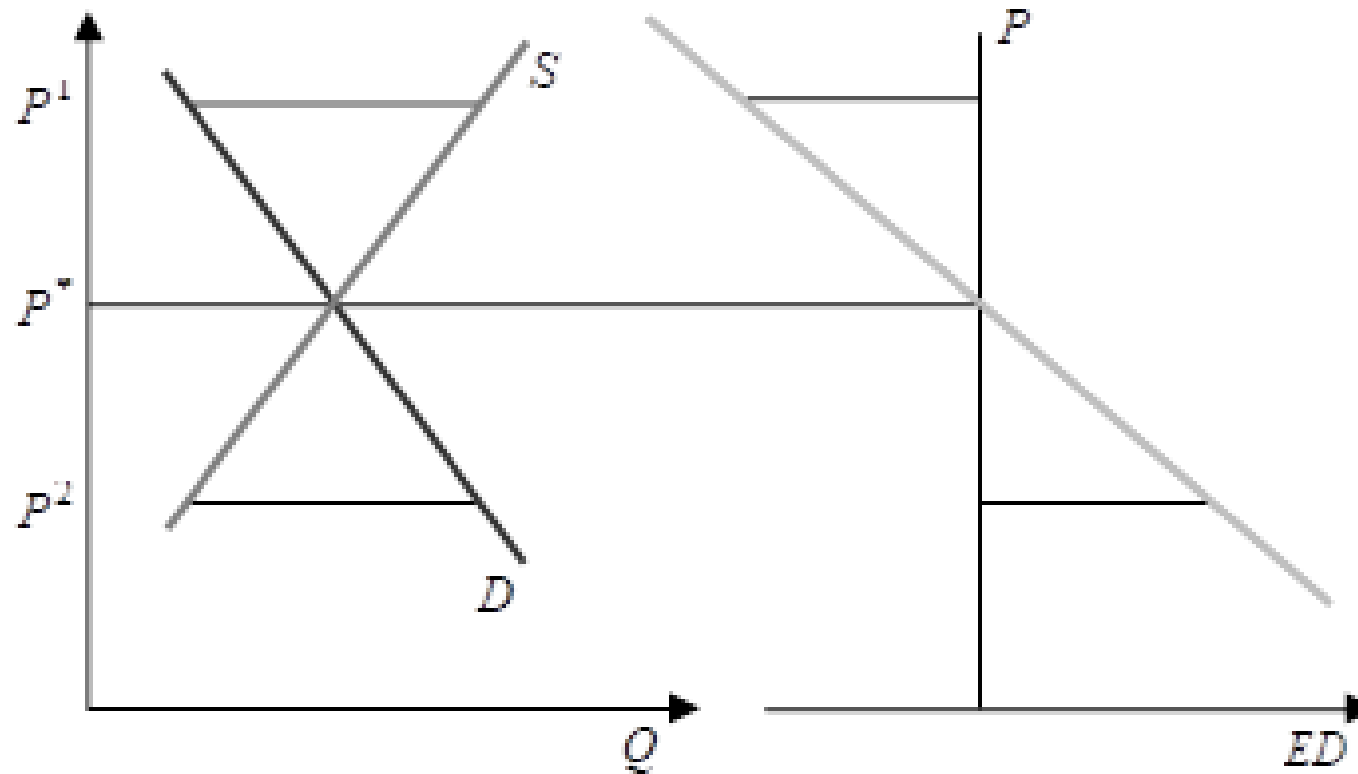From the auctioneer to auctions

The demand curve of a good is drawn keeping the price of all other goods constant: but if the price of tea changes, the demand for coffee also changes and therefore the equilibrium price of coffee…?

If the price of the labor factor in Southeast Asia changes, the supply curve of computers in Italy changes and so its (**partial**) equilibrium.

The equilibrium price in each market depends on the prices that are formed in other markets.

The system reaches a (**general**) equilibrium when the prices of **all** goods and the prices of **all** factors of production are such as to put in equilibrium each market for goods and factors.

Under perfect competition **does there exist** a **vector of prices and quantities** such that, at those prices, all consumers maximize their utility by demanding those quantities and all entrepreneurs maximize their profits by offering those quantities, and such that **excess demand** for each good are they either null (in which case the plans of the different agents are compatible with each other and can therefore be realized) or negative (supply greater than the demand) in which case the prices are null (what are called free goods)**?**

YES if … important **assumptions** to achieve this result will be the **convexity of preferences and technology** and the continuity of the demand and supply curves of goods. Without these hypotheses, the results obtained must be at least qualified.

