

Adam Smith (1723-1790) and the division of labour

Adam Smith – Biographical elements

1723 (5 June) Birth in Kirkcaldy (Scotland)

Studies in Glasgow (attends the lectures of Francis Hutcheson), then at Oxford

1748–1751 Lecturer at the University of Edinburgh

1751 Appointed to the Chair of Logic at the University of Glasgow (centre of the *Scottish Enlightenment*)

1752 Takes up the Chair of Moral Philosophy, the most prestigious at the time

1759 Publication of *The Theory of Moral Sentiments*. Great success: six editions published during Smith's lifetime, French translations, etc.

1764 Leaves the University of Glasgow and becomes tutor to the young Duke of Buccleuch. Undertakes the traditional "Grand Tour" on the Continent, which takes him to France and Switzerland, where he meets, among others, Voltaire, D'Alembert, Quesnay, Turgot, and Helvetius. Returning to Kirkcaldy in 1766, Smith withdraws and writes.

1776 Publication of *An Inquiry into the Nature and Causes of the Wealth of Nations*, four editions during his lifetime

1778 Customs officer, until his death on 17 July 1790.

Foreword

- The Wealth of Nations begins with the presentation of a paradox:

« Among the savage nations of hunters and fishers, every individual who is able to work, is more or less employed in useful labour, and endeavours to provide, as well as he can, the necessaries and conveniencies of life, for himself, and such of his family or tribe as are either too old, or too young, or too infirm to go a hunting and fishing. Such nations, however, are so miserably poor, that from mere want, they are frequently reduced, or, at least, think themselves reduced, to the necessity sometimes of directly destroying, and sometimes of abandoning their infants, their old people, and those afflicted with lingering diseases, to perish with hunger, or to be devoured by wild beasts. Among civilized and thriving nations, on the contrary, though a great number of people do not labour at all, many of whom consume the produce of ten times, frequently of a hundred times more labour than the greater part of those who work; yet the produce of the whole labour of the society is so great, that all are often abundantly supplied, and a workman, even of the lowest and poorest order, if he is frugal and industrious, may enjoy a greater share of the necessaries and conveniencies of life than it is possible for any savage to acquire. » (*WN*, introduction)

Foreword

- To sum up:
 - among “savage” nations, **everyone works**, but everyone is poor.
 - among “civilized nations”, **only part of the population works...** and everyone is “rich.”

The poorest among the “civilized” is richer than the richest among the “savage”.

- **WN, ch. 1:** we learn that the main reason for this paradox is the **division of labour**.

Adam Smith - the division of labour

1. The pin factory and the 3 advantages of the division of labour
2. Division of labour within the factory and the social division of labour
3. Division of labour and diversity of talents
4. Limit to the division of labour
5. Perverse effect of the division of labour
6. Productive and unproductive labour
7. Conclusion

The pin factory and the 3 advantages of the division of labour

The pin factory

- Adam Smith (*The Wealth of Nations*, Book I, Chapter 1) illustrates, through the famous example of the **pin factory**, a first dimension of the division of labor: the “**technical division of labor**” within production units, which consists in **breaking down a production process into a succession of simple operations**.
 - ❑ **Without the division of labour**, each worker, working independently, would produce no more than 20 pins per day, that is, **200 pins for 10 workers**.
 - ❑ By dividing the manufacturing process into 18 simple and distinct operations, each worker performing only one or two of them, **the same 10 workers produce 48,000 pins—that is, at least 240 times more**.

