

■ 科教資料服務專欄 ■

歐美主要科學教育期刊介紹(一)

本刊編輯室

爲了協助各位教師能夠獲得科學教育相關研究的資料，本年度起本中心增加科教資料服務的工作。即期開始將陸續介紹科學教育有關的期刊、圖書及資料。

首先介紹的七本科學教育期刊，爲：

- (1) *European Journal of Science Education* ;
- (2) *Journal of Research in Science Teaching* ;
- (3) *Science and Children* ;
- (4) *Science Education* ;
- (5) *School Science and Mathematics* ;
- (6) *School Science Review* ;
- (7) *Science Teacher*.

(1) European Journal of Science Education

這是一本屬於國際性的期刊，提供科學及科技教育方面的文章、報告、資料與有關消息等的發表，其目標爲：

- 報導科學教育理論及實際研究狀況；
- 傳播科學研究及發現的成果；
- 促進各國間科學教育資料之交流；
- 促進對於科學教育與外界工業、政治、經濟、社會等相互作用的整體了解；

- 作為科學教育看法及意見交流的場所。

這本期刊所接納的科學教育研究偏重於應用性的，即研究成果可以實際應用於教育上的，也特別歡迎此類稿件。該期刊特別提醒投稿作者們留意其擁有不同國家的讀者，故稿件應考慮不同社會及文化背景，這是幫助投稿作者留意其文章內容不只相關於本國的教育體系，也應該指明其發現對於科學教育的關係。

本期刊內容分作三大主題：(1)一般性文章；(2)改進與發展；(3)研究報告。下面特介紹1985年第七卷第一期的目錄供參考：

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(2) Journal of Research in Science Teaching

這本期刊是由美國國家科學教學研究協會 (the National Association for Research in Science Teaching) 的出版物，一年九期 (除了六月、七月、八月) 。本期刊包括各種科學教學的學術研究文章，如：實驗教學研究，歷史性的研究，個案研究，調查、統計研究，相關性研究，新教具的研究，文章摘覽，評論，學說理論以及人種誌的研究等內容，當然所刊登的文章均先經評估其對科學教學的意義以及其學術水準。

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(3) Science and Children

本期刊致力於由學前至中學階級的科學教育，屬於美國國家科學教師協會(National Science Teachers Association -NSTA)所出版的三種期刊：*Science and*

Children (S & C), *The Science Teacher (TST)*, 以及 *The Journal of College Science Teaching (JCST)* 之一。其對象是小學及初中科學教師, 每年發刊八期, 從九月至五月。該期刊除一般性文章外, 另提供許多教學活動資料 (如各月分天象圖、教室內的動物等), 以及會員活動資料 (如各種集會及研習班消息等)。其內容有教學活動、教學計畫、研究計畫報導、書評、教學提示、天象圖、進修性文章、哲學以及數不盡的教學小靈感。下面即是 1985 年元月至三月 (Volume 22, Number 4 - 6) 的目錄, 提供參考:

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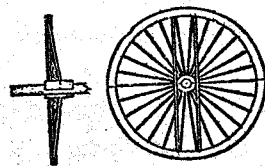
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●古中國科學管窺●

皿形輪的發明

北方民族作戰以騎兵爲主力，安陽大司空村發掘出土之安陽期戰車「車馬抗」，其馬具類均爲青銅製造，而車輛的轂、軸、輻諸需要滑動、連結部份亦均用青銅爲承爲軸爲軛爲卯。車體上爲箱型，用爲乘戰士便于以雙手用弓矢、矛戈攻敵，轅貫橫楨爲卸二騎或四騎用，其攻擊力、載重力乃至速度之如何，雖值懸疑，但據一九五一年在河南輝縣出土前四世紀戰國之十九乘「車馬抗」中之戰車，就其輪輻的構造而言，證知輪爲皿狀而有平面放射式的輻條，輻各有十八、廿六、卅支等型，輪之直徑爲130公分，轂爲長24，直徑17公分，輻輻爲1.5公分，軸長336公分，全輪輪輻由轂至牙成覆皿形內屈外弓與牙連結，在載重與速率上均較直線放射型爲強。而皿型車輪之在歐洲，僅在十六世紀間，東方諸國距今亦不超過2000年，古中國之成就就此可見。考工記造車技術載之甚詳，專有「輪工」，可佐證無訛。



(本刊資料)