✓ *First welfare economics theorem:*

Any competitive equilibrium is Pareto-efficient (*and Marshall-efficient!*). That is, you cannot allocate inputs and outputs in the economy in a different way without damaging **at least one individual in society.**
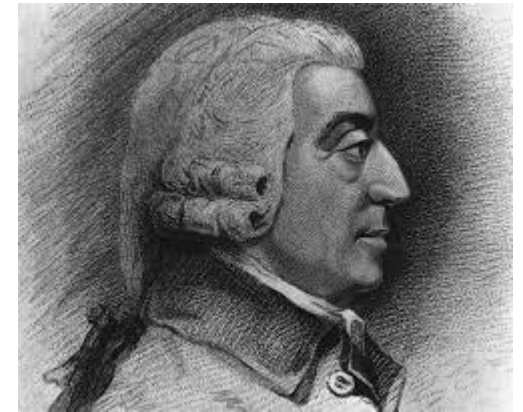**Contract curve points are reached in perfect competition.**

✓ *Second welfare economics theorem :*

Any Pareto-efficient allocation for the economy can be achieved as a competitive equilibrium by means of an appropriate redistribution of income.
Which contract curve point? "Minimal" state intervention.

The producer "generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. [By preferring the support of domestic to that of foreign industry, he intends only his own security]; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an **invisible hand** to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it." Book IV, Chapter 2, The Wealth of Nations.

Individuals left alone to pursue their personal goals do they always succeed in enabling the community to maximise its well-being?

Look at the choice of the best means of transport to reach the University of Tor Vergata. There are two ways to do this: by car via the Raccordo Anulare or by a brand new metro. Without traffic on the ring road, it takes 20 minutes, but there is often traffic due to the eccess of cars and, for every 2,000 extra cars, there is an additional delay of 10 minutes (4,000 cars on the ring road therefore take 40 minutes). The metro on the other hand takes 40 minutes because there are stops to make and you have to walk to the stop. But there is no traffic and, if by chance there are too many passengers, cars are easily added, so that the journey time is always 40 minutes.
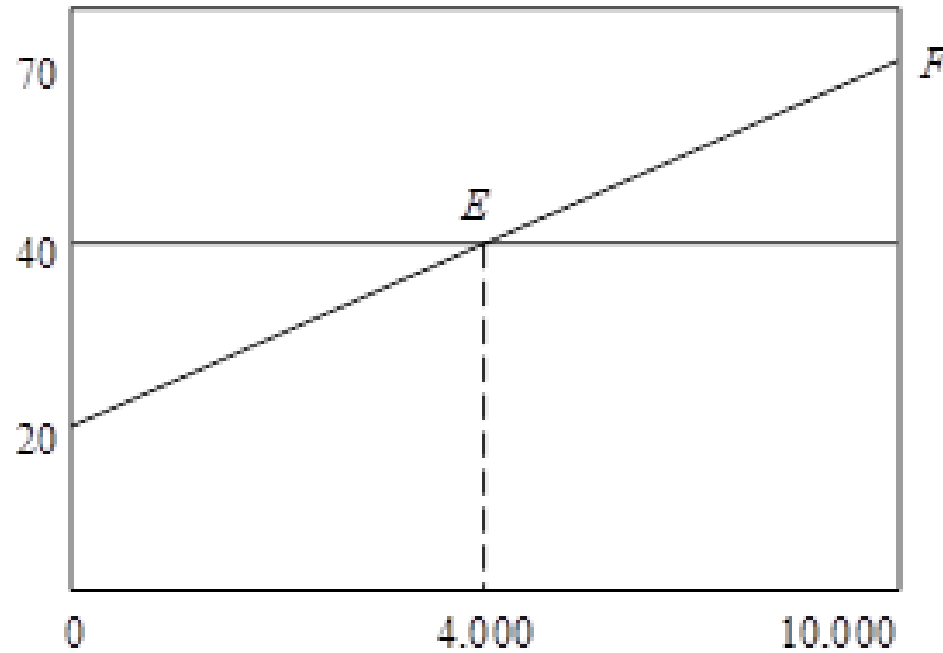
There are 10,000 students who want to get to Tor Vergata. How will they distribute their way when 'guided by an invisible hand'? On the x-axis of the figure we read the number of cars using the junction. On the y-axis are the minutes required to make the crossing by car (increasing as the number of cars increases).

