Mechanisms of perceiving space 42. Sensation and perception 42. Size and distance 44. Scale 44. The language of space. You would far rather be able to sit down in space and talk to you 'face to face' about this subject than write this book, for then I could see your expression and know when I am either losing you or labouring my point. Not all behaviour in space involves conversation, but much of our behaviour in space involves communication in some way or other. If truth were told, throughout our lives we probably communicate far more through space than we do with formal language. When we walk into a room, others are reading this spatial language long before we speak. Wayana is a language of the Cariban family, spoken by the Wayana people, who live mostly in the borderlands of French Guiana, Brazil, and Suriname. In Brazil, they live along the Paru and Jari rivers, in Suriname, along the Tapanahoni and Paloemeu rivers, and in French Guiana, along the upper Maroni River and its tributaries. The exact number of Wayana is unclear. The issue is complicated because counts are done on a per-country basis. SIL Ethnologue lists 850 users of the language and 1,950 ethnic Wayana actively construct our perception of reality. Richard Gregory proposed that perception involves a lot of hypothesis testing to make sense of the information presented to the sense organs. Our perceptions of the world are hypotheses based on past experiences and stored information. Sensory receptors receive information from the environment, which is then combined with previously stored information about the world which we have built up as a result of experience. Although in some cases, as in the ambiguous face picture, there is a direct relationship between modifying hypotheses and perception, in other cases this is not so evident. For example, illusions persist even when we have full knowledge of them (e.g. the inverted face, Gregory 1974). Visual space perception involves estimating geometric properties of the external world (the distal stimuli), given sensory information extracted from the light field generated by that external world that enters the eyes (the proximal stimuli). Visual cues differ in the degree of specificity with which a particular spatial property can be inferred from a given sensory measurement. As an illustration, in space perception, one's location within a familiar room is specified by the particular combination of stimuli arising from the walls and objects within the room. This combination guides walking. For another, in reading, the complex visual stimuli arising from words must be integrated with each other and with the auditory and articulatory processes that reflect the grapheme-phoneme correspondences of English. Book description. What is the instantaneous position of a moving object from the point of view of the observer? How does a tennis player know when and where to place their racket in order to return a 120 mph serve? Does time stop sometimes and go faster at others? Space, time and motion have played a fundamental role in extending the foundations of 19th and 20th century physics. Key breakthroughs resulted from scientists who focused not just on measurements based on rulers and clocks, but also on the role of the observer. The book may serve as a useful introduction for those interested in this area. Although hardly easy reading, motivated readers will find rich food for thought. Peter Skorupski, The Quarterly Review of Biology.