



We perceive and understand our environment using many sensory systems: vision, touch, hearing, taste, smell, and proprioception. These multiple sensory modalities not only give us complementary sources of information about the environment but also an understanding that is richer and more complex than one modality alone could achieve. As adults, we integrate the multiple signals from these sense organs into unified functional representations. However, the ease with which we accomplish this feat belies its computational complexity. Not only do the senses convey information about the environment in different neural codes, but the relationship between the senses frequently changes when, for example, the body changes posture (e.g. when the eyes move in their sockets), or indeed shape, when the body grows across development. These computational problems prompt an important question which represents the key focus of this book: **How do we develop the ability to integrate the senses?** While there is a considerable literature on the development of single senses, such as vision or hearing, few books have considered the development of all our senses, and more importantly, how they develop the ability to work with each other.

This book is unique in exploring this extraordinary feat of human nature - **how we develop the ability to integrate our senses.** It will be an important book for all those in the fields of cognitive and developmental neuroscience.

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Multisensory Development

Andrew J. Bremner, David J. Lewkowicz, and Charles Spence



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