What is the equilibrium to which this system tends? Suppose there is only one driver on the junction: many users of the metro will transfer to the four-wheeled vehicle as they would save about 20 minutes. Suppose instead that everyone decides to take the car: many will take the metro, saving 30 minutes.
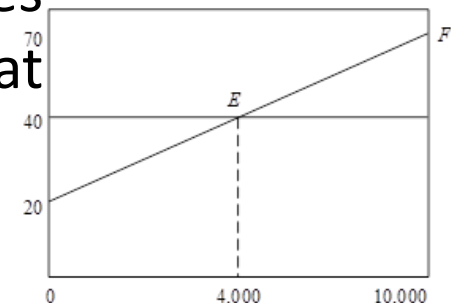
Where, then, will the balance spontaneously be left to individual decisions? Verify that at point E alone, where 4,000 cars will drive along the junction, there will be an incentive not to change one's decisions. In equilibrium, it will therefore take 40 minutes with both means of transport.
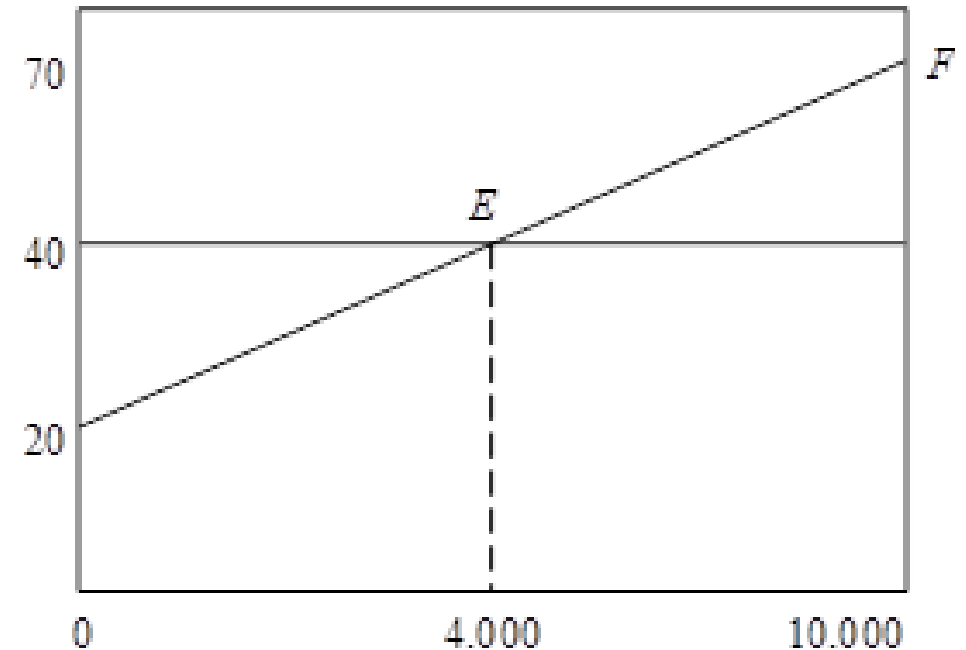
The question now arises as to whether this balance is **optimal for the community**. Since the gain is identical (we arrive at Tor Vergata), and assuming that the cost of the ticket and petrol coincide (imagine going car-sharing when in a car!), let's assume that benefits for the community arise only from *time savings*. Are there therefore allocations that save more time than 4,000 cars reached in equilibrium?

Let us assume that only 2,000 cars travel on the junction: compared to E, this means that 8,000 instead of 6,000 individuals will take the underground but without any loss of time (still 40 minutes), while those 2,000 individuals who continue to take the car will save 10 minutes compared to E (in total a saving of 20,000 minutes). It can be shown that no other situation results in greater time savings....

Why is it that individuals left alone to pursue their own individual interests do not achieve the social optimum in this case, instead ending up using the machine more than necessary?

The answer is that every time one more individual takes the car, the cost (in terms of minutes) to others of taking the car increases, even if only slightly. But, and herein lies the key point, this individual does not pay a cost, a price, for his/her choice: he/she only considers the time he/she needs. He/she is therefore not sufficiently discouraged and commits an act that is disadvantageous to the community.

There are several ways to solve this **failure of the 'invisible hand':** provide 2,000 permits to drive through the junction (a solution that requires a central body to coordinate this decision, perhaps by rotating the possession of such permits). Or charge a fee to those who cross the junction. And how much should be charged with this fee?

