

**History of Economic Theory**  
**Prof. Dr. Shiva Kumar**  
**Department of Humanities and Social Sciences**  
**Indian Institute of Technology, Madras**

**Lecture No. # 16**  
**Natural Order and the market: Quesney and Galiani**

The 18th century was probably the most fascinating century in the last 3000 years, in Europe; this was a century when the power of science and technology was felt in the way people thought about things. The power of reason instead of faith began to assert itself increasingly. There was a tremendous reordering of the social groups in the society. The merchants manufacturers were growing more discontent among the peasantry (( )) the aristocracy ideas of freedom in liberty were growing along with theories of natural order social contract and so on and so forth.

In some respects 18th century France symbolized the transformation of European mind, just as 18th century England symbolized the incredible economic potential of growth for Europe. So, 18th century was fascinating century. One of the important things to happen in the 18th century was the development of the idea of the natural order which governed human society. Prior to the 13th century, in the middle ages for a long time from the 5th century onwards, people conception of society, people conception of lives, people conception of political life, were all constrained by a combined existence of authority and faith, authority induced fear and respect faith induced submission. So, these constrained the way people thought about the world around.

What did basically meant is that everyone said well this is my place, in society, in my family, in this world, this is my role my job is to keep performing role period nothing else. And the inducement for them to keep this way came from the way authority was wielder both by the rural rich the aristocracy who created the culture of feudalism and then by the church which gave a metaphysical foundation to the whole thing. The church acquired a monopoly rights virtually over the way Christian mind thought up to the 13th century. So, this big concrete like combination of authority and faith governing set out

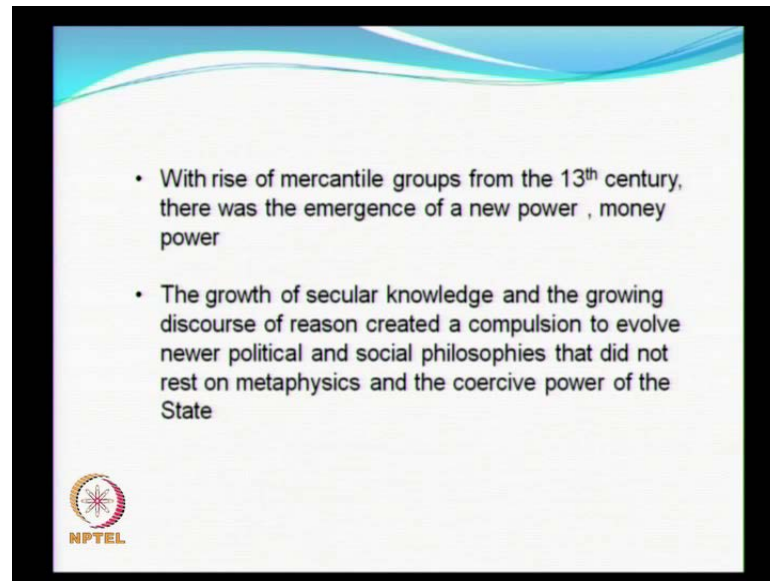
looks to life reinforce by the metaphysics provided by the church constituted the basis of European mind set towards society towards a world around.

During the middle ages from the 13th century things started changing. From 13th century mercantile interest started growing, trading grew, we know that manufacturing grew, but more importantly trading substantially grew, the nations state came into existence, a feudalism declined and therefore, the world started changing the bit. But even then in the 16th and 17th century, while the nations state has come into existence substantially most parts of Europe except England, these nations states were ruled by very autocratic monarchs and very often these autocratic monarchs did not hesitate to use the force of arms. Even in England the middle of 17th century was a period of civil war precisely, because the question came about how much power to the monarch till finally, the monarch himself as beheaded.

So, the 16th and 17th century Europe experienced autocratic monarchies. So, the idea of the world around, the idea of society, the idea of the world of politics was also constrained by was also supported and philosophies of this type with provided by both Micaville in Italy and hobs. Both of them were talking about an unrestrained power in the hands of the ruler and unrestrained powers of suppression and sub education in the hands of the rulers with respect to his subjects.

So, the ideas of Micaville and hobs essentially reflected the disorder that arrows, when autocratic power was wielded, (( )) but by 18th century things at changed. In fact one major change from by 18th century was the fact which we have already seen, in of the tremendous growth of mercantile power, you see merchants were getting richer they had more and more money to spend, to invest and to get involved in society, but they had no place in the body politic.

