Now that we have discussed the mechanisms of learning, which influence behaviour, thinking and feeling throughout our lives, we are free to consider the evidence on whether this is a continuous process, largely controlled from without, or whether it unfolds in set stages, in a pre-determined sequence, largely from within. That is, are stages of cognitive and linguistic development real and rather immutable, as Vygotsky, Piaget and others have argued, or are they artifacts in the eye of the beholder? Note that there are strong clinical implications attached to what we decide. Vygotsky, a pioneer of stage theory alongside Piaget, was clear on this issue:

As we know from investigations of the process of concept formation, a concept is more than the sum of certain associative bonds formed by memory, more than a mere mental habit; it is a complex and genuine act of thought that cannot be taught by drilling but can be accomplished only when the child’s mental development itself has reached the requisite level. (Vygotsky, 1962: 82)

Such arguments have long been a preoccupation of developmental psychologists: whether early and continuous exposure to particular kinds of stimuli speeds up development (a widely-held popular view if you look at the plethora of child-rearing manuals) or whether the genetically pre-programmed brain is largely responsible for triggering sensitivities to stimuli at a given developmental tipping point and not much earlier. The associated question is whether an absence, infrequency or low intensity of stimulation at particular stages is inevitably harmful in the longer term, or repairable by later experience. Similarly, do childhood traumas have a lasting influence on later development or can they be...
compensated for by later, positive ones? You should avoid simply saying ‘yes’ to both questions, because we still have to determine what level of trauma, of what kind – for example, loss of a parent to illness or to suicide; if child sexual abuse, by a family member, by a stranger, what level of abuse, at what age/stage?

Research in this field concentrates on two complementary forces: first, the pre-programmed influence of genetic and epigenetic factors, particularly on the configuration of the developing brain; and second, the level of exposure to facilitative environmental stimuli. We know, therefore, that babies will begin naturally to explore their environment, but that different environments can encourage or discourage this. Anthropologists studying the native American Hopi tribe made use of a natural experiment. By tradition, the women worked in the fields straight after birth and took their children with them, tightly swaddled to keep them out of the way. The babies were unswaddled late in the usual motor-development stage (walking unsteadily alone at about 12 months) and they, well beyond this norm, unsurprisingly, fell over. However, they quickly recovered movement and began crawling and walking as usual, just later. We know that children spoken to in Polish will speak Polish, and those spoken to in French will speak French. So, an entirely environmental influence is at work building on inherited common structures for language per se (see Pinker, 1995).

What of children who hear little or no language around the time that most acquire it? There is evidence that so-called feral children, who have little or no contact with others, suffer severe, irremediable delays. Children who do not hear much language spoken and are sparsely interacted with, suffer serious delays in speech acquisition as well as other emotional and social deficits. I recall seeing a family, referred by a health visitor, whose child could speak hardly at all at three and a half years old. When asked how much the couple spoke to the child, they replied exasperatedly that there was no point, ‘Because he can’t speak, that’s the problem.’ Their child had no physical or neurological problems, it was just that his young, isolated, poorly housed and poverty-stricken parents had a model of language acquisition that was peculiarly innate. They thought that the speech was inside the child somewhere but had failed to come out, and needed little help from them. Bilingual children learn both tongues with remarkable ease as small children, but learning a new foreign language past adolescence requires five times the effort. However, no child speaks in meaningful sentences before the age of 1 year. No child, however much dangling there is, walks before 9 months (see Thies & Travers, 2009; Berk, 2012).