### 中英雙語 偉大思想系列 Penguin Great Ideas

## 看不見的手

### The Invisible Hand

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#### "偉大思想系列"中文版序

企鵝"偉大思想系列"2004年開始出版。美國出版的叢書規模略小,德國的同類叢書規模更小一些。叢書銷量已遠遠超過200萬冊,在全球很多人中間,尤其是學生當中,普及了哲學和政治學。中文版"偉大思想系列"的推出,邁出了新的一步,令人歡欣鼓舞。

推出這套叢書的目的是讓讀者再次與一些偉大的非小說類經典著作面對面地交流。太長時間以來,確定版本依據這樣一個假設——讀者在教室裏學習這些著作,因此需要導讀、詳盡的註釋、參考書目等。此類版本無疑非常有用,但我想,如果能夠重建托馬斯·潘恩《常識》或約翰·羅斯金《藝術與人生》初版時的環境,重新營造更具親和力的氛圍,那也是一件有意思的事。當時,讀者除了原作者及其自身的理性思考外沒有其他參照。

這樣做有一定的缺點:每個作者的話難免有難解或不可解之處,一些重要的背景知識會缺失。例如,讀者對亨利。 梭羅創作時的情況毫無頭緒,也不了解該書的接受情況及影響。不過,這樣做的優點也很明顯。最突出的優點是,作者的初衷又一次變得重要起來——托馬斯·潘恩的憤怒、查爾斯·達爾文的靈光、塞內加的隱逸。這些作家在那麼多國家 影響了那麼多人的生活,其影響不可估量,有的長達幾個世紀,讀他們書的樂趣罕有匹敵。沒有亞當,斯密或阿圖爾, 叔本華,難以想像我們今天的世界。這些小書的創作年代已 很久遠,但其中的話已徹底改變了我們的政治學、經濟學、 智力生活、社會規劃和宗教信仰。

"偉大思想系列"一直求新求變。地區不同,收錄的作家也不同。在中國或美國,一些作家更受歡迎。英國"偉大思想系列"收錄的一些作家在其他地方則默默無聞。稱其為"偉大思想",我們亦慎之又慎。思想之偉大,在於其影響之深遠,而不意味着這些思想是"好"的,實際上一些書可列入"壞"思想之列。叢書中很多作家受到同一叢書其他作家的很大影響,例如,馬塞爾·普魯斯特承認受約翰·羅斯金影響很大,米歇爾·德·蒙田也承認深受塞內加影響,但其他作家彼此憎恨,如果發現他們被收入同一叢書,一定會氣憤難平。不過,讀者可自行決定這些思想是否合理。我們衷心希望,您能在閱讀這些傑作中得到樂趣。

"偉大思想系列"出版人 西蒙·温德爾

# **Introduction to the Chinese Editions** of Great Ideas

Penguin's Great Ideas series began publication in 2004. A somewhat smaller list is published in the USA and a related, even smaller series in Germany. The books have sold now well over two million copies and have popularized philosophy and politics for many people around the world – particularly students. The launch of a Chinese Great Ideas series is an extremely exciting new development.

The intention behind the series was to allow readers to be once more face to face with some of the great nonfiction classics. For too long the editions of these books were created on the assumption that you were studying them in the classroom and that the student needed an introduction, extensive notes, a bibliography and so on. While this sort of edition is of course extremely useful, I thought it would be interesting to recreate a more intimate feeling – to recreate the atmosphere in which, for example, Thomas Paine's *Common Sense* or John Ruskin's *On Art and Life* was first published – where the reader has no other guide than the original author and his or her own common sense.

This method has its severe disadvantages – there will inevitably be statements made by each author which are either hard or impossible to understand, some important context might be missing. For example the reader has no clue as to the conditions under which Henry Thoreau was writing his book and the reader cannot be aware

of the book's reception or influence. The advantages however are very clear – most importantly the original intentions of the author become once more important. The sense of anger in Thomas Paine, of intellectual excitement in Charles Darwin, of resignation in Seneca – few things can be more thrilling than to read writers who have had such immeasurable influence on so many lives, sometimes for centuries, in many different countries. Our world would not make sense without Adam Smith or Arthur Schopenhauer – our politics, economics, intellectual lives, social planning, religious beliefs have all been fundamentally changed by the words in these little books, first written down long ago.