The pin factory

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

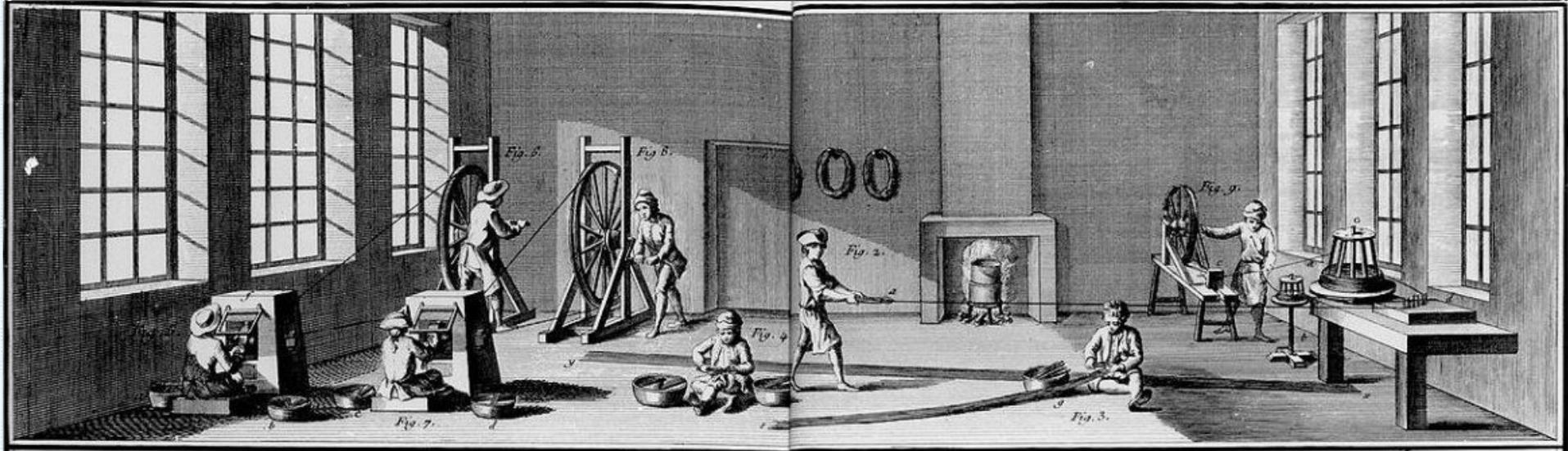
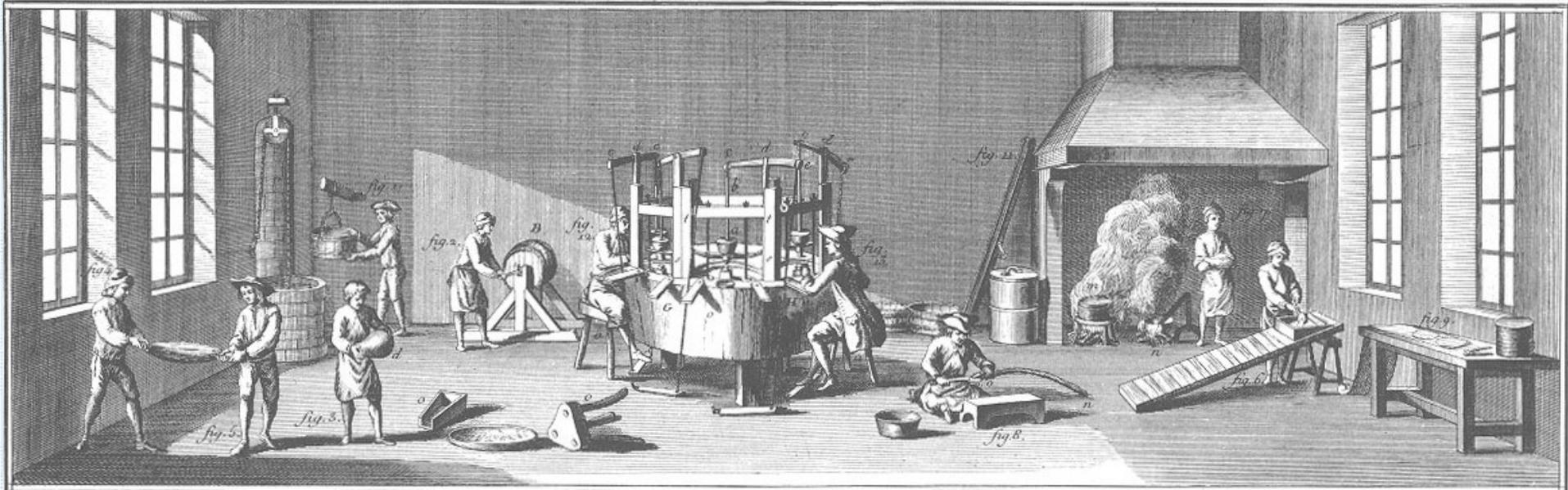
(...) To take an example, therefore, from a very trifling manufacture; but one in which the division of labour has been very often taken notice of, the trade of the pin-maker. (...)

