

Body dimensions and socioeconomic development: an introduction

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Systematic studies on stature have ancient roots, but it is only since the 19th century that studies in industrialized countries have focused on its variability in time, i.e. its increases and/or decreases in a period of about six generations. Similar studies on the progressive reduction of the mean age at menarche began shortly afterwards (Bodzsar & Suzanne, 1998; Danubio & Sanna, 2008). Since the 1990s, there have also been analyses of the relative increase of different body segments and of the progressively earlier appearance of secondary sex characteristics in both boys and girls (Herman-Giddens *et al.*, 1997, 2001; Ali *et al.*, 2000; Kromeyer-Hauschild & Jaeger, 2000; Sun *et al.*, 2002; Cole, 2003; Sanna & Palmas, 2003; Herman-Giddens, 2006; Juul *et al.*, 2006; Kaplowitz, 2006). In fact, studies on the secular trend of these biological variables have become one of the main fields of anthropological research. This research field has developed in various directions and detailed investigations have been made possible by the increasing accumulation of data for secular trend analyses.

The secular trend has many different causes. Particularly important are the changes in living conditions of growing children in terms of increased nutritional quality and quantity, improvements in hygienic conditions and health services, higher levels of education, income, number of children, etc. Starting from the 1980s, the clear correlation between the socioeconomic environment and secular changes has attracted the interest of economists, who define the biological variables as '*biological indicators of the standards of living*'. For this reason, stature has

been used in studies on the socioeconomic evolution of countries: the trend of stature is compared with the trend of the Gross Domestic Product, a quantitative indicator of a country's living conditions. Hence, in the absence of information on the GDP, the clear correlation between the two parameters allows one to analyze stature in order to study the historical development of the economic standard of living in both industrialized and developing countries (A'Hearn, 2003; Komlos, 1994, 2007, 2010; Steckel, 1995; Peracchi, 2008; Baten *et al.*, 2009; Stegl & Baten, 2009; Baten & Blum, 2010; Ramón & Martínez-Carrión, 2011; Vecchi, 2011).

This forum is intended as a starting point for an interdisciplinary discussion among researchers of different theoretical backgrounds who deal with anthropometric data. Its aim is to share achievements, problems, future developments and to highlight possible joint actions that, moving beyond diversified technical and theoretical approaches, can actually contribute to the knowledge of the various events that profoundly affected the biological evolution of the populations. Indeed, anthropometry is a useful tool for the comprehension of geographic differentiation of human populations; of long lasting consequences of geographic and/or cultural isolation; and of the effects of different subsistence and/or economic regimens (Little *et al.*, 2006; Destro Bisol *et al.*, 2010; Batini *et al.*, 2007; Stock & Migliano, 2009; Laval *et al.*, 2010; Zhong *et al.*, 2010). A very interesting and promising field of investigation is the one relating to the historical evolution of the standard of living in Developing

Countries currently developed by economists. To this purpose and to fill this gap, Baten & Blum (2010) are currently attempting to compile and standardize all available sources of heights for 165 countries around the world since the beginning of the 1800. Moreover, using nationally representative Demographic and Health surveys, Moradi (2010) analysed the main determinants of the secular trend in height in sub-Saharan African countries such as income and nutrition. Finally, the forum will give particular attention, as a general example of such multidisciplinary debate, to the trend of stature in archaeological, historical, and regional samples in relation to the history of socioeconomic evolution of Italy.

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