Organization Management
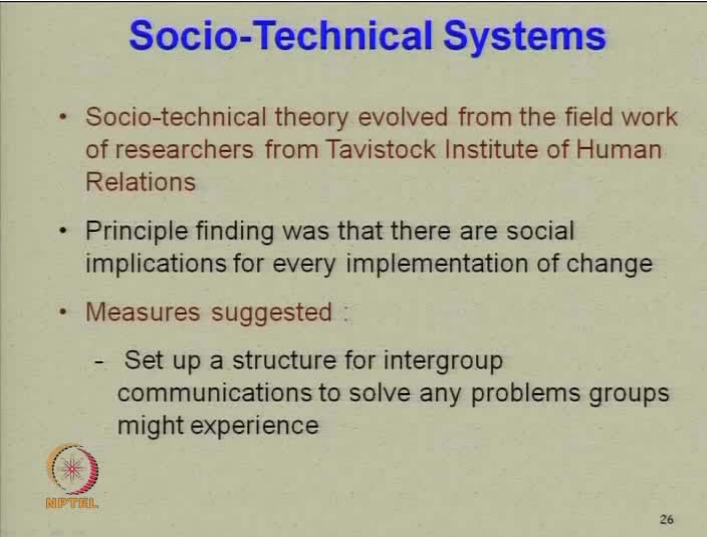**Prof. Vinayshil Gautam**
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Indian Institute of Technology, Delhi

Module No. # 01
Lecture No. # 09
Systems and Contingency Approach to Organisation Theory and Practice and
Techniques of Organizational Diagnosis (contd.)

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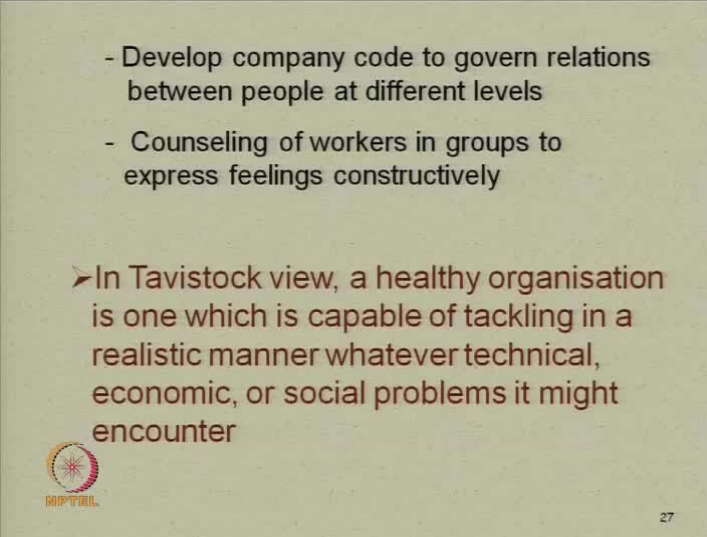

We will now be discussing the socio-technical systems approach. Again, socio-technical systems approach is a very popular and widely used notion in organization management. The socio-technical theory evolved from the field work of researchers from Tavistock Institute of Human Relations. In fact, socio-technical systems theory is considered to be almost synonymous with the Tavistock Institute of Human Relations.

The principal finding was that there are social implications for every implementation of change. Measures suggested were to set up a structure for intergroup communications to solve any problem groups might experience. In other words, there was an overwhelming feeling that if you had proper intergroup communications, there will be practically none, and in any case, fewer group problems.

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It also talked of developing a company code to govern relations between people at different levels. This business of developing company codes has become so popular that we are now in the business of developing in this country - tax codes. Now, what is the code? Code is an agreed norm; code is not a rule. Code is a self-given practice, to violate which is akin to violating a rule. Most civil societies have their own codes.

Counseling of workers in groups to express feelings constructively - there is nothing wrong about resentment; there is nothing wrong about feeling bad; there is nothing wrong about feeling angry; there is nothing wrong about any negative emotion. What is expected of a professional is: he will express that sentiment constructively. Now, how do you express a negative sentiment constructively?