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. (...)

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 certainly could 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.”**

(Wealth of Nations, book 1, ch. 1)

The pin factory



Pin factory in Diderot and d'Alembert's *Encyclopédie*

The pin factory

Smith then **generalizes this example** to all types of production. :

«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» (*ibid.*)

And he puts forward **three advantages** explaining this “increase in the productive powers of labour.”

Three advantages of the division of labour

- **Increase in the dexterity of each individual worker** (one becomes more skilled by repeating the same task or movement).

“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”.

- **Saving of time** compared to a situation in which each worker would have to continuously move from one task to another (elimination of “idle time”).

“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”.

- **Invention of machines and production processes** that facilitate work.

“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”.

Three advantages of the division of labour

Smith illustrates the third and final advantage with the (idyllic) example of a child who, in order to spare himself the effort and be able to play with his companions, would have made “one of the greatest improvements that has been made upon” fire-engines. :

“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**”.

(*WN*, book I, chap 1)

Three advantages of the division of labour

But Smith immediately **qualifies this third advantage**:

“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 any thing, but to observe every thing; and who, upon that account, are often capable of combining together the powers of the most distant and dissimilar objects”.**

(WN, book I, chap 1)

→ **Invention would arise from the social division of labour**, rather than from the **technical division of labour**.

The technical division and the social division of labour

The technical division and the social division of labour

Like the child who goes off to play with his companions once his presence is no longer needed, **Smith takes us outside the factory and shifts the scale of his analysis.**

He now considers **the division of labour on the scale of society as a whole**, that is, **the specialization of individuals in independent professions or trades.**

Thus, the text continues immediately.

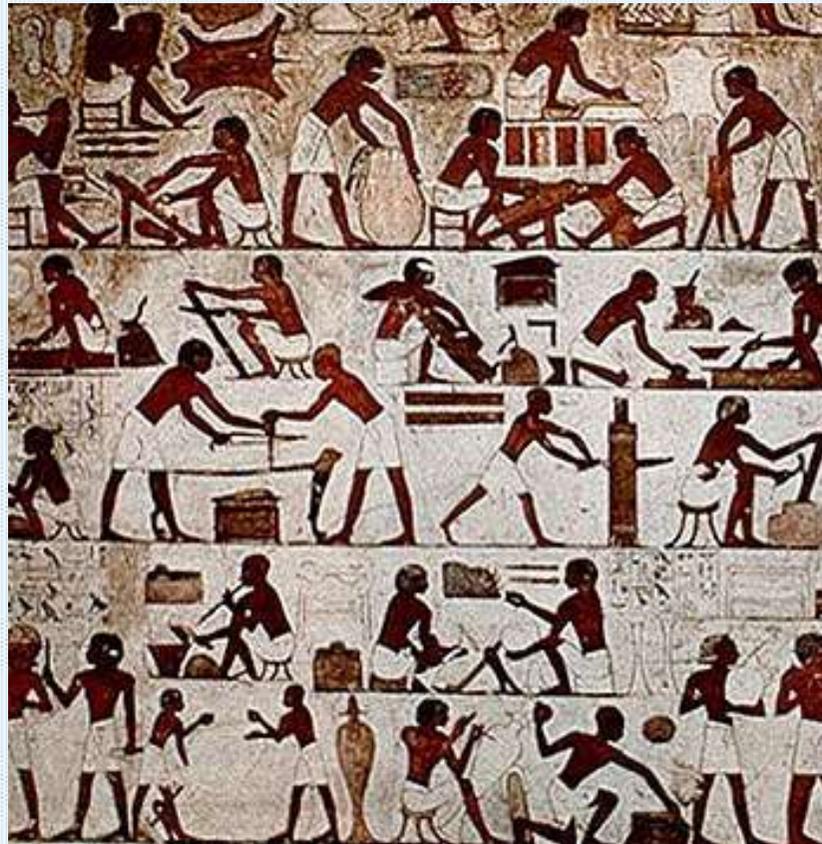
“In the progress of society, philosophy or speculation becomes, like every other employment, the principal or sole trade and occupation of a particular class of citizens. Like every other employment too, it is subdivided into a great number of different branches, each of which affords occupation to a 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”.