(Refer Slide Time: 07:24)



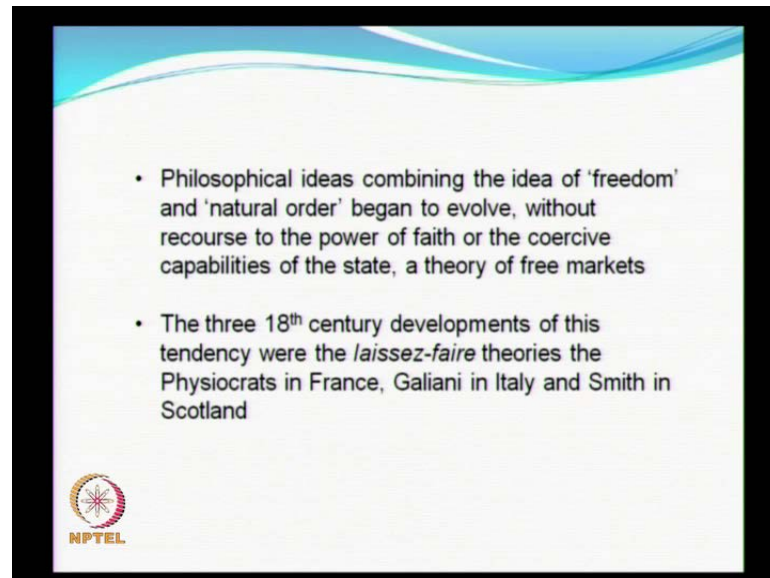
They were neither the aristocracy, nor were the monarchy. So they did not have an independent base of power. So, they were clamoring for it they were pushing for it and by 16th by 17th century, there acquired considerable power. So, medieval worldview was changing, first into a worldview where some kind of autocratic tyrannical rule was philosophically justified in the worlds of Machiavelli and Hobbes but, the rise of the merchant power would not accept such autocratic power emergence. So, there was a growing pressure from the mercantile interests for participation and for sharing in the booty for ruling, after all merchants would not want to be a part of the state ruling machinery simply, because of (( )) reasons.

So, this was another pressure then, you had simultaneously the growth of secular knowledge. As we had seen earlier educational institutions, which serious purpose were being set up across Europe. In the 200 years leading to 18th century. It is estimated that the number of universities and such establishment nearly doubled in Europe, which means the discourse of reason outside of the ecclesiastical boundaries acquired significance. The secular educational institutions were teaching philosophy, law some amount of science mathematics and so forth.

But, the basis was not faith, they were not trying to study these things for the greater glory of God. They were simply studying these things, because that was the nature of the quest for knowledge. So, the discourse of reason acquired and greater power among the

thinking people and newer political social philosophies became necessary, which would replaced the philosophies either dealing with the metaphysics of the church or by the coercive power of the state. In either case the need for change was significant.

(Refer Slide Time: 10:31)



It is about this times too that the philosophical ideas of freedom and natural order without any recourse, to either divine intervention not, the providence or without any coercive power of the state. We did not need something like hob's theory of leviathan anymore, because it is simply, because it became irrelevant people were thinking of something else they wanted something else.

So, he had the merchant class clambering for power, you had the new thinking coming up in through the growth of secular education and science and technology; so, people started thinking towards explaining society, in terms which were neither accept providence nor accept governance. In other words they did not want a theory, which explain the power of the state has the source of everything not did they want a theory, which explained the providence of god or religion as if source of everything around. People were looking at expressions of the order of the society, order of life around them in terms which were simple, logical, pragmatic and which did not need any substantial faith or fear to believe in men.

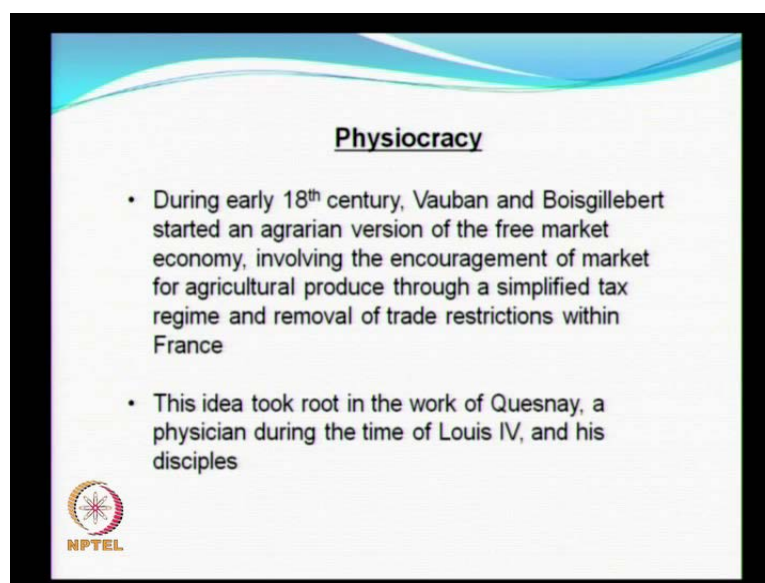
This was how theory is of natural order started coming up in the 18th century. The part which relates to us, is the part which relates to market. The theories which developed in

economic in the 18th century which had some notion of natural order in them were theories about market. All this three sets of theories we shall be discussing, a theories which were talking of the free market, as the natural order and the fulfillment of the freedom of the market, as attaining some kind of a natural equilibrium in the long run for these societies.

