

MUSIC AND THE FOETUS: A COMPOSITIONAL FRAMEWORK FOR FOETAL STIMULATION

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Little is known about how music is perceived by the unborn child. However, although the physical and physiological response of the foetus towards music can be measured, the possibilities of potential benefits to the foetus from stimulation by music remain largely unexplored. By enhancing foetal neuronal development through transnatal auditory learning,¹ this paper seeks to demonstrate that individual elements of musical structure might in themselves be of some benefit.

Fundamental to this present study is evidence that all normal foetuses respond to sound from thirty-three weeks' gestation and most respond at twenty-seven weeks.² Prenatal programmes exposing the foetus to music (as opposed to sound impulses) have also been conducted. These suggest that the foetus can actually respond to music and that musical stimulation of the foetus can have a beneficial influence on both mother and child after birth.³ In addition to this, a study by Woodward et al. showed definite foetal heart-rate response to music.⁴ Although from these earlier programmes it is not clear whether individual features of musical structure could have specific influence, other studies have shown foetal preference for certain musical styles⁵ and provided evidence of prenatal learning through music.⁶ If the foetus is able both to discriminate between styles and also to remember music, it might then be possible to test the effects of different elements of musical structure.

To this end, the results from trials carried out by Trehub et al.⁷ are also valuable. These demonstrate that infants under nine months of age do actually react positively to certain elements of musical structure; most particularly to perfect intervals, certain aspects of harmony and to 'natural' phrasing. This current study aims to discover whether similar musical features, such as a pure melodic contour and the 'tremolo effect' might also stimulate the foetus.

Music has been composed specifically for this purpose and examples are given.

¹ Moon, C.M. & Fifer, W.P., (2000)

² Gerhardt, K.J. & Abrams, R.M., (2000)

³ Shelter, D.J. (1989) & Montemurro, R.N.R., (1996)

⁴ Woodward, S.J. (1992)

⁵ Olds, C., (1985)

⁶ Hepper, P.G., (1988)

⁷ Trehub, S., Schellenberg, G. and Hill, D. (1997)