The Great Ideas series continues to change and evolve. In different parts of the world different writers would be included. In China or in the United States there are some writers who are liked much more than others. In the UK there are writers in the Great Ideas series who are ignored elsewhere. We have also been very careful to call the series Great Ideas – these ideas are great because they have been so enormously influential, but this does not mean that they are Good Ideas – indeed some of the books would probably qualify as Bad Ideas. Many of the writers in the series have been massively influenced by others in the series – for example Marcel Proust owned so much to John Ruskin, Michel de Montaigne to Seneca. But others hated each other and would be distressed to find themselves together in the same series! But readers can decide the validity of these ideas for themselves. We very much hope that you enjoy these remarkable books.

Simon Winder Publisher Great Ideas

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#### 1 論勞動分工



人類勞動生產力最顯著的提高,以及人們在進行勞動、應用勞動時所體現出來的絕大部分技能、熟練性和決 斷力,似乎都是勞動分工的結果。

要了解勞動分工在社會的一般事務中的作用,比較容易的方法是考察在某些具體的製造業中是如何進行勞動分工的。人們普遍認為,在某些微不足道的製造業中,勞動分工是最細的;或許並不是這些微不足道的製造業真的要比那些更為重要的製造業分工更細,而是在那些只須滿足少數人的少量需求的微小製造業中,工人的總數必然很少,整個工作過程中各個不同部門僱用的人員往往可以聚集在同一個車間,我們可以一下子就看見他們。相反,在那些滿足大多數人的大量需求的大型製造業中,工作過程中每一個不同的工作部門都會僱用很多人,所以不可能將他們集中在一個車間幹活。除了在同一個部門幹活的人之外,我們很少能一次看見很多人。因此,儘管和那些微小

的製造業相比,這類製造業中的勞動實際上劃分要細緻得 多,分成很多部門,但其分工並不是特別明顯,因而不太 會被人注意。

故試舉一個非常微小的製造業,在該製造業中人們往 往能夠注意到勞動分工的例子,比如別針製造業。一個 沒有受禍任何職業培訓 (勞動分工使之成為一種專門的職 業),也不熟悉該職業所使用的機械如何應用(同樣,這類 機械的發明很可能是勞動分工的結果) 的人或許無論怎樣 吃苦耐勞,勤勤懇懇,也不一定能一天做出一枚別針,更 不能做 20 枚了。但是該行業發展到今天,不僅整個工作 已成為專門的職業,而旦這種職業又分成了許多部門,其 中大部分部門又逐漸成為專門的職業。一個人抽出鐵絲, 另一個人將其拉直,第三個人將其切斷,第四個人將其一 端削尖,第五個人將另一端打磨好以便裝上圓頭;製作圓 頭則另需要三種不同的操作,裝圓頭、把針塗白,以及把 針裝到紙盒裏都已經是專門的職業。這樣,別針製造這樣 一個重要的職業就被分成大約 18 種不同的工序。在有些 工廠中,這 18 種不同的工序分別由 18 個人操作,而在其 他工廠,有時會有一個人擔任兩三種不同的操作。我見過 一間這種類型的小工廠,只僱用了10個人,其中有幾個 人從事兩三種不同的操作。儘管他們很窮而根本不考慮 購買必要的機械設備,但他們如果勤勉努力,仍然能夠每 天製造 12 磅重的別針。中等大小的別針,1 磅最多可達 4,000 枚。以此計算,這 10 個人一天最多可以生產 48,000 枚別針,每個人的生產量為這一總數的 1/10 ,這樣我們可以大致推斷出,每人每天可以製造 4,800 枚別針。但是如果所有這些人分開獨立工作,且其中沒有人受過該行業的專門培訓的話,則每人每天製造的別針數量不會達到 20 枚,甚至有可能 1 枚也製造不出來;那樣一來,他們每天的工作量或許不及現今工作量的 1/240 ,甚至不及現今工作量的 1/4,800 ,相比之下,如今的高效正是合理分工和不同工種之間協同合作的結果。

