台大杜鵑花節錯覺展：科學的藝術與藝術的科學
下條信輔教授暨台大師生聯合特展
Close Encounter – Illusions where science meets art
Shinsuke Shimojo's work in collaboration with National Taiwan University
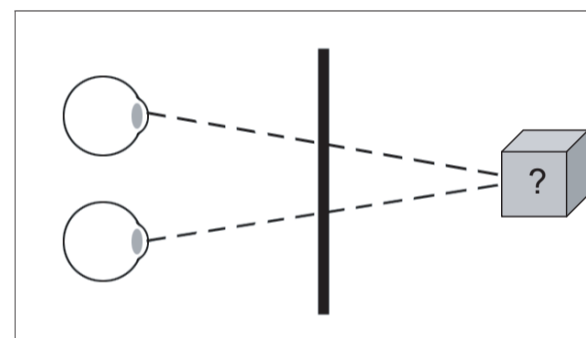
3D 立體圖   3D STEREOGRAM

要做什麼？

放鬆你的雙眼（或用鬥雞眼），試著將雙眼對焦在圖畫的後端，然後會有一些圖案浮現出來。那些浮現出來的是什麼呢？

【本圖形由游皓翔製作，構想由葉素玲提供】

What to do?

Focus your view point behind the pictures. A 3D figure will emerge.

(This pattern was created by Hao-Hsiang You, original idea provided by Su-Ling Yeh)
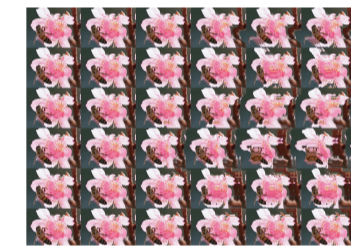
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發生了什麼事？

你應該會看到如下圖浮出的台灣形狀與NTU字樣。這是因為我們的左右眼所看到的影像其實是有微小的差異。試著閉起你的左眼，伸出你的食指，用右眼將你的食指瞄準某一樣東西後不要移動，再馬上睜開左眼閉起右眼，可以發現左右眼有微小的角度差距。這樣的兩眼像差是我們日常生活中判斷遠近的重要線索。這張圖包含了許多重覆出現的圖形，但每次的重覆都有一些小差異。當我們的大腦結合左右眼的訊息時，有時會誤將一個圖形和它的鄰居結合起來。此時，這個小差異就提供了形成立體視覺所需的兩眼像差。

更多嘗試與體驗

再試試看下面這張圖吧，看到了什麼？

What's going on?

You may be able to see the shape of Taiwan and the word "NTU". This autostereogram demonstrates how the visual system uses disparity, or the small difference of the left and the right images, to recover 3D information. You can experience the effect of the disparity by putting your index finger a few centimeters before your eyes. Then close each of your eyes alternatively and see how the position of your finger changes. In this image, each column contains the same patterns but with a small difference. When the brain fuses the left and the right eye images together, sometimes it made a mistake by matching one column to its neighbor. As a result, the small difference between the two columns provides the disparity information needed to create 3D percept.

Other things to try

Look at the image above. What did you see?

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