So, you can see from the state administer state dominated mercantilist views, ideas shifted dramatically by the middle of 18th century, to a belief that there is a natural order, that each person performed according to the drive of his self interest. If each person performed according to the drive of his talents, then the whole society would evolved in a direction, which would be harmonious in a state of equilibrium and all of would which be natural and therefore, markets themselves started being looked at as forms of natural order. No reason then, that in the 30 years from the middle of 1750s to the middle of 1780s saw the demise of mercantilism, because mercantilism was so opposed should dramatically different from this conception of the economy as a natural order.

We shall discussed three sets of ideas, of 18th century which were very prominent in highlighting this conception of natural order. We had the physiocrats in the middle of 1750's and for the next 15 years, really dominating the intellectual world across Europe, who looked at the economy for the first time as a totality which had to be dealt with as a totality.

(Refer Slide Time: 15:16)



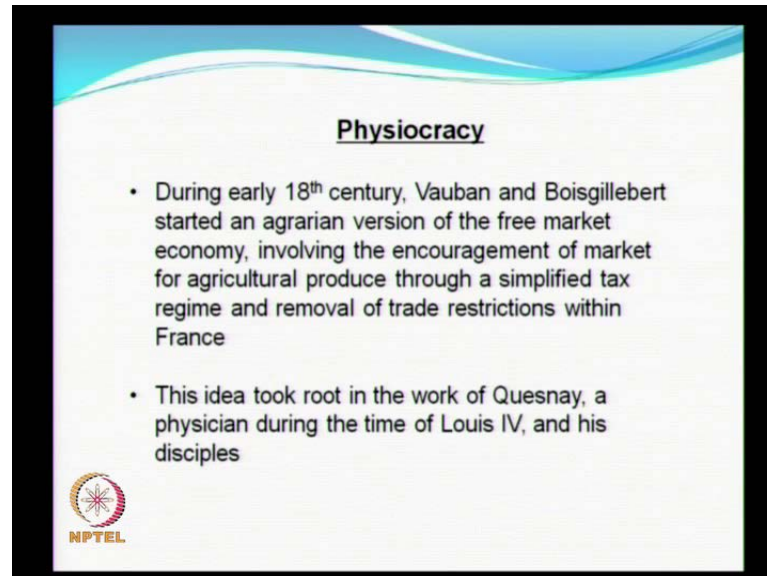
In other words the physiocratic version of the economy was probably the first micro economic articulation ever in economic theory and you had along with physiocrats, about the same time Giuliani and the Italian economist who were making very clear lucid pronouncement of how markets worked and how there was a natural tendency of markets to lead to some long term equilibrium some kind of a normal state to market to be in. So, this was a Italian contribution and then smith from the middle of the 18th century from the 1760s in fact and then in 1770s was speaking and writing about the power of market and the impulse of egocentric behavior, both leading to the coming into existence of an invisible hand.

Which ran the whole economy, in other words there was a spontaneity about the egocentric behavior of the individuals within the freedom of the market, which enabled there to be some kind of a hand of faith, but no faith which you need to go to a church to believe in, but this was the hand of a market which determine the life and fortunes of people the invisible hand. So, smith was talking about the natural order in terms of this invisible hand so, will talk about these three people today.

Have you studied something about the physiocrats earlier, anybody have you heard what the physiocrats. You had this course on great thinkers and so forth know did you have any other course on history politics of Europe ideas you had. So, did you at any point of

time talk about people in the middle of 18th century France certainly as philosophers probably did not consider (( )) and the physiocrats then.

(Refer Slide Time: 18:01)



In the early part of 18th century in fact around 1790 Boisgillebert formulated a system of an agrarian economy. He believed that agriculture was the principle economic of occupation and around that the rest of the economy revolved and functioned.

So, he said agriculture is the only productive part of the economy and it should be allowed complete freedom, by removal of all kinds of age old the restrictions on agriculture, not in terms of multiplicity of duties and taxes, but also in terms of restrictions of trade within the country in agricultural product. So, Boisgillebert and his (( )) both believed, that freedom of agriculture from oppression by the state, was the first condition for economic prosperity. So, they advocated, as I said a considerable liberalization of the tax regime, principally through a very simplified tax regime which does not demand much and did not create much transaction cost for the farmers.