A - First by establishing, that you are expressing your sense of hurt to focus on it with clarity; what is it that caused you hurt. To express it constructively, you will go ahead to say how it could have been handled so that, that hurt was not caused. Your mind is oriented towards solutions; your mind is orientated towards bettering the situation; your mind is situated on the attempt to move on rather than to find fault - as there is a world of a difference between the two.

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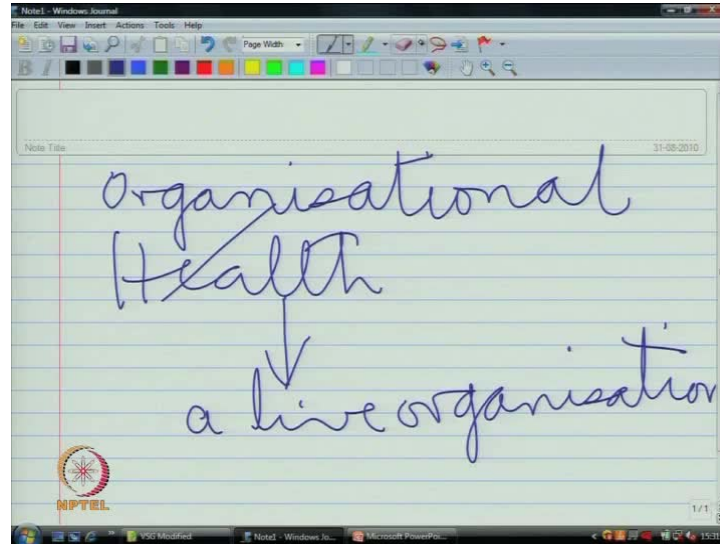
In Tavistock view, a healthy organization is one which is capable of tackling in a realistic manner, whatever technical, economic, or social problems it might encounter. There is a very important concept in organization management and the concept is of organizational health. This concept is more important than even the concept of effectiveness. Why do you want to be effective? Effectiveness cannot be an end. You have to understand that there was a stage where they said that we must have organizational efficiency. Then, they realized that efficiency by itself cannot be an end. They started talking of organizational effectiveness and they defined effectiveness as the measure to which organizational goals were being met.

We have reached a stage where we have imbued organizations with organismic characteristics where we talk of organizational health.

An organizational health is important - a. to keep the organization awake. When do you fall asleep? When your bodily system has given way and it has nothing to do with age. It has to do with inner vitality. Organizations can go to sleep just as individuals go to sleep. Am I right?

Health is important to all dynamic activity. Therefore, this leads to, very simply, a live organization. A live organization therefore has all the characteristics of an organismic entity.

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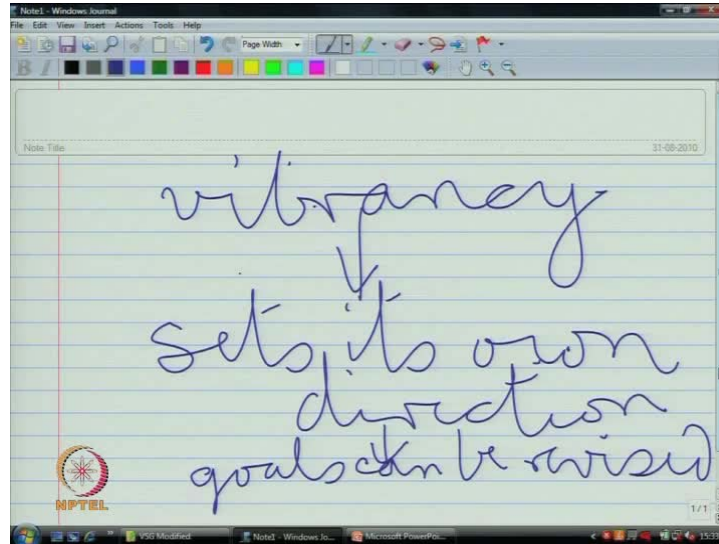
Now, if organizational health as a concept has to phase into insignificance then, the question arises - what is it to be replaced by? It is to be replaced by an organization which is vibrant. Health by itself will not remain the end product; but vibrancy will; and vibrancy sets its own direction, which means goals can be revised. This is a very important concept; this is yet to come.

