Can we discriminate felt and seen body? : A study under left-right reversed vision paradigm.

1995 Fiscal Year Final Research Report Summary

Can we discriminate felt and seen body? : A study under left-right reversed vision paradigm.

Research Project

Project/Area Number

06610064

Research Category

Grant-in-Aid for General Scientific Research (C)

Allocation Type

Single-year Grants

Research Field

実験系心理学

Research Institution

Kanazawa University

Principal Investigator

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Keywords

Visual-Transposition / Visual-Tactual Interaction / Left-Right Reversed Vision / Body Image / Visual Capture

Research Abstract

The visual capture of proprioception was examined in the visually left-right reversed condition. Under this condition, it had been thought impossible for visual capture to occur. The present research, however, demonstrated the capture using a sophisticated design.
In the first experiment the immediate effect was confirmed, and in the second experiment the persistence of the effect after eyes were closed was demonstrated. While subjects lightly touched a vibrating cylinder with their index finger(s), their hand(s) and arm(s) were moved passively in either a clockwise or counterclockwise direction. Looking through a left-right reversing prism, all 12 subjects perceived the direction of their hand movements based on visual infoemation despite being aware of the visual transposition (first experiment). In the second experiment, about half of the 15 subjects displayd characteristics of remaining greatly influence by vision when eyes were closed from the early stage of the experimental session.

The present research confirmed that visual capture occurs in visual left-right reversal situations, and demonstrated that even when eyes are closed, the visual image in darkness takes the role of vision and may capture proprioception. Furthemore, evidence was provided which shows rhat the time necessary to reveal the capture is mush shorter than noted by Harris and his colleagues. These findings facilitate our understanding that visual capture represents the initial stage of perceptual adaptation to the visually transposed world and suggests that perceptual adaptation begins immediately after putting on the visually transposing devices.
Furthermore, in the present project I discussed the relationship between felt and seen body beyond the framework of visual transposition research (Yoshimura, 1996a) and reviewed the history of Japanese contribution to this research field (Yoshimura, 1996b).

Research Products (8 results)

All Other

All Publications (8 results)

[Publications] Yoshimura,H.: "Visual capture under left-right reversed vision." Studies and Essays,Behavioral Sciences and Philosophy,the Faculty of Letters,Kanazawa University. 15. 1-12 (1995)

[Publications] 吉村 浩一: "ボディ・イメージの視覚性:左右反転視開始直後の手指の運動感" 名古屋大学環境医学研究所年報. 46. 39-42 (1995)

[Publications] 吉村 浩一: "視覚と触覚-変換視野への知覚順応で変化するもの" 金沢大学文学部論集行動科学科篇. 16. 1-21 (1996)

[Publications] Yoshimura,H.: "A histological review of long-term visual transposition research in Japan" Psychological Research. 59(in press). (1996)

[Publications] Yoshimura, H.: "Visual capture unver left-right reversed vision." Studies and Essay, Behavioral Sciences and Philosophy, The Faculty of Letters, Kanazawa University. 15. 1-12 (1995)

[Publications] Yoshimura, H.: "Visuality of body image : Immediate effects of left-right prism wearing on the directional perception of hand and finger movements." Annals of the Research Institute of Environmental Medicine, Nagoya University. 46. 39-42 (1995)

[Publications] Yoshimura, H.: "Vision or proprioception. Which will change when subjects adapt to a visually transposed world?" Studies and Essay, Behavioral Sciences and Philosophy, The Faculty of Letters, Kanazawa University. 16. 1-21 (1996)

[Publications] Yoshimura, H.: "A histological review of long-term visual transposition research in Japan." Psychological Research. 59(in press). 1996b

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