I will have something to say on this perhaps, you not heard of this idea of transaction cost, but then a sight from the tax regime they also wanted a number of restrictions on trade within the country to be removed, on internal trade in agricultural goods, but I mentioned transaction costs. Have you heard of in economics the idea of transaction, costs tell me something about it.

(( )) of finding the good that you need or reaching the service or the good that you need like its transaction cost. What kind of forms can this cost take?

Student: Transport

No that is (( )). Is that transportation cost make a transact.

Student: Information (( ))

Information is one part of transaction of course, yes cost of information.

Student: Time

Time sure time is a cost but, what you spend time over in this particular case.

Student: (( )) sellers in a market place so that time lost while while

So the expenditure of time, real expenditure to acquire a product to sell a product and what I am trying to say is possible for you to quantify time in some where other, because you have 24 hours in the day you must be able to quantify.

Student: (( ))

Fantastic lovely beautiful so, negotiation of time acquiring information what else.

Student: (( ))

Book keeping and.

Student: (( )) maintenance of records.

Maintenance of records very nice. So, these are costs admit to be cost directly dealing with the process of transactions having to go on.

There are other transaction costs to have you for instance to thought, what would happen? Give you an example what would happen, if you went to a shop and bought a kilogram of tomatoes. So, you paid 20 rupees, 25 rupees whatever. You paid for that kilogram of tomatoes took the bag paid him 20 rupees whatever it is and on the point of leaving the shop. What stops a shopkeeper from landing nice and juicy one on your head



and then taking the bag back and say now of you go what prevents a shopkeeper doing there why can't he just smutch the bag from you one and say that is it.

Student: (( ))

So what would happen, if we report.

If you report his behavior what he did was wrong, because he took the money for the bag of tomatoes and he did not give me the tomatoes so, that is criminal

So you are right.

So, incredible as it seems the example has pointed out to the fact that, there is a thing called crime involved in this know. In crime is defined by law right, I mean somebody can't walk up to say you are an ass, it is not a crime, it is an offence, it is an offence, you can probably show the person right, you can say you can tell the police the person called me an ass, am having a mental breakdown after that. So, I am pressing criminal charges of assault where you can make it crime, but eventually laws tell you want you can do what you cannot do am I right.

So, you are absolutely right, even if this shopkeeper was worried not much about having to lose a customer it is certainly be varied about the cops landing (( )) and say now why do you do with this man, you take his tomatoes or not off with you, let us go to the police station we are charging on criminal conduct etcetera extra. So, there is fear of law I may not right, there is fear of law any time such volatized behavior occurs violation of a transaction a contract.

So when u by the tomatoes from the shopkeeper there is an explicit or implicit contract, that the tomatoes are yours in as much as the 20 rupees are his, any attempt to reverse that is a violation right. So, there are laws which protect contracts which protect transactions so; they are not violated again, who makes those laws.

Student: State

State, what does it means state the chief minister.

Student: No legitimate authority that is in case of that that way if you look at the legislature legislature.

Legislature forms makes laws list of laws saying in which is acceptable is not acceptable, what the punishment, what is a reward etcetera. So, there are law makers and then.

Student: There is a judiciary that identified this (( ))

So, the judiciary which examines particular events relating to conduct of people and trying to find out, whether this is a crime. In the according to this law that law there is a violation of that law and therefore, what punishment or what penalty, you should be administrate so, judiciary and.

Student: (( ))

You forgot the cops.

Student: (( ))

Yeah, I mean you need a guy, eventually to arrest you and put you in jail know. I mean the judge can you know yammer away as he wants and you can just say know. So, there is this problem you need people, who will create the law, you need people who will interpret the law and you need people who will execute the law right, do not they need a house to live in, do not they need to eat food, do not they have children to send school, do not all these people in short have they need to live like a anybody else. So, what will they for that they take a salary who pays them the salary.

Student: (( ))

The people who collect the tax from you give them salary.

So, you need a bunch of fellows to collect the taxes. So, you need a bunch of fellows, who will frame the tax laws how much tax you should pay and there are tax collectors may be. In short by and by you are talking of the entire establishment called Bureaucracy right called Legislature and called Judiciary. In other words all the three organs of a modern state have to be created sustained and kept working.

