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Susan Goldin-Meadow: the resilience of language: what gesture creation in deaf children can tell us about how all children learn language. New York: Psychology Press (2003) pp 262. ISBN. 1-84169-026-0

This book has been a long time coming. It is a very stimulating read and provides an excellent set of rich case studies with which to think about the 'nature-nurture' question. The content of the monograph represents over thirty years of Susan Goldin-Meadow's (SGM) work on the role of gestures in language development, language creation and language processing. The research question maintained throughout is: What properties of language development are influenced by children's environment (the language input)? And conversely, if we know what properties are environmentally constrained (or 'fragile' in SGM's terms) we will be left with the part of language development resulting from the child's own contribution (the 'resilient' part). The children who are described in this book represent cases where the environment could be thought to afford no hope whatsoever of possible language development. However, deaf children deprived of sign or spoken language input are shown to create gestures with patterns and structure that surpass the adults' gestures around them.

The story of the resilience of children's language-making capacity is accompanied by chapters on the general study of language development. Because of this the book will have a wide appeal. SGM attempts to show how this special group of atypical children shed light on the question of how all children learn language. With this intention in mind, the sections on children's use of 'home-sign', 'sign language' and 'gesture' are integrated into reviews of the literature on straightforward language development, cross-cultural differences in child-directed language and the impact of bilingual input on language development. Throughout this presentation, SGM maintains a straight focus on the question of whether these environmental differences in how children encounter language make any differences to the eventual language learning process. The monograph is written with elegant simplicity and at an engaging pace. The science needs to be carefully sifted however.

SGM does a good job in showing how children exposed to natural signed languages, typologically distinct languages and several languages simultaneously seem to be determinedly 'lingual'. They take different types of language input in their stride as they come up with common principles of language structure, as well as identify the specific patterns in the input(s) they are exposed to. But the fact of children's 'linguality' is nothing new. What SGM attempts to demonstrate in this book that is new, however, is that children can come up with or 'invent' language structure without needing any conventional language input.

How the gestures produced by the deaf children SGM studied were transcribed, coded and analysed is explained in depth in its own separate chapter. This information on procedure is a useful resource in its own right for researchers interested in coding and measuring sign and spoken language development or gesture use in children. The main focus of SGM's book is on homesigns produced by her subjects. Homesigns are like words or signs: they pick out people, objects and actions in the environment. One major difference between homesigns and signs or words, however, is that homesigns

are never arbitrary, unlike, e.g., the American or British Sign Language signs for 'mother'. Homesigns always describe iconically the concept they map onto. This means that a homesign cannot be broken down into finite sets of meaningless units-- e.g., a phonology--as signed and spoken languages can. When homesigns get combined they exhibit consistent patterns in how they are ordered in 'sentences': gestures for 'patients' occur before actions, which occur before 'transitive actors'. So pointing at food, then your mouth then a third person means 'you eat the food'.

SGM claims that deaf children deprived of language are able to create language on their own, and this goes well beyond the pattern-less gestures of their hearing parents. This situation is different from that which has been documented for Nicaraguan Sign Language (NSL: Senghas, Kita & Ozyurek, 2004). NSL emerged through generations of children together creating a language. It is also different from the creolisation or nativisation process (Singleton & Newport, 2004). In these cases children surpass their input, but the input is still language although produced by non-native users. What SGM has claimed is more radical: 'The children thus lack access to a useable model of language...the gestures that the deaf children use to communicate are structured in language like-ways The children are inventing their own, simple language' (p. xvii).

Or is this really such a radical claim? What the claim rests upon is a definition of 'language'. Can any human language be simple? Do the gestures created and used by a group of language-deprived deaf children count as 'languages' in the same sense as BSL, Swahili or English do? Can the patterns apparent in the gestures that these children produce over time constitute language structures? Does the evidence support the claim that these gestures have phonology, morphology and syntax in the same way that all human signed and spoken languages have been shown to possess? If the gestures that deaf children create when deprived of language really constitute 'language', then it is indeed a radical claim that children can create language without input. If these gestures look like languages partially but do not constitute 'language' in any conventional sense, then what these children do on their own may show us what type of expectations they have of a system of gestures, although they cannot themselves satisfy these expectations.

To illustrate this with another example of communication. Children and adults are able to communicate ideas through drawing pictures. The way in which a picture is assembled does indeed look very language-like: there is a kind of syntax in how the different parts of the drawing are produced in a regular order; there is even some morphological characteristics to a picture in that pieces of the drawing build on each other like building blocks. However despite the drawing activity mirroring linguistic structures apparent in all natural signed and spoken languages, drawing is very different from signing or speaking, and children's pictures are not languages. A drawing emerges from the child's mind, and its structure is shaped by cognitive constraints--which may be the case with deaf children's homesigns.

It is worth noting one of the common characteristics of language acquisition in deaf children: The majority of deaf children do not acquire a language - spoken or signed - to a native level. The common situation for deaf children around the world is poor language development and serious delays in cognitive development (Peterson & Siegal, 1995). So although the deaf children in SGM's studies were able to use

gestures following many language-like patterns, it is not the case that deaf children do not have serious problems in acquiring a 'language' (in the conventional sense of the word).

So what do these deaf children who create gestures tell us? And what does SGM's meticulous documentation of these gestures in this book show us? The main part of the book is made up of reviews of research by SGM on her own or with colleagues over the past 30 years. This research has been used to argue that deaf children come up with patterns in their gestures that could be shown to follow closely all aspects of linguistic structure. That is, the self-created gestures have sub-lexical organisation, characteristics of words, distinguishable parts of speech, derivational and inflectional morphology, dependency relationships in syntax and across discourse - amongst other properties. Once the gestures produced by the children can be shown to follow a set of design principles, SGM then takes the next step and tells us what this means for how all children learn language. In saying that these self-generated gesture systems resemble properties of human language, it follows that these properties are not derived from language interaction, but from the mind of the child. These patterns emerge from the children's language-making capacity.

As outlined previously, these conclusions need to be viewed with caution. Although these children may have expectations that shape their gesture systems following a set of language-like principles, they do not end up with full-fledged linguistic systems as typically developing children are able to do. There is also a role here for interaction and the importance of adults interpreting the communicative acts expressed through homesigns. If the adults interacting with deaf children have language, it would be difficult for them not to use their knowledge of language and communication to fill in the gaps in the children's gestures, as you would need to do in interpreting the point-mouth-point 'sentence' described previously. As an example of this, take one of SGM's resilient properties: 'Language use: displaced talk'. If both child gesturer and adult share a context of displaced time, is it not possible that a string of gestures describing an event in the past or future is clearly understood as displaced because of the interactive nature of the conversation rather than because of a linguistic property? If this is a resilient property of 'language' it may be something that hearing adults interacting with these deaf children expect and impose rather than a property of the child's gestures themselves.

Overall readers should find this monograph extremely thought-provoking (as I certainly did). It makes a convincing case that what deaf children do with gestures is a major source of information on the development of communication and language, and what SGM has written about them provides much insight into the nature of human language and language development.

References

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