(*WN*, book I, chap 1)

The technical division and the social division of labour

This is what is called the **social division of labour**.

It gives us farmers, bakers, carpenters, doctors, football players, economists and so on...



Division of labour in ancient Egypt

The technical division and the social division of labour

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It gives us farmers, bakers, carpenters, doctors, football players, economists and so on...

It presents the **same advantages as the technical division of labour**:

- **Increased skill through specialization** (“practice makes perfect”)
- **Time savings** (especially in terms of movement)
- **Innovation encouraged** by the emergence (and subdivision) of a specific class of scholars or scientists

However, beyond these advantages, **the differences between these two dimensions of the division of labour are significant.**

The technical division and the social division of labour

Social division of labour	Technical division of labour
Specialization of trades and professions	division of the production process into simple tasks
Macro scale (society as a whole)	Micro scale (the factory)
Decentralized	Centralized
Unplanned and non-hierarchical (except in caste-based societies)	Planned and hierarchical
The worker masters the entire production process (acquiring specialized know-how)	The worker performs only one or two simple operations (deskilling)

The technical division and the social division of labour

-  Classic mistake to avoid !
- The distinction between social and technical division of labour **does not correspond** to the distinction between **horizontal and vertical** division of labour.
- The horizontal/vertical distinction is **specific to the technical division of labour**.
- It makes sense within a single production unit or company:
 - **Horizontal division**: tasks at the **same hierarchical level** (workers on the same assembly line share the same status)
 - **Vertical division**: **hierarchically differentiated tasks** (foremen or engineers supervise assembly line workers)

The technical division and the social division of labour

The division of labour is, in any case, **the main factor of economic development**, and its degree of refinement the **distinguishing mark between 'primitive' and 'advanced' societies**. In the latter, the sophistication of the division of labour allows:

«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 (...) and a **general plenty diffuses itself through all the different ranks of the society**. » (*WN*, I, 1)

Division of labour and et diversity of talents

Division of labour and diversity of talents

- Smith argues that, in most circumstances, **the diversity of talents is a consequence of the division of labour** rather than its origin.

« The difference of natural talents in different men is, in reality, much less than we are aware of; and the very different genius which appears to distinguish men of different professions, when grown up to maturity, is not upon many occasions so much the cause, as the effect of the division of labour,..» (WN, book I, ch. 2)

⇒ Debate between innate abilities and acquired skills (**Nature versus nurture**)

Division of labour and diversity of talents

⇒ **Nature versus nurture** debate: Smith therefore believes that **'talents' are acquired through experience** and specialization rather than innate, that is, given at birth.