Let's assume that an hour of time saved is worth 12 euro per motorist (10 minutes are worth 2 euro): a toll of 2 euro means that, in the optimal solution for the community of 2,000 motorists, the 2,000th motorist will be indifferent between taking the car or the metro. In fact, he/she will spend 30 minutes and two euro in the first case and 40 minutes in the other. Note that this solution leverages resources from some citizens (the drivers) and provides the body collecting the fees with a surplus of 4,000 euros to spend, perhaps on reducing other taxes for individuals or on useful social projects.

This latter solution seems to indicate the **necessary condition for the success of an invisible hand**, i.e. the *presence of a price, call it a 'fine' if you like,* for limiting the over- or under-use of useful community resources (in the example above, the over-use of the resource 'car time'). **In many cases, people are not 'fined', or at least not sufficiently, for the costs they impose on society, nor are they sometimes 'rewarded' for the good they do to society.**

This happens when there is a lack of a price that drives the individuals to behave in the direction that maximises collective happiness. **The hand in this case literally becomes invisible**, in the sense that it can no longer guide individuals in their actions.

Imagine a company that **pollutes the air** in the act of producing: the reduction in pollution is a good, but it does not have a price on the market. Hence, a self-interested company would have no incentive to reduce pollution as much as society desires. Or imagine a company that trains young people on the job: it is an added value for society (another entrepreneur is willing to pay for a better trained worker once he or she leaves the original company), yet a self-interested company may not have an incentive to train sufficiently due to the absence of any 'reward' from those who would be interested. In short, a successful invisible hand needs a market **and not everything that counts for the well-being of the community takes place within a market**, i.e. not everything is capable of being exchanged between individuals.

"People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices…. But though the law cannot hinder people of the same trade from sometimes assembling together, it ought to do nothing to facilitate such assemblies, much less to render them necessary." The Wealth of Nations, Book IV Chapter VIII.
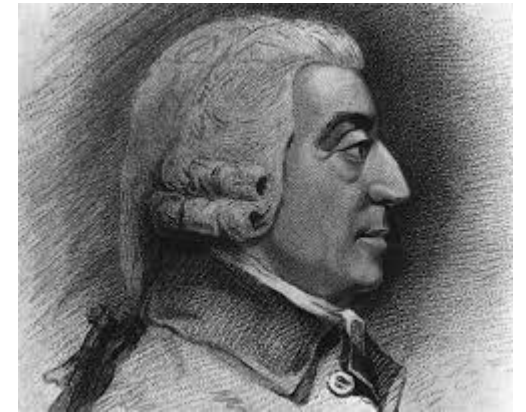
There are many individuals capable of becoming accountants. But where will they locate their professional offices? Let's suppose that the choice is between settling in the Castelli Romani, where the density of accountants is such that it does not lead to significant congestion, and the capital, where it is economically advantageous to be few in number, but where an increase in the number of accountants quickly leads to a reduction in fees due to increased competition.

Being an accountant outside the capital is like arriving at Tor Vergata by subway: it is less lucrative than being the only accountant in Rome, but it is more stable in terms of both income and the value of services. Being an accountant in Rome is like taking the car to Tor Vergata: when the number of accountants in the city grows excessively, the value and income of each individual accountant decreases and eventually becomes lower than that of an accountant working outside Rome.

The figure summarizes the situation. On the x-axis, we have the number of accountants (in thousands) who choose to work in the capital. On the y-axis is income (in thousands of euros). The downward sloping line represents the trend in income for accountants in the capital (the more there are, the lower their individual income due to competition). The horizontal line parallel to the x-axis represents the (unchanging) income of accountants outside Rome.
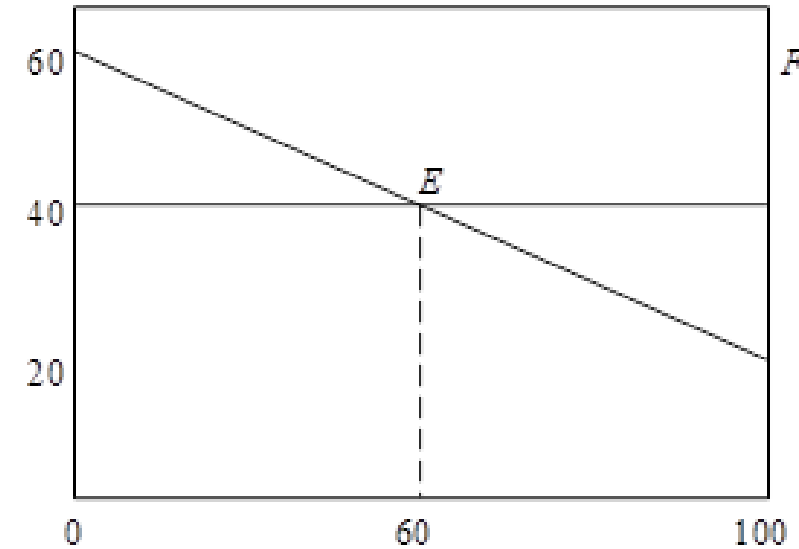
The equilibrium, in this case too, coincides with the intersection of the two segments: if we were to the left of point E, there would be an incentive for some accountants outside Rome to move to the city, and vice versa (check). However, unlike the previous case, equilibrium E is socially ideal, even if it is not for accountants as a category.