別針製造雖然是微不足道的行業,但就勞動分工的效果來說,其他各種工藝和製造業與其沒有甚麼差別,儘管許多行業中的勞動分工沒有這麼細,也不可能簡化成如此簡單的操作。然而一旦可以進行勞動分工,則必然可以在每一種工藝中相應地提高勞動生產力。各個行業之所以各自分立,僱用不同的員工,似乎也是因為勞動分工能夠帶來這樣的裨益。那些工業水平和勞動生產力水平極高的國家,其行業分工的程度也很高;在較為原始的社會中由一個人完成的工作,在較為現代的國家則一般需要好幾個人協作完成。在每一個進步的社會中,農民一般只是單純的農民,而製造業者也只是單純的製造業者。而且任何一件完整的製造業產品也幾乎總是必須由許多人共同完成。以製麻業和毛織業為例,從亞麻和羊毛的生產到麻布的漂白和燙平,再到麻布的染色和漿紗,各部門使用了許多不同

的技藝。和製造業相比,農業的性質的確不容許有這麼多 精細的勞動分工,各種工作彼此也不像製造業那樣完全獨 立分開。我們不可能將養畜人和穀物種植者的工作截然分 立,但是木匠和鐵匠所從事的工藝則完全不同。紡紗和織 布幾乎是完全不同的兩個行當,而犁耕、耙掘、播種和收 割經常可以由同一個人推行。農業對這些不同種類勞動的 需要是隨着一年中季節的變化而變換的,因此不可能僱用 一個人經常性地來從事其中任何一種勞動。或許正因為不 能僱用完全不同的人來從事不同類型的農業勞動,農業生 產力的提高總是不能夠與工業同步。的確,一般來說最富 有的國家在農業和製造業方面都要優於鄰國,然而相對於 農業而言,這些國家在製造業方面的優越性通常更為明顯 和突出。在這些富有的國家,土地的耕種情況更好,所投 入的勞動力和資本也更多,在土地面積和肥沃程度相同的 情況下,也能有更多的產出。因而其農產品產量上的優越 程度很少能與勞動力和資本投入上的優越程度成正比。在 農業方面,富國和窮國勞動力的生產力水平差異並不一定 很大;或至少不會像製造業的生產力水平差異那麼大。因 此,如果質量相同的話,富國生產的穀物價格不一定會比 窮國低廉。在質量相同的情況下,波蘭生產的穀物價格可 能會和法國一樣,儘管後者的富裕和社會進步程度要優於 前者。在法國那些生產穀物的省份,穀物的質量和英國的 穀物完全沒有差別,在大多數年份中其價格也與英國穀物

持平,儘管法國的富裕和社會進步程度或許要遜於英國。 然而就田地的耕種水平來說,英國要高於法國,據說法國 的耕種水平也大大高於波蘭。不過儘管在耕種水平較為 低下的窮國,穀物的價格和質量可以在一定程度上與富國 媲美,但在製造業方面則根本不能妄想;至少在富國的土 壤、氣候和天然條件適合這些製造業的時候,情況是這 樣。法國的絲綢比英國的更物美價廉,因為至少在當前生 絲進口關稅如此之高的情況下,法國的氣候比英國更適宜 絲綢生產。然而英國的五金器具和生羊毛無論從哪一方面 來說都遠勝於法國,在質量相同的前提下,其價格也比法 國便宜。據說波蘭除了少數幾種家庭用品製造業外幾乎沒 有甚麼製造業,這少數幾種還都是些較為原始的,任何國 家都不可或缺的製造業。

有了勞動分工,單位數量的人在單位時間內可以從事 的工作比過去多得多,主要有三個原因:首先,每一個工 人的勞動熟練程度提高了;其次,由一個工種轉到另一個 工種通常要損失很多時間,現在這些時間省下了;最後, 大量提高勞動效率、精簡勞動強度的機器的發明,使得如 今一個人可以做過去許多人做的工作。