Where does the money for all that come from taxes right. So, the taxes pay for the sustenance, the organs of modern state, which enabled you to keep your tomatoes in pocket. In other words which ensure, that your transactions are secrete in the eyes of law at least, (( )) in the eyes of law know these costs are all transaction costs, are they not

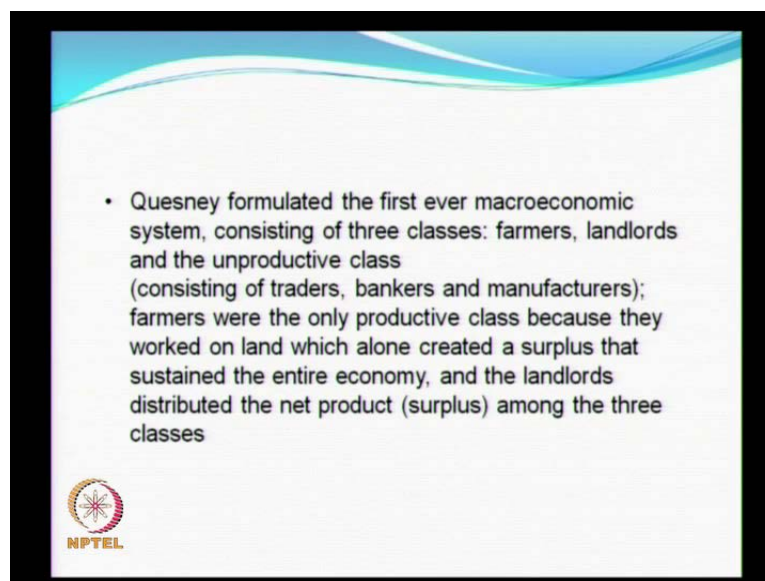
maintaining the entire infrastructure of the body politic and the state the government and so on and so forth. Now, a good efficient government system, who would ensure that you pay the least tax to sustain all these things right and not only that would ensure that you are not, subjected too many rules and regulations and harassment in the name of law.

In short there can be efficient transaction regimes and inefficient transaction regimes, I may not right. Inefficient transaction regimes are costly one way rather, they cost time, they cost resources, they cost peoples in a states of mind tension stress, you name it. So, a state or a society or a governance system can be. So, organized that, it can either minimize transaction cost or maximize transaction cost. By the way it is designed and by the way it functions.

I am saying all these things, because what (( )) was suggesting is that the transaction costs in the French economy for phosphorus agriculture must be minimal isn't that what we are suggesting, they were not saying this was a language of transaction cost is a modern language, but what in effect they were trying to hassle through is a low transaction cost regime with the simplified tax structure and with well simplified procedures rules and norms know. So, they had a conception of natural order whereby, if the system is bind large rest alone by the state alone by the state, it had a tendency to run itself smoothly and effectively is n't it.

So, the physiocratic natural order was an agrarian natural order, which means if it is based on agriculture and the society which was organized around agriculture, physiocrats took over from Boisgillbert and built a sophisticated system. The founder of this school and the great celebrity in this school was the man called Kenai and he was a physician in the court of king (( )).

(Refer Slide Time: 31:41)



The 14th, Kenai thought that the society was something like body of living organism different organs and components of this living organism were connected through a set of flows which involved blood body fluids and so on and so forth. So, these flows connected and functionally render meaningful the organism itself right. So, Kenai look that the, economic process in (( )) as if they were organic things.

He thought there were three functional groups, in which society was organized. One were the farmers, who worked on the land and who grove all the farm and sometimes primary sector produce, like fisheries, forestry's, mines, these were all brought under one broad classification by Kenai and his followers they were all called the protective class. They were called the protective class, because they worked with land and nature and according to the physiocrats land and nature were the only productive things, which yielded thing to humanity.

So, these people were farmers were for instance productive, because they were able to till the land and get out of land something which not merely sustained themselves, but it sustained the entire society. In other words over and above what they could they needed to grow for their own consumption, they were able to grow things which was useful to them as, investments in the ongoing reproduction of agriculture for instance, they groove not only food for themselves, but they had food grains which were useless seeds, they

had cattle, which not only produce milk and milk products were themselves and may be beef, but they also this cattle also reproduce itself, they reproduce more cattle.

In other words they dealt with nature in such a way that not only was their subsistence taken care of, but the reproduction of productive activity year after year was also taken care of and then on top of it all, it supported the other people in the society. Who were these other people according to Kenai? There were two other classes, one is what he called the distributive class which basically meant the landlords, the landlords were called distributive class.

Because they got the surplus from agriculture over and above, what he produce for himself and for reproduction of his agriculture, the farmer also produce something which he have to give to the landlord isn't it, because the land belong to him the property class. So, the landlord got his rent part of which he spent on his consumption no all of it he spent on his consumption, but part of what he spent on his consumption went back to the farmer he brought butter, he brought food grains, he bought meat, he got poultry, he got chicken you name it right.

Then he spent money on the other class third class. The third class consisted of artisans, manufacturers, traders, bankers, all such of peoples, who were neither doing distributive neither job nor were they productive in the sense that they dealt with land or anything. This class can I called (( )), because there has sterile class unproductive class it did not mean that, they were based us it did not mean that they were useless, but what it meant was that these people were not productive. In the sense that, they were not working with nature with land which is only which is only thing in capable of producing a surplus.