His argument is interesting because it, in a way, summarizes his thinking on the division of labour:

“But **without [the division of labour]**, every man must have procured to himself every necessary and conveniency of life which he wanted. **All must have had the same duties to perform, and the same work to do**, and there could have been no such difference of employment as could alone give occasion to any great difference of talents”. (WN, book 1, ch. 2)

Explanation: without the division of labour, **everyone would spend most of their time producing basic necessities** (food, fuel, clothing), occupations and talents would be identical, and **far less wealth would be created** due to wasted time and inefficiencies.

Dan Aykroyd Eddie Murphy
 They're not just getting rich... They're getting even.



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Nature versus nurture in a (fine) Christmas comedy film

Limit to the division of labour

Limit to the division of labour

In WN, chapter 2, Smith explains that the (social) division of labour is **the consequence of a “propensity to truck and exchange,”** which in turn is the consequence of the faculties of reason and speech..

"This division of labour, from which so many advantages are derived, **is not originally the effect of any human wisdom,** which foresees and intends that general opulence to which it gives occasion. It is the necessary, though very slow and gradual, consequence of a certain propensity in human nature which has in view no such extensive utility; **the propensity to truck, barter, and exchange** one thing for another.

Whether this propensity be one of those original principles in human nature, of which no further account can be given; or whether, **as seems more probable, it be the necessary consequence of the faculties of reason and speech,** it belongs not to our present subject to enquire."
(WN, I, 2)

Limit to the division of labour

In chapter 3, Smith explains that the **extent and progress of the division of labour** (whether social or technical) **are limited by the opportunities to satisfy this propensity**.

“As it is the power of exchanging that gives occasion to the division of labour, **so the extent of this division must always be limited by the extent of that power, or, in other words, by the extent of the market**. When the market is very small, no person can have any encouragement to dedicate himself entirely to one employment, for want of the power to exchange all that surplus part of the produce, of his own labour, which is over and above his own consumption, for such parts of the produce of other men's labour as he has occasion for,”

(*WN*, book 1, chap. 3)

Limit to the division of labour

- In other words, the division of labour is **limited by the opportunities for exchange**, what Smith calls the “extent of the market”.
- By “extent of the market”, one should not understand only a physical space (otherwise the Sahara would be a vast market...), but **rather the extent of solvent demand**:

“There are some sorts of industry, even of the lowest kind, which can be carried on nowhere but in a great town. (...) In the lone houses and very small villages which are scattered about in so desert a country as the Highlands of Scotland, every farmer must be butcher, baker and brewer for his own family.”(WN, book 1, chap. 3)

- Conclusion : **the division of labour, and a nation's capacity for enrichment, are limited by the extent of solvent outlets.**

Limit to the division of labour

- The '**paradox**' raised in the introduction of the RN is thus fully resolved :
- “In a savage tribe of North Americans, who are generally hunters, the greatest number who can subsist easily together seldom exceeds one hundred or one hundred and fifty persons. **Each village is at so great a distance from every other, and it is so very difficult and dangerous to travel the country, that there is scarce any intercourse between the different villages** even of the same nation except what war and mutual defence give occasion to. In such a country **it is impossible that any one employment should be entirely separated from every other.** (...) One man may excel all his companions in some particular piece of dexterity, but it is impossible that he can be wholly employed in it, **for want of a market to take off and exchange** for other commodities the greater part of the goods which he would, in this case, necessarily produce. **Hence the poverty which must necessarily take place in such a society.**” (“Early Draft of the Wealth of Nation”, *Lectures on Jurisprudence*, p. 583)

Limit to the division of labour

Conclusion : the division of labour, and a nation's capacity for enrichment and accumulation, are **limited by the extent of solvent outlets**.

To push back this limit, Smith argues that the field of solvent outlets must be expanded:

- by **developing infrastructure that facilitates commerce** (see the third “duty of the sovereign”)

- and by resorting to **free trade in order to take advantage of a potential international division of labor**, in which each country would specialize in the production of commodities for which it has an absolute advantage (that is, lower production costs than other nations).

This raises a **logical problem**: countries that have no “absolute advantage” would be excluded from international free trade!