先看第一個原因。工人勞動熟練程度的提高必然會增加他可以從事的勞動的數量;勞動分工將每一個人的業務簡化為某一種簡單的操作,這又使這一操作成為此人一生 所從事的唯一職業,由此必然會大大提高工人的勞動熟練 程度。一個慣於使用鐵錘卻從不曾練習如何製作鉚釘的 鐵匠,一旦遭遇某種特殊情況必須試着製作鉚釘,我堅信 他每天可能最多製作兩三枚,且鉚釘的質量還低劣不堪。 即便是經常製作鉚釘的鐵匠,如果鉚釘製作不是他唯一或 主要的工作,即使他竭盡全力,也很難在一天之內製作出 800 或 1,000 枚鑰釘。我見過幾個不到 20 歲的青年,他們 除了製作鉚釘外沒有練習過其他技藝,這些人如果竭盡全 力,則每人每天最多可以製作 2.300 枚鉚釘。然而製作鉚 **釘絕不是最為簡單的操作。同一個人要拉風箱,要在必要** 時調整火力,要將鐵燒熱,錘打鉚釘的每一部分;在鍛造 釘頭時他還不得不換工具。如果將製作一枚別針或一個金 屬鈕扣的整個工序細分成不同的操作,所有的操作就要簡 單得多,如果一個人以其中的某一種操作作為一生的職業 的話,其勞動的熟練程度就要高得多。製造業中某些工序 的完成速度極其快,在那些從未親眼見過的人看來,人類 的雙手根本不可能可以達到狺樣的揀度。

第二,由一個工種轉換到另一個工種通常要損失很多時間,而節省這段時間所帶來的好處也絕不是我們一開始就能夠想到的。人們不可能從一個工種很快轉換到另一個位於不同地點且需要完全不同的工具進行操作的工種。一個鄉間的織工同時耕種一小片耕地,離開織機走到田間就需要一段時間,從田間回到織機還需要一段時間。誠然,如果可以在同一個車間進行兩種業務操作,所花費的時間

無疑會減少很多,但即使是這樣,浪費仍然是巨大的。人們從一個工作轉到另一個工作,一般都會休息或閒逛一會兒,很難在剛開始一項新工作時就精力集中地全情投入;這時他們總是難免心不在焉,因此有一段時間與其説他們在工作,不如說他們在虛晃時間。每一個農村勞動者因為每半個小時就要更換工作和工具,一生中幾乎每天都要做20種不同的工作,自然而且一定會養成這種閒逛和懶散的習慣,這常常會導致農村勞動者總是懶惰散漫,即使時間緊迫,他們也不能夠全身心地投入工作。這樣看來,先不說他是否技藝嫻熟,單此一個原因,就大大降低了他的工作效率。

第三,也是最後一個原因。每個人都知道應用適當的 機械設備能夠在某種程度上提高勞動效率、簡化勞動工 序,再舉例論證難免多餘。因此我在這裏只需討論一下, 所有那些提高效率、簡化工序的機器之所以被發明問世, 起因也都是勞動分工。只有人們不再在各種工序和工具的 轉換中浪費時間,而是全身心地投入到一個目標上時,才 更有可能發現更加簡單和快速地達到該目標的方法。而分 工的結果,正是每個人都自然而然地把全部注意力投注在 某一種很單一的目標上。因此只要工作的性質還有改良的 餘地,在每一個具體勞動部門從事具體勞動的人自然會很 快發現新的方法,使其自身的工作更加簡單,完成起來也 更容易。在勞動分工最細的製造業中使用的大多數機器, 最初都是由普通工人發明的,他們受僱從事某些很簡單的操作,自然會考慮如何找到更加簡單和快速的方法來執行這些操作。那些常去這類製造業參觀的人一定會經常看到這類設計相當巧妙的機器,它們就是這類工人為了改進和提高各自特定工作的效率而發明的。在最早的蒸汽機中,本來需要僱用一個男孩根據活塞的升降不斷轉換開關,連接和斷開鍋爐和汽缸之間的通路。其中一個男孩因為貪玩,發現在開關該通路的閥門把手處繫上一根繩子,閥門即可自行開關,這樣他就能跑去和玩伴們遊戲了。這是自蒸汽機發明以來人們對其做出的最大改進之一,而這一改進正是一個希望節省勞動的小男孩發現的。

然而,絕不是所有機械設備的改進都是有機會使用這 些機器的人發明的。許多改進是出於機械製造師的聰明才 智,而所謂的機械製造師,正是在機械製造成為一個專門 行業之後形成的;有些則是所謂的哲學家或思想者的智慧 結晶,他們並非每日身體力行地做事,而是以觀察萬物為 業;因此,這些人往往能夠將一些完全不同且毫不相干的 事物的力量結合起來加以利用。和其他各個行業一樣,隨 着社會的逐漸進步,哲學或思考也成為某一類公民主要或 唯一的職業。同樣,和其他各個行業一樣,哲學也被細分 為大量不同的分支,每一個分支又為一羣或一類哲學家提 供專門職業;哲學行業的分工,也和所有其他行業的細緻 分工一樣,提高了人們的技藝熟練程度,節約了時間。每 個人更加專精於自己所從事的那份工作。這樣一來,從總 體而言,就能做更多的工作,從而大大提高了這門學問的 整體質量。

