

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

心心相映

COUPLING HEARTS

要做什麼？

眼前這個黑色穿戴白色圍巾的盒子，請試著聽聽它傳遞出來的聲音。看看它的頂部與前面小孔裡的東西，進而用手去摸摸它的外殼。你覺得發現了什麼事情？

What to do?

Just listen to the sound from this device, look at the top of the box, peep inside the peeping hole, and then touch it. What do you experience?

發生了什麼事？

1. 不鏽鋼碗面的反射，在碗的另一面，呈現愛心的外型與紅色的虛像，但是卻不像鏡子那樣清晰，有種夢幻虛擬的感覺，透過了底下馬達的轉動，兩顆心有互相追逐的動態，可調控此馬達，轉速在快慢中交替（從每分鐘 0 轉到 110 轉），有時兩顆心很清晰，有時太快卻又糊成一團（視覺的解析度不夠）。
2. 封閉無光的黑色箱子，不停閃動的光線（Strobe Light），像是照相機的快門，讓轉動的愛心夜光圖片，在某些瞬間可以被看見，因此，動作連續的圖片播放看來像是真的，但實際上，圖片本質上不是連續。此效果常用於電視，電影的拍攝與剪輯。
3. 箱外的心跳聲音，調整其快慢與遠近（藉由雙音軌混音的 pan 技術），此聽覺的線索可與視覺整合（Cross-Modal Integration），通稱為感官整合（Sensor Fusion），若一致則有加強的效果，若有矛盾便會感覺錯亂。

更多嘗試與體驗

- * 旋轉的虛像愛心是否在某些位置看起來特別大或是特別小呢？
- * 如果把前面黑色屏障拿掉，是不是就不容易看出來消融的感覺呢？
- * 為什麼可以感受到盒子震動的感覺呢？聲音是如何在盒內共振成為可觸摸的振動呢？

What's going on?

1. A reflection of a heart is presented at the opposite side of the stainless bowl from the real one. The imagery heart is still red but blurred. The dynamic effect of two chasing hearts is produced by the rotation of a motor. Speed could be tuned between 0 to 2 Hz. The image is clear at low speed but fuzzy at high.
2. There is a dark box with a flash light (Strobe light) under the bowl making the rotating pictures visible at certain time point. The moving pictures are perceived as moving continuously even though they are actually separate and discrete. This illusion is often applied in TV and film shooting and editing.
3. The sound of heartbeat changes in frequency and loudness (based on Two-Track Mixer Technology: Pan) to create a percept of changing velocity and distance. This sound (cues from the Ears) could be integrated with visual percept (cues from the Eyes) of motion. This is often called sensory fusion. An observer may have a confused motion percept if the visual and sound cues mismatch.

Other things to try

- * Is rotating imagery heart larger or smaller at certain specific position?
- * If we remove the black screen, should we still see the permeable effect?
- * Why we can feel the vibration of the box? How could we touch the sound?