The surplus which went to the landlord was called (( )), which means net produce. This net produce was over and above what the farmer needed for himself to sustain and reproduce his farming activities and then to buy something from (( )). He might need a blow, he might need a little u know something for his agriculture, he might need to dig a well and he might need to you know, there are so many things which are involved in the transaction with the sterile class.

So, he spent some money on this sterile class over and above this the farmer has a surplus which goes into the hand. So, of the distributive class or the landlords and the landlords, they spent part of what part of what they get to sustain sterile class and another

part to buy things from agriculture. So, the output from land keep doing is flows circle are flows across the economy, give you an example suppose the farmer grows 10 million tons worth food products in other products.

About 2 million tons he spends on sustaining reproducing this activity. He needs to have seeds, he needs to have look he needs to have look after the farming conditions the dairying conditions feed the feed the stock and so forth. So, about lets the 20 percent of that goes into looking after all this were reproduction of his own activities, then another 20 percent goes to the landlords as rent right. So, that makes it 20 and 20, 40 percent or would rather have it, let us do a little arithmetical revision let us say 40 percent of all that he grows, he goes to sustain his own self his reproduction of his farming dairying another 40 percent goes as rent.

So, you have 20 percent left, which 20 percent is given to (( )) for buying his farming equipment and anything which they manufacture and little bit of money lending in for which he pays the interest and so on and so forth. So, you have 10 million tons of output out of which, out of which 4 million tons goes to blowback reproduce his own agricultural conditions. Another 40 goes as product net or the net produce, into the hands of the landlords and 20 percent goes to the (( )) the sterile class. Now, out of the 40, their landlord gets 20 percent goes back to the farmer to buy his produce, another 20 percent goes into the hands of class sterile to buy manufacture and trader produce right.

And eventually, you find that the whole thing completes, the circle and the 60 percent which goes out of the farmers hand keeps doing the rounds coming back year after year, after year, there is a 40 percent, which goes back into the maintenance and sustenance and reproduction of agriculture. Another 60 percent goes to the landlords goes to the sterile class comes back to him, because eventually the sterile class also buy agricultural produce by him.

So this is a picture of microeconomic flows among different groups of people, which was a first time the micro picture of the economy distributed among different occupational groups. And as a series of flows among these occupational flows and eventually, resting on a notion of repeated recurrence of an equilibrium. Each year is 10 million tons, it does all the rounds here back with 10 million tons, you do again the 10 million tons you do all the rounds again, each year this 40 percent grows another 10 million tons, that does a

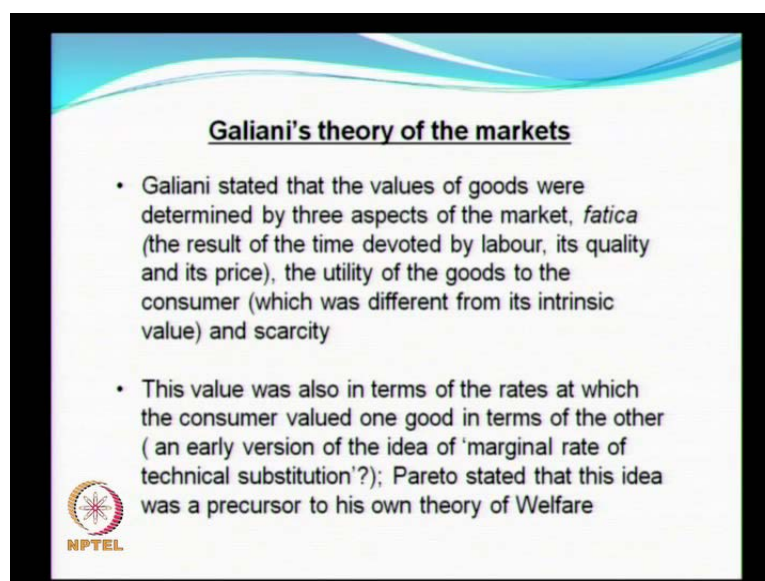
rounds then it comes back, then it does another round another 10. So, it is a static system of continuous reproduction of economic processes; this was the physiocratic conception of natural order.

Any question on that Ashwini, any question all right I will take that is a compliment anyway. So, this natural order was also a free economy, because things happened on its own. It does not need anybody, it does not need stay to push it, prod it, it does not need (( )), it was a society which continue to generate itself. So, the genius of kunai lay in perceiving economy and economic processes. As a continuous self sustaining, self generating processes and he saw this as a function of remarket and the free market which enable this traditional system to continue, what is the natural order.