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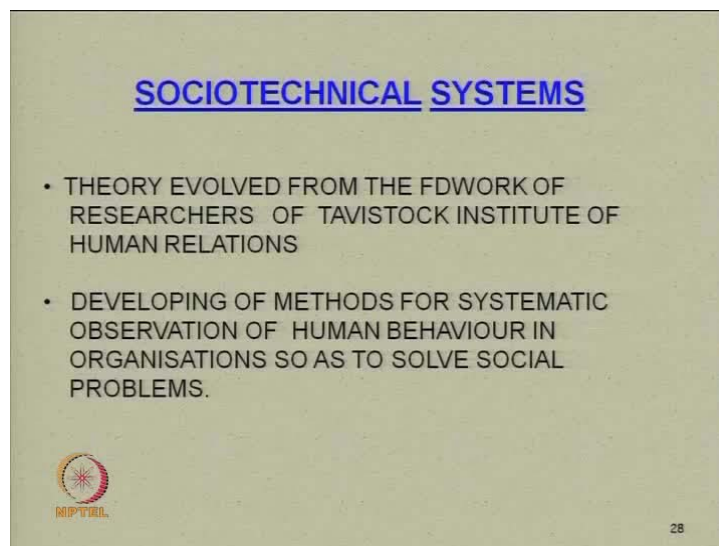
As we talk today, this has not acquired a place in organization theory but what has acquired a place in organization theory is the fact that organizational health is important.

The socio-technical systems theory evolved from the field work of researchers of Tavistock Institute as I have told you. It developed a method for systematic observation of human behavior in organizations so as to solve social problems. Remember, we said technology creates a social impact going to the extent of even touching upon industrializations.

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What is the problem? Suppose the problem is service department piecewise pay vis a vis fixed pay. If there is no concern for the workers interest, managers and workers showed lack of trust for each other, then the researchers had to suggest management workers interrelationships that needs to be relooked at and there needs to be a morale building activity.

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Therefore, management-worker interrelationship to be looked at and morale building activities to be undertaken - are the two intervention strategies which arise out of this kind of research. It is important to register that the basic principles involved looking at the implication of an intervention.

Set up a structure for intergroup communication to deal with problems – if you have a civil society people talk to each other. Please remember, talking to each other is very different from talking at each other; and talking at each other is very different from talking without communication. How do you talk without communication? Where do you use violence?

Man is a remarkably non-learning animal. He only fancies himself as a learning animal. If you look at several millennia of history, there is no evidence to prove that homosapiens have learned anything. What have they learned? 20 millennia ago they used to beat out each other's head through clubs. Today, they bomb each other out. This omission is the same.

They were wooing opposite gender 30 millennia ago; we are wooing today. They used to woo with spears and clothing made out of leaves and barks. Today, they do mass p ts on television screens and copy them in pubs and discotheques. The essential human element was the same. It is just a difference in the methodology. They were having generational wars 30 millennia ago; they still have generational wars.

Where is the evidence that homosapiens, as a species, are a teachable animal? Yet, the duality of personality is such that without learning anything, you call yourself as a learning person. In fact, the fashionable thing is to talk of learning organizations.

Intervention strategies ensure that learnings become ingrained into the habit. Unless the learning gets ingrained into the habit, no change has taken place, which is why organization management is a discipline in its own right - far beyond the problem of decision making and problem solving. It is the recipe of a successful world order because, if the world is not a civil society, it is nothing. The difference between the chaos of an unstructured situation and you will notice I am not saying the chaos of a jungle. No, it is only when you do not know what a jungle is that you think jungle is chaotic.

Jungle is far more orderly than urban systems. There at least there is a logical process which covers the trees and the plants, the animals and the living beings there. The order through which an urban settlement goes not even the urbanites know. Imagine a phrase being put into circulation- this is the law of the jungle. Good heavens! If it was the law of the jungle, it would be an orderly situation; because there is far more organization in a jungle than in an urban city.