在一個治理得很好的社會中,正是勞動分工使得所有不同行業的生產力水平大為提高,為整個社會帶來了普遍財富,最底層的人也能夠享受到這種普遍財富帶來的利益。每個工人在自己的工作中所創造的產品大大超出了他自己的需要;所有其他人的情況也完全一樣,能用大量自己的產品換得大量他人生產的產品或等價物品。他大量提供給他人所需要的產品,後者也同樣大量滿足他個人的需要;整個社會的所有階層就普遍富裕起來。

考察一下一個文明和繁榮國家中最普通的工匠或臨時工的生活用品,你就會知道,為了使他們能享用到這些生活用品,那些行業中的人必須提供自己生產的一部分,但這樣的人卻多得難以計數。以臨時工身上穿的羊毛外衣為例,無論看起來多麼粗製濫造,也是許許多多工人共同勞動的成果。牧羊人、選毛人、梳毛人、染工、梳理工、紡工、織工、漂洗工、裁縫工,等等,必須將這些人的工作結合起來,才能夠完成如此簡單樸素的一件產品。加之這些勞動者的住處往往相隔很遠,在彼此之間運送材料,又需要多少商人和運輸工人啊!染工所使用的染料往往來自世界另一端某個遙遠的角落,要將各種不同的染料匯集在一起,又需要多少商人、運輸工,加上船工、水手、帆

布和繩索製造者的辛勤工作!還有,這些工人手中拿的哪 怕是最簡單的工具,又需要多少不同的勞動工相互協作! 水手的船隻、漂洗工的作坊,其至織工的織機這類複雜的 機械姑且不論,單説那無比簡單的器具,牧羊人修剪羊毛 的剪刀,都需要許多種不同的勞動才能製成。為了生產這 樣一把簡單的剪刀,就需要把採礦工、熔爐製造工、伐木 工、熔礦爐所用焦炭的燒炭工、製磚工、泥瓦匠、鍋爐工、 作坊建造者、鍛工、鐵匠等所有人各自不同的技藝全部結 合起來才行。如果我們以同樣的方式再考察一下他身上穿 的所有衣服或家裏的所有傢具、他貼身穿的粗麻襯衫、腳 上穿的鞋子、家裏睡的牀,乃至這張牀的不同部件、他在 廚房做飯用的爐子、他做飯所用的煤炭 (那可是從地下深 處挖掘出來,或許經過很遠的水路和陸路運輸才到達他這 裏),乃至廚房裏的其他各種用具、桌子上的所有用具、 刀叉、盛放和分發食物用的陶瓷盤子和錫盤子,為他製作 麵包和啤酒要用到多少工種、僱用多少工人,他房間裏保 溫、採光、遮風擋雨用的玻璃窗 —— 那華美而令人愉快 的發明中凝聚着多少知識和藝術,沒有玻璃,整個北半球 大概沒有一處適官人們舒適地居住 —— 再想一想,為生 產所有這些生活用品所僱用的人手中又要拿着多少種不 同的工具;總之,如果我們考察一下所有這些物品,想一 想其中每一件物品要僱用多少勞動力才能製成,就能夠理 解,在文明社會中,如果沒有成千上萬人的協助和合作,

普通工人就不可能得到他通常所能得到的那些按照我們的理解,平常而又簡單的生活用品。誠然,和大人物豪華奢侈的生活相比,普通工人的生活用品看上去當然無比簡單;不過,這可是真的,歐洲某國王子的生活用品並非總是遠超一個勤勞節儉的農民的生活用品,而後者的生活用品卻超過了許多非洲君主的生活用品,要知道這些大人物可是成千上萬赤裸草民生命和自由的絕對主宰啊!

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### 1 The Division of Labour

The greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgement with which it is anywhere directed, or applied, seem to have been the effects of the division of labour.