There are two things which are interesting about this, one the idea that in economy and a society can continuously sustained itself reproduce itself, year after, year after, year without any external stimulus or external push or pull or prod, that would be just go on and on and on his work. And the second that this occurred precisely, because there was an unfettered market which enabled this flows across the groups. So, this was the core of modern microeconomics which was first founded in Kenai.


Now, Kenai's ideas inspired people all over Europe. As you can see he formulated the (( )) economic, in which the system of flows. Which I discussed with you that happened and most important some lassie faire system, minimal interference with government and he said, you need one tax in the system, just one tax and this one tax should recover all the costs of the government of governors. In other words unbeatingly, he was talking about a system which minimize transaction costs, one step ahead of world (( )) and others and in furtherance of the minimization of transaction cost there was also saying, we want minimal government restrictions and regulation of trade just let it grow on, it will grow, it will prosper and France will be in good shape.

(Refer Slide Time: 46:02)



**Galiani's theory of the markets**

- Galiani stated that the values of goods were determined by three aspects of the market, *fatica* (the result of the time devoted by labour, its quality and its price), the utility of the goods to the consumer (which was different from its intrinsic value) and scarcity
- This value was also in terms of the rates at which the consumer valued one good in terms of the other (an early version of the idea of 'marginal rate of technical substitution?'); Pareto stated that this idea was a precursor to his own theory of Welfare

 NPTEL

An interesting thing is, we have chosen people to talk about here who are all writing moral is the same kind of stuff very similar stuff, but in different parts of Europe in the middle of 18th century we had Galiani in Italy belonging to the Naples school you had Kenai in Paris and then you have Smith in Scotland you know Adam Smith.

So but, there preoccupation with market, as some kind of a natural order which should not be tampered with symbolize the spirit of the time, symbolize the arrival of modernity in human thinking, that life does not need a tyrannical state, life does not need a tyrannical god, life simply needs to be left alone, to be run by itself and for reason to understand, this time had arrived. So, Galiani, Galiani was looking at the value of goods and how they determined in the market, he said there were three factors that can lead to the creation of value.

One was the labor, its quality and its price mind you he is not talking of labor theory of value here, labor theory of value says simply amount of efforts and it tries to quantify the efforts involved. Whereas here Galiani is saying well you might have quantity of labor, but more importantly what quality of labor you are talking off. So, he differentiated among workers, he did not homogenize them there. In contrast with labor theory of value and then he said, what you pay them the wages for laborers. So, he says all these three things will result, in the estimation of something called *fatica*, which is something like an imputed labor cost.

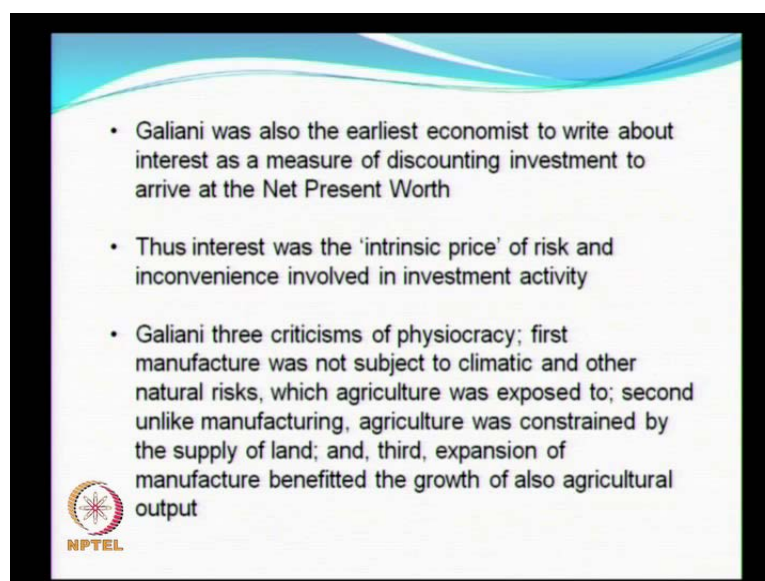


But, we said nothing to do something like labor theory of value you lend this trend, then secondly you also talked about the value in use for the goods that is people wants things, because they had useful people wants things, because there is a value when the use, which they use, in the products. In other words he was first person who came pretty close to talking about something called utility. They did not know the concept, then the concept came later with Bentham and his followers towards the end of 18th early 19th century, but Galiani some 30 years before, Bentham was talking about fatica and his value and finally, the scarcity which people felt for the good it might, if I might find it useful, but it might not be easily obtainable. So, there were three components to the value of a good or the three components to price formation, one is fatica another is use value and the third is the scarcity.