Perverse effect of the division of labour

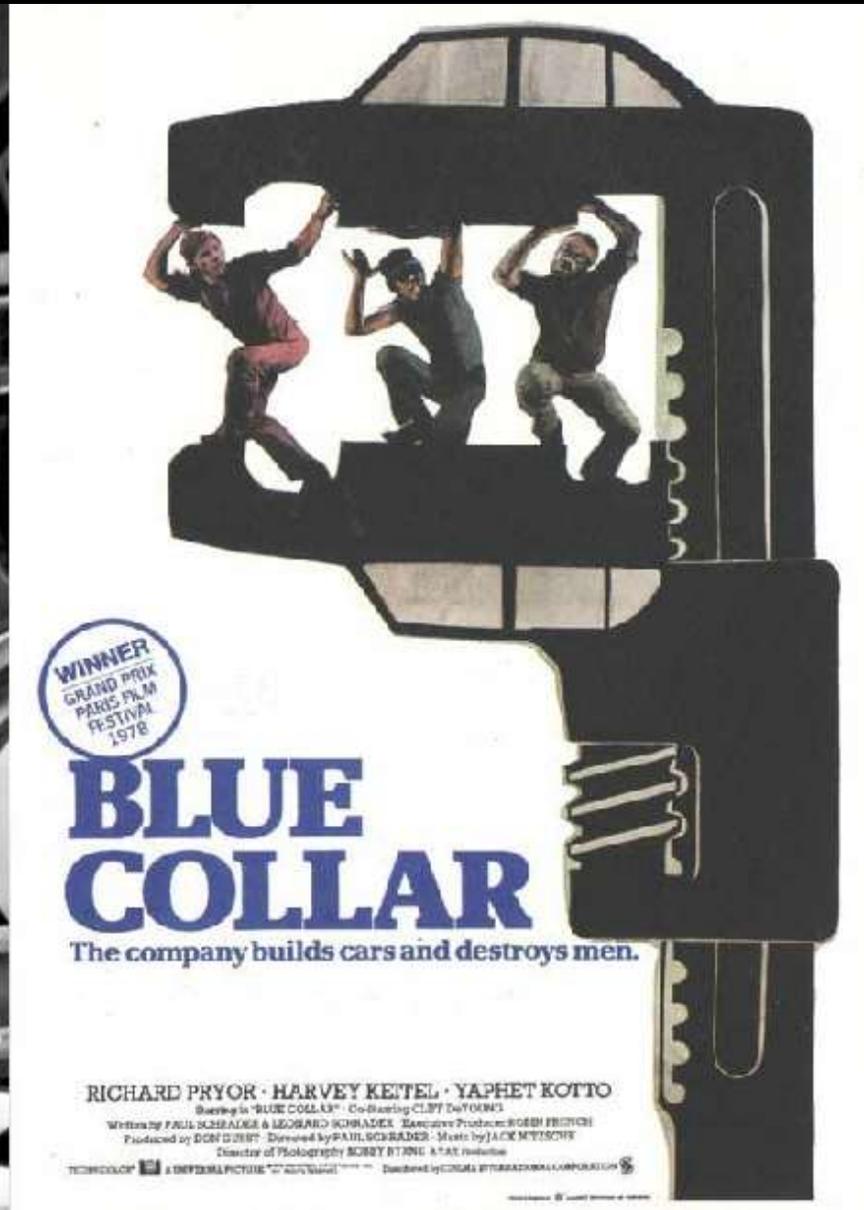