The effects of the division of labour, in the general business of society, will be more easily understood by considering in what manner it operates in some particular manufactures. It is commonly supposed to be carried furthest in some very trifling ones; not perhaps that it really is carried further in them than in others of more importance: but in those trifling manufactures which are destined to supply the small wants of but a small number of people, the whole number of workmen must necessarily be small; and those employed in every different branch of the work can often be collected into the same workhouse, and placed at once under the view of the spectator. In those great manufactures, on the contrary, which are destined to supply the great wants of the great body of the people, every different branch of the work employs so great a number of workmen that it is impossible to collect them all into the same workhouse. We can seldom see more, at one time, than those employed in one single branch. Though in such manufactures, therefore, the work may really be divided into a much greater number of parts than in those of a more trifling nature, the division is not near so obvious, and has accordingly been much less observed

To take an example, therefore, from a very trifling

manufacture; but one in which the division of labour has been very often taken notice of, the trade of the pin-maker; a workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straights it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires three distinct operations; to put it on is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them. I have seen a small manufactory of this kind where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day. There are in a pound upwards of four thousand pins of a middling size. Those ten persons, therefore, could make among them upwards of forty-eight thousand pins in a day. Each person, therefore, making a tenth part of forty-eight thousand

pins, might be considered as making four thousand eight hundred pins in a day. But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they could certainly not each of them have made twenty, perhaps not one pin in a day; that is, certainly, not the two hundred and fortieth, perhaps not the four thousand eight hundredth part of what they are at present capable of performing, in consequence of a proper division and combination of their different operations.

In every other art and manufacture, the effects of the division of labour are similar to what they are in this very trifling one; though, in many of them, the labour can neither be so much subdivided, nor reduced to so great a simplicity of operation. The division of labour, however, so far as it can be introduced, occasions, in every art, a proportionable increase of the productive powers of labour. The separation of different trades and employments from one another seems to have taken place in consequence of this advantage. This separation, too, is generally carried furthest in those countries which enjoy the highest degree of industry and improvement; what is the work of one man in a rude state of society being generally that of several in an improved one. In every improved society, the farmer is generally nothing but a farmer; the manufacturer, nothing but a manufacturer. The labour, too, which is necessary to produce any one complete manufacture is almost always divided among a great number of hands. How many different trades are employed in each branch of the linen and woollen manufactures, from the growers of the flax and the wool, to the bleachers and smoothers of the linen, or to the dyers and dressers of the cloth! The nature of agriculture, indeed, does not admit of so many subdivisions of labour, nor of so complete a separation of one business from another, as manufactures. It is impossible to separate so entirely the business of the grazier from that of the corn-farmer as the trade of the carpenter is commonly separated from that of the smith. The spinner is almost always a distinct person from the weaver; but the ploughman, the harrower, the sower of the seed, and the reaper of the corn, are often the same. The occasions for those different sorts of labour returning with the different seasons of the year, it is impossible that one man should be constantly employed in any one of them. This impossibility of making so complete and entire a separation of all the different branches of labour employed in agriculture is perhaps the reason why the improvement of the productive powers of labour in this art does not always keep pace with their improvement in manufactures. The most opulent nations, indeed, generally excel all their neighbours in agriculture as well as in manufactures; but they are commonly more distinguished by their superiority in the latter than in the former. Their lands are in general better cultivated, and having more labour and expense bestowed upon them, produce more in proportion to the extent and natural fertility of the ground. But this superiority of produce is seldom much more than in proportion to the superiority of labour and expense. In agriculture, the labour of the rich country is not always much more productive than that of the poor; or, at least, it is never so much more productive as it commonly is in manufactures. The corn of the rich country, therefore, will not always, in the same degree of goodness, come cheaper to market than that of the poor. The corn of Poland, in the same degree of goodness, is as

cheap as that of France, notwithstanding the superior opulence and improvement of the latter country. The corn of France is, in the corn provinces, fully as good, and in most years nearly about the same price with the com of England, though, in opulence and improvement, France is perhaps inferior to England. The cornlands of England, however, are better cultivated than those of France, and the corn-lands of France are said to be much better cultivated than those of Poland. But though the poor country, notwithstanding the inferiority of its cultivation, can, in some measure, rival the rich in the cheapness and goodness of its com, it can pretend to no such competition in its manufactures; at least if those manufactures suit the soil, climate, and situation of the rich country. The silks of France are better and cheaper than those of England, because the silk manufacture, at least under the present high duties upon the importation of raw silk, does not so well suit the climate of England as that of France. But the hardware and the coarse woollens of England are beyond all comparison superior to those of France, and much cheaper too in the same degree of goodness. In Poland there are said to be scarce any manufactures of any kind, a few of those coarser household manufactures excepted, without which no country can well subsist.

