

台大杜鵑花節錯覺展：科學的藝術與藝術的科學

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**Close Encounter – Illusions where science meets art**

Shinsuke Shimojo's work in collaboration with National Taiwan University

## 消失的詭計

## TRICKS TO DISAPPEAR

### 要做什麼？

眼睛直視前方，緊緊盯著牆上的標記，並且在心中慢慢數到15。注意你的身體和整個房間會發生什麼事情。另外，在你一邊數到15的時候，請一個人站到地面上指定的標記位置。你覺得會發生什麼事情？

【原創作品由田中紀之與下條信輔在2004年於靜岡科學博物館設立】

### What to do?

Look straight ahead, fixating your eyes tight at the marker on the wall, while slowly count numbers in your mind up to 15. Note what will happen to your body and the entire room. Also, ask somebody to stand still at the designated position(s) along the wall, while fixating at the marker again up to 15 sec. What do you think will happen?

(The original version was created by Noriyuki Tanaka & Shinsuke Shimojo at Shizuoka City Science Museum Ru·Ku·Ru in 2004.)

### 發生了什麼事？

整個房間和身體可能開始朝光點移動的反方向轉動，此效果稱作“傳動移轉”。當你的整個視野都充滿了穩定流動的小光點時，你的大腦開始適應並且將這些光點當作新的參考座標，相對於此，整個房間和你的身體便被解讀成朝反方向轉動。你那位站在標記上的朋友消失了嗎？這效果稱為“運動引發視盲”。我們的大腦生來就是要偵測改變，因此運動訊號“獲勝”，壓抑了靜態影像的訊號並且抹掉了它們。

### 更多嘗試與體驗

- \* 注意你朋友的身高：取決於小光點流動的方向，在他/她消失前，他/她可能看起來比以前還要高或者矮。
- \* 請你朋友只移動身體的某個部份，或者是以不同速度移動整個身體。看看會不會影響到他/她的消失(或出現)。

### What's going on?

The entire room together with your body may start rotating in the opposite direction to the optical flow. This effect is called "vection." Since your visual field is occupied with a consistent flow of blobs, your brain after habituation switches to the blobs themselves as a new frame of reference, with which the room and the body are interpreted as rotating to the opposite. Did your friend(s) disappear when they stand still? This effect is called "motion induced blindness." Since the brain is designed to detect changes, the motion signals "win" and suppress the static image signals, erasing them.

### Other things to try

- \* Pay attention to the height of your friend: (s)he may look elongated or shrunk even before (s)he disappear, depending on the direction of the flow.
- \* Ask your friend to move only a part of the body, or move the entire body with different speeds. What happens to (in)visibility?