One of the biggest impediments to the learning process is we keep gyrating we are great. The world has never been as evolved as it is during my generation. They started talking of globalization with the internet, as if, there was no globalization before the internet, there was no radar system, there was no radio system and then everyone takes that crescendo. Then, they coined the word-(()). The real word should be - do not be an urbanite.

I can give you various examples which are simply a parade of the perpendicular pronoun. The reference as anyone can easily imagine - the sun rises and the sunsets. Good heavens! The sun never rises and the sun never sets. It is the earth which rotates. But no, how can the earth rotate? The human beings stay on it. Therefore, it is the sun which rises and the sun which sets. I am the center of the world and the sun has to do the job, not me; or better still, time is passing.

Good heavens! Time never passes, gentleman and lady; you are passing. You are born one day, you will die one day. It is your total existence which is at stake. If you cannot understand that your total number of days is numbered and every time you waste that, it

is not wasting time; it is wasting yourself. The message which I am trying to give to you is, at the end of the day, get your concepts right. If your concepts are not right, you cannot understand the subject matter..

The importance of understanding the subject matter is to make you a better equipped person to face life. I am sorry to say, it is not placement. Yes it is nice to have a good placement; nobody has a quarrel with it. If placements were to make life, all CMDs of the world would have united to form a CEO's club which would be that of the happiest people. And God forbid, as and when you land there, you will realize that is the most miserable existence.
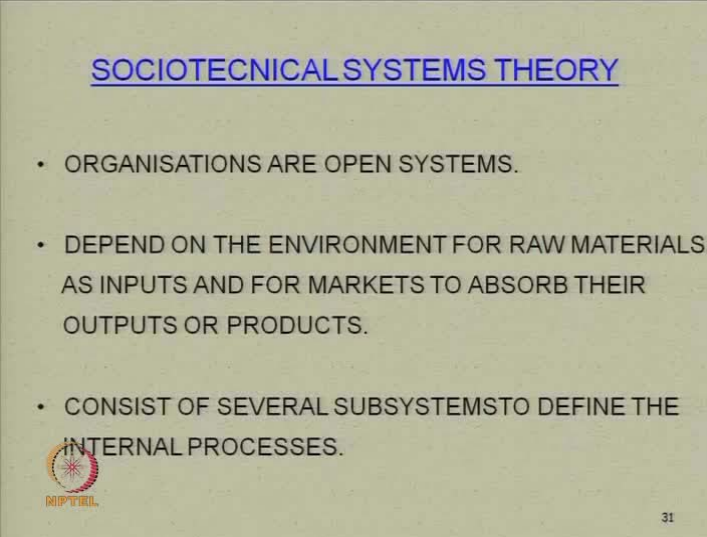
The purpose of management education, like any education, is to make you a better professional in your chosen domain and above, even that is to make you a better human being and if it does not do that, you are wasting the opportunity for management education.

The Tavistock research emphasizes the human element of running organizations and the great contribution which it made to organization theory was interpreting the impact of technology on human terms. Therefore, there can be just organizational problems which are triggered off by technology. The basic problem is maintaining a structure and culture to cope with the challenges of a changing society - that is the basic problem of a corporate entity, not more sophisticated technology.

Why do I want more sophisticated technology? Then, tell you want more sophisticated technology to experience the power of the software. Now, what do we have to do with a power of the software, I have to do with the power which I need?

You cannot make the pursuit of technology an objective in its own right - is the central proposition of the socio-technical systems; because, remember it is socio-technical - the impact of an interaction between society and technology. Healthy organization is one, which is capable of tackling problems in a realistic manner - that is the real strength of health.

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The socio-technical systems theory proposes that organizations are open systems. Now, again, this is typical of organization management. On the same situation, you can have varying theories and both of them may be partly right. It depends on the environment for raw materials as an input and for markets to absorb their outputs of products. Therefore, the socio-technical systems, people believe, that all organizations are open systems.

