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Nota di contenuto	Foreword -- Early growth and later health: findings from the Helsinki Birth Cohort Study by Johan G. Eriksson -- Male and female placentas have divergent transcriptomic and epigenomic responses to maternal diets: not just hormones by Anne Gabory, Alexandre Vigé, Jean Lesage, Isabelle Fajardy, Laure Ferry, Linda Attig, Anne Vambergue, Didier Vieau, Jean-Philippe Jais, Luc Jouneau, and Claudine Junien -- Glucocorticoids and fetal programming; necessary and sufficient? By Jonathan R. Seckl -- Developmental programming and the placenta: focusing in on glucocorticoids by Caitlin S. Wyrwoll -- Maternal stress and in utero programming by Louise C. Kenny, Claire Everard and Ali S. Khashan -- Developmental epigenetics and risks of later non-communicable disease by M.A. Hanson, P.D. Gluckman and K.M. Godfrey -- Epigenetic effects of extreme intrauterine growth in humans by John M. Greally -- The Role of the Placenta in Fetal Programming by John Challis, Debora Sloboda, Shaofu Li, Thorsten Braun, Frank Bloomfield, Ghazala Begum, Anne White, Felice Petraglia, John Newnham -- Developmental Origins of Diabetes: The Role of

Epigenetics by Rebecca A. Simmons -- Glucocorticoids, programming and the transmission of effects across generations by Amanda J. Drake -- Subject index.

Sommario/riassunto

The environment of the fetus in the womb is emerging as a key determinant not only of its immediate status but also of the offspring's long-term well-being. This largely started with reports of striking epidemiological associations between lower, but still normal, birth weight and a marked increase in the incidence of cardiac, metabolic and neuropsychiatric disorders from childhood to senescence. In seeking to explain these observations, collectively referred to as 'developmental programming,' a new subfield of biology has emerged. Major discoveries include detailing the etiological roles of maternal factors such as nutrition, inflammatory disease, stress and psychopathology. Key biochemical mediators have been discovered, notably including hormones such as glucocorticoids, which act on both the fetus and the placenta to change the trajectory of growth, tissue maturation and the expression of specific genes in affected cells. Such persisting changes in the transcription of genes may be in part underpinned by epigenetic changes. The mechanisms of these effects are beginning to emerge and offer the prospect of new diagnostics, biomarkers and potential therapeutic targets. This work provides an accessible and cutting-edge view of this rapidly emerging field.