Let us assume that, from point E, some of them move outside Rome. They will continue to earn as much as before (€40,000), like those who were already outside Rome. However, the income of accountants remaining in Rome will increase, highlighting how situation E is sub-optimal for their category.

For society, however, the situation is different because, while it is true that moving towards E worsens the overall income of accountants as a whole, it is also true that the category of those who benefit from these services, i.e., consumers, gains: unlike in the previous case, where no one benefited from the extra congestion on the ring road, here the price effect allows for a level of well-being that compensates for the loss of income of accountants. And, if things were similar to those described in the perfect competition regime, we know that the second effect is outweighed by the first: in this case, individuals, left to pursue their individual interests, do not go against the maximization of social welfare.
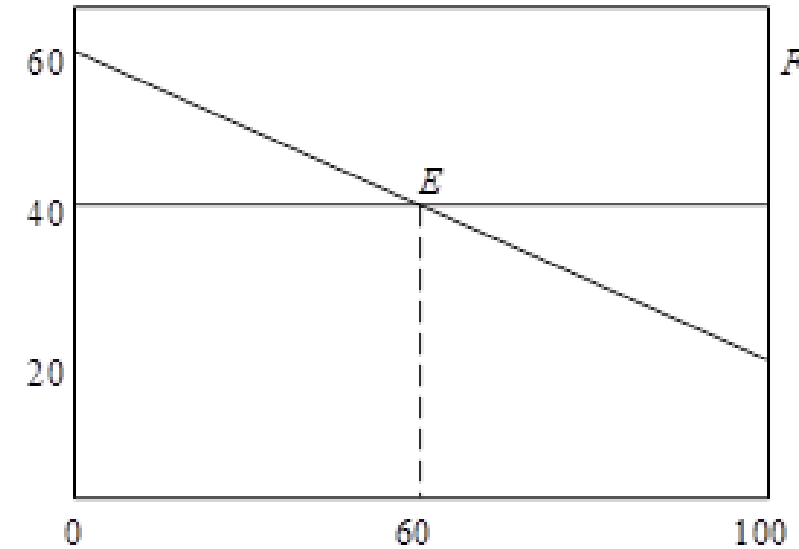
However, note what happens when we move from top to bottom towards E. Every accountant who leaves the suburbs for Rome slightly reduces the income of other accountants in Rome, without being aware of it (he is also a price taker!). In doing so, however, they impose a cost on other accountants for which they do not think they are paying a 'toll' (they do not think that the price will fall because of them).

However, as we have already said, unlike the previous case of the motorway, this behavior does not cause any harm to society because there are also those, such as consumers, who gain from it.

Note the analogy with the increase in production in perfect competition, where every entrepreneur who chooses to produce more, being a price-taker, does not think he has a (negative) impact on the profits of other entrepreneurs but, in doing so, increases social welfare by bringing the price closer to the marginal cost (the normal profit of being an accountant outside Rome).Of course, this is not the view of any association of Italian accountants, which would prefer, compared to the equilibrium point E, to see a reduction in the number of accountants in the city and an increase in the number of accountants outside the city, so as to increase the overall income of the profession. Note, here too, the analogy with the desire of companies to move from perfect competition equilibrium to monopoly equilibrium.