Now, if you come across the definition which is organizations are closed systems, then you have to understand the derivations of both those conclusions and take a position for your own and that is the beauty of organization management. You listen to what everyone says and then you come to a conclusion which suits you; to make the situation better - suits you, not in a personal sense.
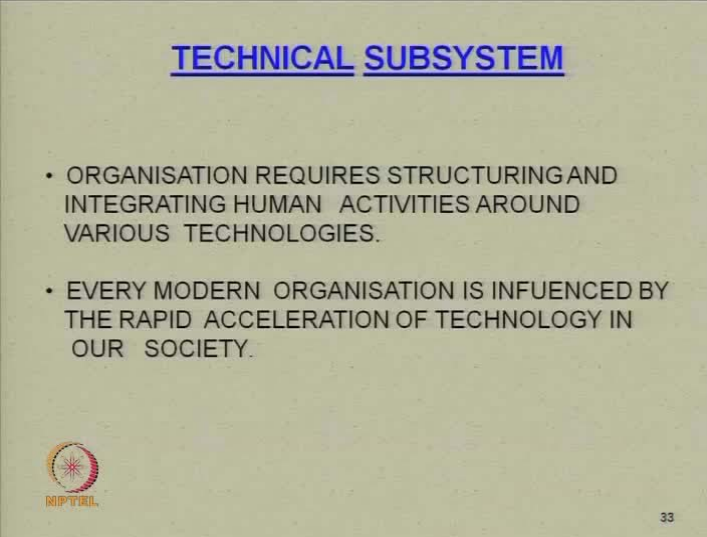
Here is a schematic diagram of an organizational system. I want you to observe this carefully because it is going to come several times in the subsequent part of my presentation. The core of the organizational system is the managerial subsystem. The managerial subsystem deals with goal setting, planning, assembling resources, organizing, implementation.

It is supported by at least four other subsystems - goals and value subsystem, technical subsystem, structural subsystems, psychosocial subsystems; and, we are going to walk through each of these to understand what is its relevance to organization theory and to intervention strategies, and all this is subsumed under the outer circle which is of environmental system. Therefore, organizational systems consist of constituent elements which are then broken up into subsystems and each subsystem, in its own right, will have its own logic and the interaction of the logic creates the organizational system which functions.

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Let us look at the technical subsystem. The organization requires structuring and integrating human activities around various technologies; there is no argument about this. And this kind of spurious debate on whether there is sufficient technology orientation or is it an organization in which there is more social orientation belies the logic which underpins the health of an organization.

Every modern organization is influenced by the rapid acceleration of technology in our society and therefore, the sooner social scientists recognize the significance of the technological value available in a social system, the better it is - just as much as sooner the technologist recognize the value of a social system in the unfolding of the technology, better it is for everyone concerned.
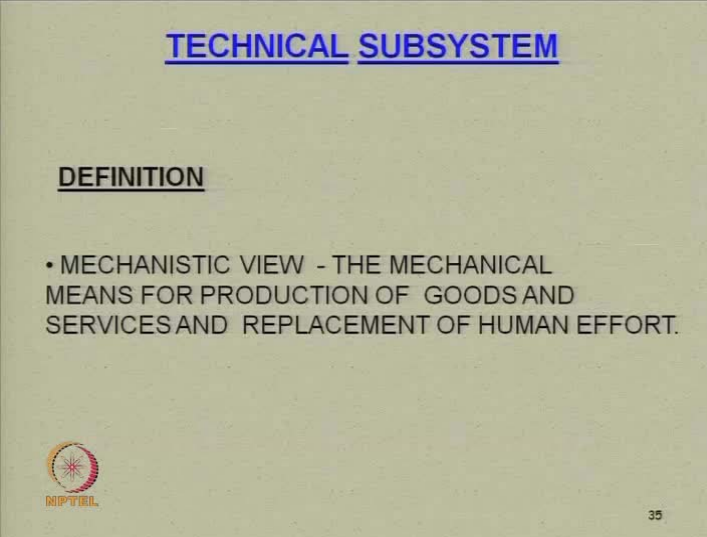
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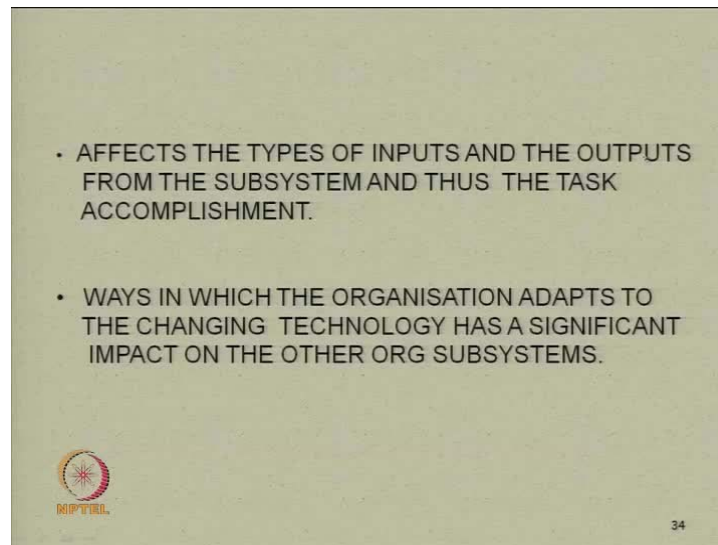
It affects the types of inputs and the outputs from the subsystems and thus the task accomplishment. Ways in which organizations adapt to the changing technology has a significant impact on other organizational systems. So, what is being said is: the method of adapting to technology, and as technology upgrades - up-scales itself - is a significant component of organizational studies. And of the many, many ways in which organization management works out into intervention methodologies one component is its response to technological change.