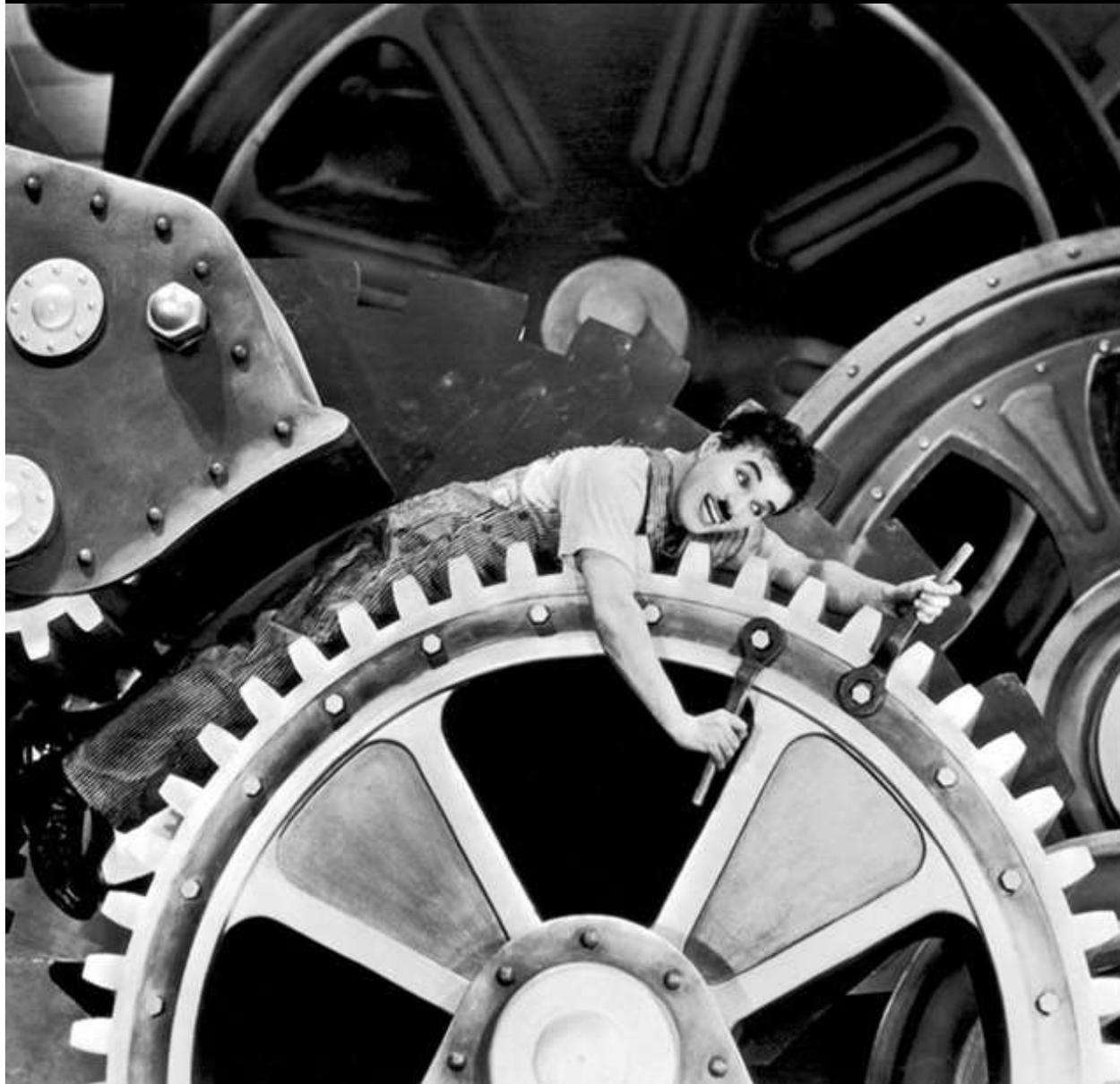
Perverse effect of the division of labour