Now, he was also talking in terms of value of goods in terms of other goods, because he said everything had a value, in terms of fatica and in terms of usefulness and in terms of scarcity. So, if everything had such a value determination process, then there must a value of goods in terms of each other, you can talk of one pair of bullocks equaling so, many bicycles or so, many bicycles or one bicycle equaling so, many apples so, he was talking in terms of some kind of rate of substitution according to the usefulness of commodities principally, across the economy right.

Probably a (( )) to the modern notion of the marginal rate of substitution of goods along in indifference surface right, but he was in going that far, but certainly Wilfred Pereto, who was great at these things and who was a great welfare economist and who used this analysis of indifference surfaces extensively did believe, that Galiani was a pickeser to his own work.

(Refer Slide Time: 51:07)



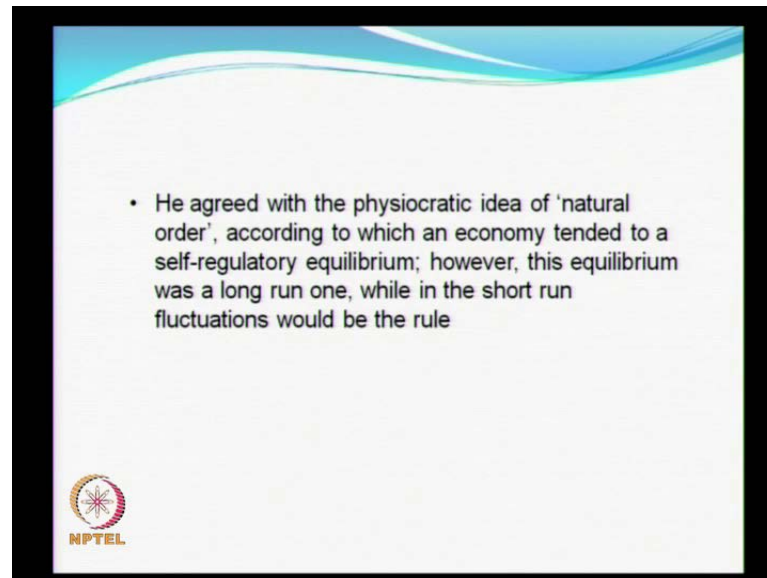
Galiani was also looking at the distribution of goods overtime. In other words the market distributes goods allocates goods. According to the value as determined by fatiga and scarcity and utility at a given point in time, but goods are also distributed overtime. In other words, I can give you 100 rupees, which you can put into some business and tomorrow it might deal some worth 200 rupees.

So, what I am doing is, I am redistributing today's goods to determine something in the future. So, he talking of an allocation of goods through time well, Galiani was a first economist think of this he was a first economist, who also understood that there goods produced tomorrow with today's money are worthless, then goods today a bird in hand his better then tomorrow, it might take a day for you to get through the bush get the two birds. So, the long and short of at all is Galiani was also formulating some kind of idea of rate of discount, at which you can estimate the net present worth of future incomes and he said interest is some kind of a intrinsic price for the risk and inconvenience and waiting involved in this process of inter temporal distribution. Galiani entirely sympathized with the physiocrats in terms of their preoccupation with the natural order.

But he said categorically that it is not agricultural loan, which produce surplus came from every farm of improvement in ones effort. So, he brought labor into consideration and set different qualities and different intensities and different types of labor can produce surplus. So, he said manufacturing his capable of generating a surplus which has

no risk in agricultural, if there is a rain, there is no rain, you have had it but, whether there is rain or not you can manufacture. Secondly agriculture was constrained by availability of land you need much less land for manufacturing and third manufacturing generated so, much of surplus that it could benefit agriculture itself so on. These three counts Galiani expressed his disagreement with the physiocrats.

(Refer Slide Time: 54:07)



He agreed with the physiocratic idea that there is a natural order of an economy most important contribution of Galiani is that the self regulatory equilibrium, which physiocrats stated talking about which Galiani approved of he said in this self regulatory equilibrium of the economy happened in the long run, it did not happened immediately. In the short run, there were all kinds of disturbances, in the economy which led to fluctuations. So, Galiani was the first one to bringing the conception of long run equilibrium, in the economy as distinct from short run equilibrium.

And showed the distinction between short run fluctuations and long run equilibrium and more important, he almost anticipated kings when he said the long run itself could be a succession of them, this a number of short runs, so that eventually your progressed some kind of equilibrium in the long run could only be asymptotic, you might be getting there, and getting there, and getting there. So, this again was a tremendous contribution in theoretical thinking, what will do is, we will pick up on Adams smith in the next class, which is on Saturday, I was going to teach Adams smith any way in next class, but

whatever is going to introduce Adams smith with today, I will add it on into what I am going to speak on Saturday, and will do it on Saturday, good evening.