In other words, there are different categories of interventions. There can be a behavioral intervention, there can be a financial intervention, there can be a strategic intervention, there can be a technological intervention, there can be an intervention which integrates different components of the functioning of an organization and there are different ways in which this can be done. This particular aspect has to do with putting together of different phases; therefore, it focuses on intervention strategies of integration.

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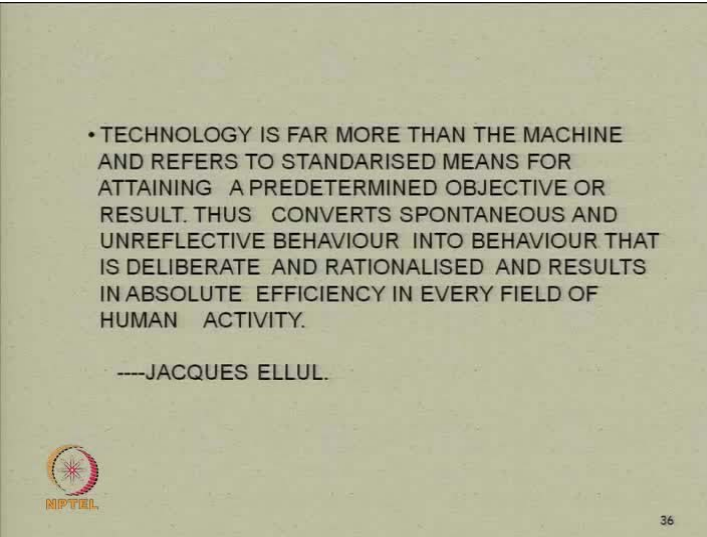
What is the definition of technical subsystem? The mechanistic view, the mechanical means for production of goods and services and replacement of the human effort - this is the mechanistic view. Jacques Ellul, a scholar born several decades ago; but, you may recall my reference to his work - the changing work culture of a factory; meets several contributions to organizational thought and one of them was that technology is far more than the machine and refers to a standardized means for attaining a predetermined objective or result; thus converts spontaneous and unreflecting behavior into behavior

