## 雜技柔術道具製作與實證分析一

### 以國立臺灣戲曲學院民俗技藝學系為例

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#### 摘要

由於時代變遷,人們的物質生活不斷的豐富,觀賞雜技的審美觀 也在不斷的與時俱進,所以演出形式不能再像以前那樣的單調——只講 求技術的展現,在舞台上也不再只是白黑單調搭配的布景。所以,在追 求節目的整體性發展方面,其中道具的研發製作,是現在雜技界必研的 一項課題。

2013年,經由武漢雜技團湯柏林老師來臺傳授技藝的過程中,筆 者認為雜技道具研發製作頗為重要;而透過目前民俗技藝學系課程的規 劃與實施,柔術道具的研發製作及維護已建構出標準作業程序:從紙上 素描、人員的選材、器材質量的挑選與製作、表演者的訓練與實證分析 等。本研究利用攝影分析法與即時動作回饋,前者讓測量數據更加客 觀,減少人為上的判定誤差。同時也加入生理訊號擷取系統與力量量測 擷取系統,藉由這兩項技術去了解表演者與道具支撐點之間的距離與角 度,藉以遂行上述的即時動作回饋。研究結果發現,運用攝影分析實際 操作和即時動作回饋系統,因有理論根據與實作測試,使表演者頭與腰 部位、頭與臀部位角度所需的施力點、支點與抗力點之建立,都已達到 最便捷省力的模式。

本文不厭其煩地梳理柔術道具的製作、人員選材與訓練過程、攝 影分析與即時動作回饋,從中凸顯出個人道具器材的專屬性,並作為日 後道具器材製作及教學理念建立的基礎。對現今雜技道具的研發,提出 思維模式與建言,以強調雜技道具的研發與製作在今後雜技表演藝術發 展的重要性。

#### 關鍵字:雜技、柔術、道具

## The Making, Material Using and Empiric

# al Analysis—An Example of Department of Acrobat of NTCPA

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As development of modern life, the material life of people has been enriched continuously. The aesthetic of viewing acrobatics has also advanced with times. Therefore, the form of performance could not be as monotonous as before, which means only paying attention to techniques display. Also, stage scenery is no longer arranged in black-and-white. Hence, when pursuing the overall development of programs, to design and to manufacture properties have become an important subject in the acrobatic field.

In the year lot 2013, the author comprehend the importance of designing the acrobatic props in the process of being taught skills by an acrobatic troupe, Professor Tang, from Wuhan city. Through planning and implement of the current courses in the Department of Acrobatics, the props of contortion can already reach the standard operating procedure. Beginning from the sketch on a paper, followed by the advance of technique level, selection of personnel and manufacture of equipment with the correct quality and quantity, and finally display and analysis of regular training are all included. In order to gain objective measured Clata and reduce the bias, image processing was utilized Meanwhile, physical signal adopting system and strength measurement system were added to inspect the distance and angle between the props and performers It is expected to reach the most energy saving mode and the best performance.

This study simply Carding the production of contortion props and the procedure of personnel selection and training, thus make the specificity of props stand out. This is awareness and also the foundation of establishing future props and teaching philosophy. We want to propose thoughts and advice for this ongoing research and development so as to emphasize the importance of making props of acrobatics in the future. keyWords : Acrobatics, contortion, stage props