phase after the 2007 GATT and WTO agreements, there is a huge additional requirement of scientists in this field. In the field of drug discovery, drug development and other allied health sciences, biotechnology scientists have proven themselves competent. Postgraduates in biotechnology generally study subjects like plant and animal tissue culture, genetic engineering and recombinant DNA technology, medical/bioprocess engineering, and immunology and environmental biotechnology[1]. If they wish to pursue funded research or postdoctoral research at any of the national instituties, they need to clear the NET exam. Now, the question arises regarding the selection of subject area. At present the only choice available to biotechnology students for NET is life sciences. In paper-I of the NET life sciences exam, not even a single unit is related to biotechnology. In paper-II where generally questions are selected from the topics in which the candidate is interested and/or specialized, limited space is given to biotechnology. Therefore, many biotechnology students fail to qualify, even after multiple attempts. This has led to a shortage of qualified teachers in biotechnology in colleges or universities. Although there are other alternatives for biotechnology students for research funded by the Indian Council of Medical Research (ICMR) and DBT, they are not eligible for lectureship and seats are limited.

Why not have specialized biotechnology subject area in the NET exam? Also, exams conducted by DBT must be treated on par with the NET exam in respect to eligibility for lectureship. In the case of GATE examination conducted by IITs, although there is no separate branch of biotechnology, one can select a complete section related to biotechnology. Thus every year several biotechnology postgraduates appear for this examination and have a chance to prove their calibre. Therefore, there is no reason as to why we should also not have biotechnology as a subject area in the NET exam. Or else, the syllabus of the NET life sciences exam should be revised keeping the problems of biotechnology students in mind. We hope that the educationists and governing bodies will make the necessary amendments. This would not only help biotechnology students, but also biotechnology research and education in India.

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