that is deliberate and rationalized and results in absolute efficiency in every field of human activity.
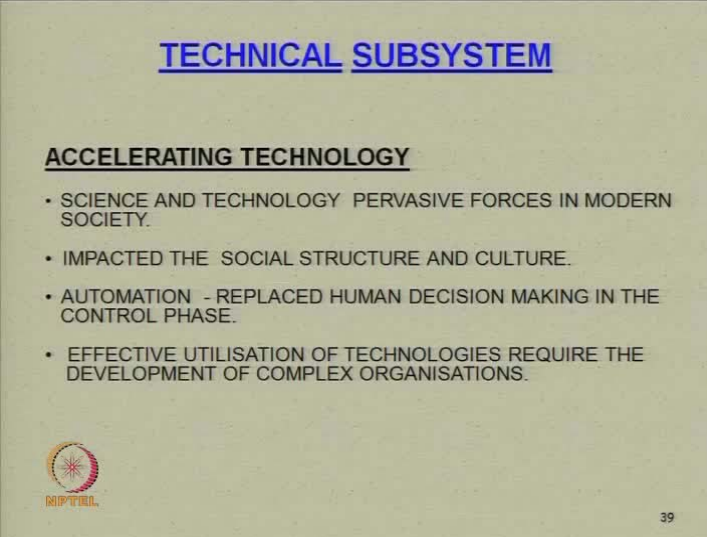
Therefore, the basic concept, which you have to register is - technology is far more than the machine. Technology refers to standardized means for attaining a predetermined objective. So, anything which is standardized towards achieving an objective and has predictive validity, identifiable contents, well defined relationships amongst itself is the technology.

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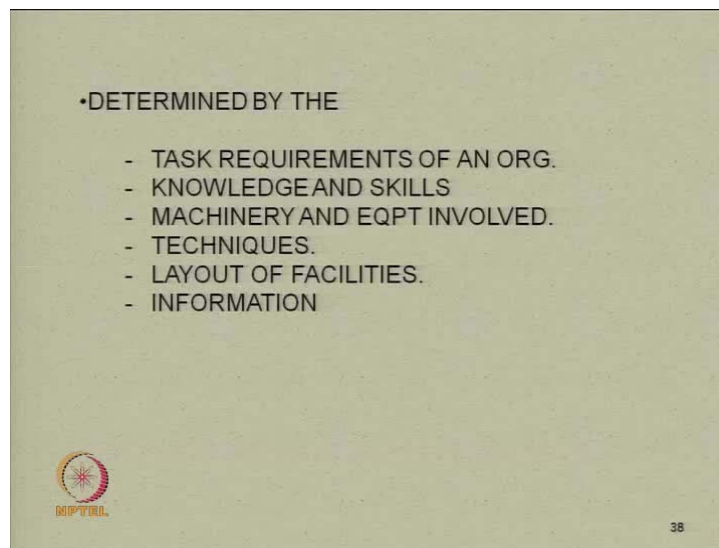
To confuse technology with hardware is disrespectful to the central concept of technology, which I think is a very important concept in the evolution of human beings. And credit must be given to Jacques Ellul to have articulated in a way in which it perpetuates itself. It is determined by the task requirements of an organization, knowledge and skills, machinery and equipment involved, techniques, layout of facilities and information.

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The technical system can be impacted by accelerating technology - science and technology, pervasive forces in modern society; impact that is created on the social structure and culture; automation replaced by human decision-making in the control phase; effective utilization of technologies require the development of complex organizations.
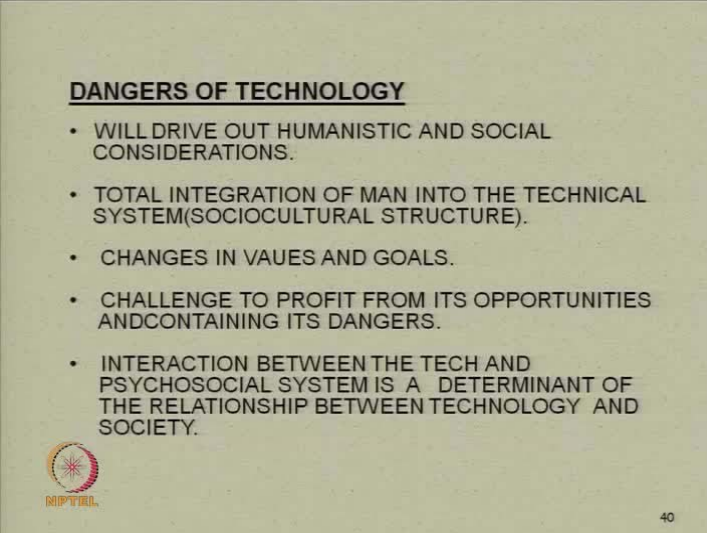
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In other words, to put simply, the pervasiveness of technology and the impact it makes on the social structure itself beyond the organization structure is important. Of course

there are dangers of technology. It will drive out humanistic and social considerations; total integration of man into technical and social systems will destroy the significance of human nature itself. The challenge to profit from its opportunities and containing its dangers, interaction between the technological and the psychosocial subsystems is a determinant of relationship between technology and society.