This great increase of the quantity of work which, in consequence of the division of labour, the same number of people are capable of performing, is owing to three different circumstances; first, to the increase of dexterity in every particular workman; secondly, to the saving of the time which is commonly lost in passing from one species of work to another; and lastly, to the invention of a great number of machines which

facilitate and abridge labour, and enable one man to do the work of many.

First, the improvement of the dexterity of the workman necessarily increases the quantity of the work he can perform; and the division of labour, by reducing every man's business to some one simple operation, and by making this operation the sole employment of his life, necessarily increases very much the dexterity of the workman. A common smith, who, though accustomed to handle the hammer, has never been used to make nails, if upon some particular occasion he is obliged to attempt it, will scarce, I am assured, be able to make above two or three hundred nails in a day, and those too very bad ones. A smith who has been accustomed to make nails, but whose sole or principal business has not been that of a nailer, can seldom with his utmost diligence make more than eight hundred or a thousand nails in a day. I have seen several boys under twenty years of age who had never exercised any other trade but that of making nails, and who, when they exerted themselves, could make, each of them, upwards of two thousand three hundred nails in a day. The making of a nail, however, is by no means one of the simplest operations. The same person blows the bellows, stirs or mends the fire as there is occasion, heats the iron, and forges every part of the nail: in forging the head too he is obliged to change his tools. The different operations into which the making of a pin, or of a metal button, is subdivided, are all of them much more simple, and the dexterity of the person, of whose life it has been the sole business to perform them, is usually much greater. The rapidity with which some of the operations of those manufactures are performed, exceeds what the human hand could, by those

who had never seen them, be supposed capable of acquiring.

Secondly, the advantage which is gained by saving the time commonly lost in passing from one sort of work to another is much greater than we should at first view be apt to imagine it. It is impossible to pass very quickly from one kind of work to another that is carried on in a different place and with quite different tools. A country weaver, who cultivates a small farm, must lose a good deal of time in passing from his loom to the field, and from the field to his loom. When the two trades can be carried on in the same workhouse, the loss of time is no doubt much less. It is even in this case, however, very considerable. A man commonly saunters a little in turning his hand from one sort of employment to another. When he first begins the new work he is seldom very keen and hearty; his mind, as they say, does not go to it, and for some time he rather trifles than applies to good purpose. The habit of sauntering and of indolent careless application, which is naturally, or rather necessarily acquired by every country workman who is obliged to change his work and his tools every half hour, and to apply his hand in twenty different ways almost every day of his life, renders him almost always slothful and lazy, and incapable of any vigorous application even on the most pressing occasions. Independent, therefore, of his deficiency in point of dexterity, this cause alone must always reduce considerably the quantity of work which he is capable of performing.

Thirdly, and lastly, everybody must be sensible how much labour is facilitated and abridged by the application of proper machinery. It is unnecessary to give any example. I shall only observe, therefore, that the invention of all those machines by which labour is so much facilitated and abridged seems to have been originally owing to the division of labour. Men are much more likely to discover easier and readier methods of attaining any object when the whole attention of their minds is directed towards that single object than when it is dissipated among a great variety of things. But in consequence of the division of labour, the whole of every man's attention comes naturally to be directed towards some one very simple object. It is naturally to be expected, therefore, that some one or other of those who are employed in each particular branch of labour should soon find out easier and readier methods of performing their own particular work, wherever the nature of it admits of such improvement. A great part of the machines made use of in those manufactures in which labour is most subdivided, were originally the inventions of common workmen, who, being each of them employed in some very simple operation, naturally turned their thoughts towards finding out easier and readier methods of performing it. Whoever has been much accustomed to visit such manufactures must frequently have been shown very pretty machines, which were the inventions of such workmen in order to facilitate and guicken their own particular part of the work. In the first fire-engines, a boy was constantly employed to open and shut alternately the communication between the boiler and the cylinder, according as the piston either ascended or descended. One of those boys, who loved to play with his companions, observed that, by tying a string from the handle of the valve which opened this communication to another part of the machine, the valve would open and shut without his assistance, and leave him at liberty to divert himself with his play-fellows. One of the

greatest improvements that has been made upon this machine, since it was first invented, was in this manner the discovery of a boy who wanted to save his own labour.