TOR VERGATA
UNIVERSITY OF ROME
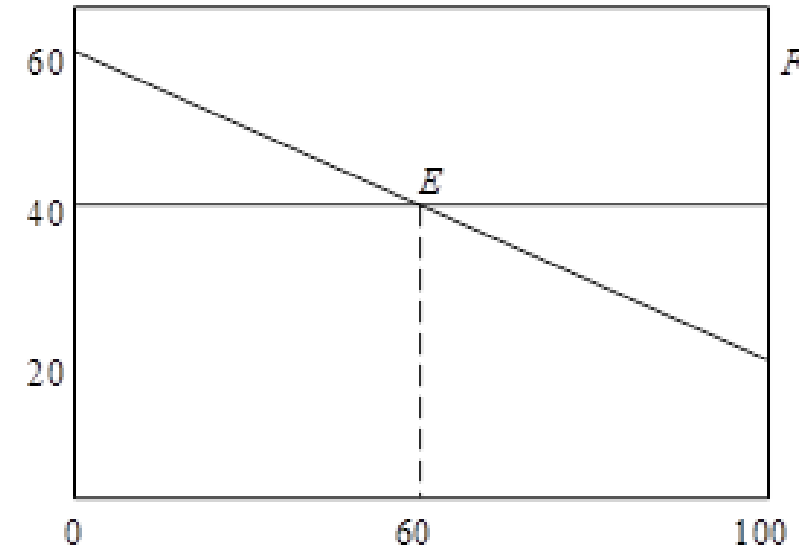
"How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it."
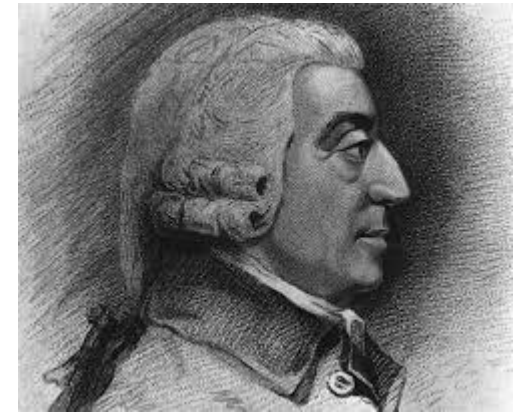
The Theory Of Moral Sentiments,
Part I, Section I, Chapter I.

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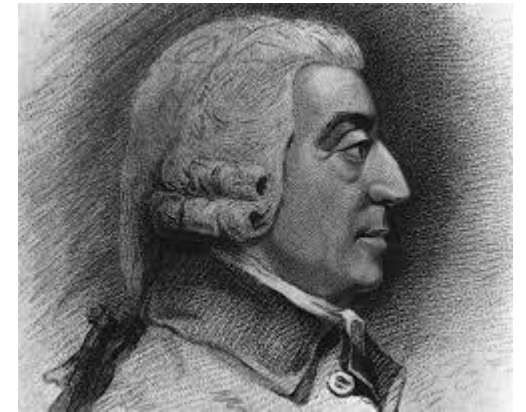
Philosophy and Economics or

Physics and Economics?

https://pure.diis.dk/ws/files/354889/Theory alk72_Wade.pdf

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THEORY TALK #72

ROBERT WADE ON ZOMBIE IDEAS, BEING
INSIDE THE WORLD BANK, AND THE DEATH OF
ETHICS IN ECONOMICS AFTER THE MARGINAL
REVOLUTION

This leads us to one fundamental and almost completely unaddressed weaknesses of economics can be traced back to the Marginal Revolution in the late 19th century. From that moment onwards, there has been an attempt to model economics on physics, and that was very explicit on the part of people like Pareto and Walras, and Jevons, early Marginalist thinkers. They even drew up tables with terms of physics, like velocity, on one side, and then corresponding terms in economics on the other. That had a huge benefit in terms of the 'science' of economics, because it cut economics loose from Adam Smith's and other classical economists' preoccupations with issues of morality and ethics. Adam Smith thought his most important book was not the *Wealth of Nations* but his *Theory of Moral Sentiments*, on which he was working, revising yet again, when he died. For Smith, economics and morals were never separate worlds, but intimately related. So for him, the *Theory of Moral Sentiments* and the *Wealth of Nations* were just twins. The point about the marginalist revolution, and the embrace of physics as the model, was that it cut economics free of all that sort of subjective stuff about values. So economics after the marginalist revolution set off with the assumption that not production, but the movement of individuals in markets engaged in trading with each other became the center of gravity of economics. Making the study of exchange rather than the study of production central was analogous to, say, Boyle's Law in physics. Boyle's Law in physics explained the movement of molecules in gasses, as a function of the pressure applied to the gas. So why did they make that analogy?

The point of likening of individuals in microeconomic actions with molecules in gasses was the following. *Everybody* knows that we do not apply any consideration of ethics or moral sentiments to the movement of the molecules in gas, so neither should we apply any notions of ethics or moral sentiments to the movements of individuals in market exchanges. And that was the way that all considerations of ethics, of morality were just removed from economics.