- Smith warns that the technical division of labour (the breaking down of a production process into elementary and repetitive tasks) **makes the worker stupid and erodes social ties**.
- He **advocates state intervention (through public education)** to partly counteract this perverse effect (what modern economists would call a “**negative externality**”).
- Marx would later discuss—in the *1844 Manuscripts*—the **alienation caused by “forced labour”**, in contrast to the free physical and intellectual activity of a producer who voluntarily chooses his trade.

Perverse effect of the division of labour

« In the progress of the division of labour, **the employment of the far greater part of those who live by labour (...)** comes to be confined to a few very simple operations; frequently to one or two. But the understandings of the greater part of men are necessarily formed by **their ordinary employments**. The man whose whole life is spent in performing a few simple operations, of which the effects too, are, perhaps, always the same, or very nearly the same, has no occasion to exert his understanding, or to exercise his invention in finding out expedients for removing difficulties which never occur. **He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become.** The torpor of his mind renders him, not only incapable of relishing or bearing a part in any rational conversation, but of conceiving any generous, noble, or tender sentiment, and consequently of forming any just judgment concerning many even of the ordinary duties of private life. (...)

But in every improved and civilized society this is the state into which the labouring poor, that is, the great body of the people, must necessarily fall, unless government takes some pains to prevent it.»
(*WN*, book V, chap. 1, art. iii)



Have you seen these movies?

Productive and unproductive labour

Productive and unproductive labour

“There is one sort of labour which adds to the value of the subject upon which it is bestowed: there is another which has no such effect. **The former, as it produces a value, may be called productive; the latter, unproductive labour. Thus the labour of a manufacturer adds, generally, to the value of the materials which he works upon, that of his own maintenance, and of his master's profit. The labour of a menial servant, on the contrary, adds to the value of nothing.** Though the manufacturer has his wages advanced to him by his master, he, in reality, costs him no expense, the value of those wages being generally restored, together with a profit, in the improved value of the subject upon which his labour is bestowed. But the maintenance of a menial servant never is restored. (...) The labour of the latter, however, has its value, and deserves its reward as well as that of the former. **But the labour of the manufacturer fixes and realizes itself in some particular subject or vendible commodity,** which lasts for some time at least after that labour is past. (...) **The labour of the menial servant, on the contrary, does not fix or realize itself in any particular subject or vendible commodity.** His services generally perish in the very instant of their performance, and seldom leave any trace or value behind them, for which an equal quantity of service could afterward be procured. . » (WN, book II, chap. 3)

Productive and unproductive labour

According to Smith, **only labour embodied in a physical object**—whether a manufactured good or an agricultural product—**is productive**.

Such labour is embodied in commodities that can be seized, transported, and **sold with profit**.

The production of **immaterial services**, whether commercialized or not, falls into the category of “**unproductive labour**”, which “adds to the value of nothing.”

Some of these services are essential to society (doctors, scientists, soldiers, judges...), while others make it more pleasant (artistic professions), but “declamation of the actor, the harangue of the orator, or the tune of the musician (...) perishes in the very instant of its production”.

Productive and unproductive labour

These activities are useful to society and have value... **but they do not create value.**

Smith, however, criticizes the employment of domestic servants: “a man grows rich by employing a multitude of manufacturers; he grows poor, by maintaining a multitude of menial servants”.

Since all citizens are maintained by “the annual produce of the land and labour of society”, **the more this produce is devoted to supporting productive rather than unproductive workers—**“who leave nothing behind them in return for their consumption”—**the more wealth a nation will generate.**

Conclusion

Conclusion

- According to Smith, the **material improvement of societies** (i.e., the increasing production of commodities at low cost) depends on:
 - **Capital accumulation** – necessary for the progress of the division of labour, which **requires advanced stocks**;
 - The progress, or degree of refinement, of the **division of labour** (whether social or technical);
 - The **proportion of productive to unproductive workers** in society.

Conclusion

- This process of material improvement **is limited by the extent of solvent markets**, which can be temporarily expanded through **free trade** or the **implementation of public infrastructures**.
- It is not without **human or societal costs**, due to the harmful working conditions generated by the intensification of the **technical division of labour**, characteristic of “advanced” societies.