All the improvements in machinery, however, have by no means been the inventions of those who had occasion to use the machines. Many improvements have been made by the ingenuity of the makers of the machines, when to make them became the business of a peculiar trade; and some by that of those who are called philosophers or men of speculation, whose trade it is not to do anything, but to observe everything; and who, upon that account, are often capable of combining together the powers of the most distant and dissimilar objects. In the progress of society, philosophy or speculation becomes, like every other employment, the principal or sole trade and occupation of a particular class of citizens. Like every other employment too, it is subdivided into a great number of different branches, each of which affords occupation to a peculiar tribe or class of philosophers; and this subdivision of employment in philosophy, as well as in every other business, improves dexterity, and saves time. Each individual becomes more expert in his own peculiar branch, more work is done upon the whole, and the quantity of science is considerably increased by it.

It is the great multiplication of the productions of all the different arts, in consequence of the division of labour, which occasions, in a well-governed society, that universal opulence which extends itself to the lowest ranks of the people. Every workman has a great quantity of his own work to dispose of beyond what he himself has occasion for; and every other workman being exactly in the same situation, he is enabled to

exchange a great quantity of his own goods for a great quantity, or, what comes to the same thing, for the price of a great quantity of theirs. He supplies them abundantly with what they have occasion for, and they accommodate him as amply with what he has occasion for, and a general plenty diffuses itself through all the different ranks of the society.

Observe the accommodation of the most common artificer or day-labourer in a civilized and thriving country, and you will perceive that the number of people of whose industry a part, though but a small part, has been employed in procuring him this accommodation, exceeds all computation. The woollen coat, for example, which covers the day-labourer, as coarse and rough as it may appear, is the produce of the joint labour of a great multitude of workmen. The shepherd, the sorter of the wool, the wool-comber or carder, the dyer, the scribbler, the spinner, the weaver, the fuller, the dresser, with many others, must all join their different arts in order to complete even this homely production. How many merchants and carriers, besides, must have been employed in transporting the materials from some of those workmen to others who often live in a very distant part of the country! How many merchants and carriers, besides, must how many ship-builders, sailors, sail-makers, rope-makers, must have been employed in order to bring together the different drugs made use of by the dyer, which often come from the remotest comers of the world! What a variety of labour, too, is necessary in order to produce the tools of the meanest of those workmen! To say nothing of such complicated machines as the ship of the sailor, the mill of the fuller, or even the loom of the weaver, let us consider only what a variety of labour is

requisite in order to form that very simple machine, the shears with which the shepherd clips the wool. The miner, the builder of the furnace for smelting the ore, the seller of the timber, the burner of the charcoal to be made use of in the smelting-house. the brick-maker, the brick-layer, the workmen who attend the furnace, the mill-wright, the forger, the smith, must all of them join their different arts in order to produce them. Were we to examine, in the same manner, all the different parts of his dress and household furniture, the coarse linen shirt which he wears next his skin, the shoes which cover his feet, the bed which he lies on, and all the different parts which compose it, the kitchengrate at which he prepares his victuals, the coals which he makes use of for that purpose, dug from the bowels of the earth, and brought to him perhaps by a long sea and a long land carriage, all the other utensils of his kitchen, all the furniture of his table, the knives and forks, the earthen or pewter plates upon which he serves up and divides his victuals, the different hands employed in preparing his bread and his beer, the glass window which lets in the heat and the light, and keeps out the wind and the rain, with all the knowledge and art requisite for preparing that beautiful and happy invention, without which these northern parts of the world could scarce have afforded a very comfortable habitation, together with the tools of all the different workmen employed in producing those different conveniences; if we examine, I say, all these things, and consider what a variety of labour is employed about each of them, we shall be sensible that, without the assistance and cooperation of many thousands, the very meanest person in a civilized country could not be provided, even according to what we very falsely imagine the easy and simple manner in which he is commonly accommodated. Compared, indeed, with the more extravagant luxury of the great, his accommodation must no doubt appear extremely simple and easy; and yet it may be true, perhaps, that the accommodation of a European prince does not always so much exceed that of an industrious and frugal peasant as the accommodation of the latter exceeds that of many an African king, the absolute master of the lives and liberties of ten thousand naked savages.