In other words, technology can affect the psyche of the society; the subconscious of a society. Take the revolution of the pill - at one stroke, one technological intervention put paid up notice to all gender differentiation. It equated the two genders in a way in which they were brought on the same platform in every conceivable sense of the world. Of some of the major technological revolutions of modern times - the revolution of the automobile, the revolution of the pill is amongst the most important ones.

The entire psyche of the social system was altered. The revolution of the automobile took away the vulnerability of women. They could travel at will, at any time, with the same kind of speed and the kind of dominance which the male gender had exercised for millennia over them was put paid up. The society was never the same again.

Therefore, the kind of impact which technology makes on the way a society works is often far larger than the way in which it affects an organization. And therefore, through the open system, that kind of society again permeates into the organization and the kind of people who get into the organization are different breed which are coming in all together.

And people who do not change with society are condemned to be left behind in a unclumps. Some of you may have heard of one of the makers of modern India - Sri Aurobindo. And he predicted that the homosapiens are evolving towards the coming of the superman much in the same way as the present species of homosapiens evolved from its ancestors of chimpanzees and monkeys. It may take millions of years but it will happen and Sri Aurobindo was asked what will happen to homosapiens in their present species and his reply was very simple- what happened to monkeys.

That, ladies and gentlemen, is the significance of being a growing person. You may be left behind in the evolutionary race, and of course, there will be special enclaves to protect the homosapien as he exists in 2010. And there will be notices put out of those enclaves - homosapiens of 2010 live here, do not enter. And it is not such a remote
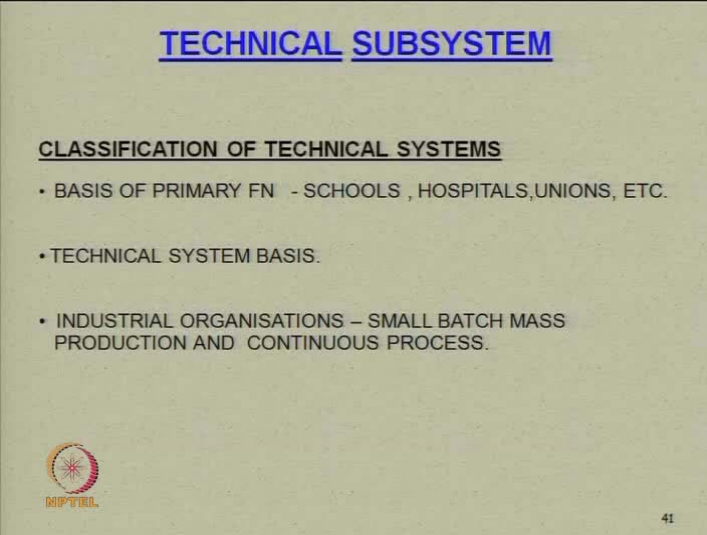
possibility, and here again the human ego and his teachability and his learning capacity will come in. And they will be still quarreling with each other in those enclaves, whereas outside the enclaves people would have learnt to behave, act and conduct themselves in a civil manner.

How do the monkeys quarrel with each other? And do you do with them? So, it is not as if everyone grows in a generation, it is not as if the whole planet will evolve, but what will evolve is the gradual process of consciousness, the human body which leads us to an aspect of physical anthropology which is not well understood.

One of the theories about the different size of the fingers is their use. And progressively the thumb is being used less and less, and it is predicted that in several millions of years, the thumb will further reduce in size. Remember, unlike other fingers which have three components, the thumb has only two. When you woo a woman, you would say- darling how pretty you are, your thumbs are just like a stump. You would not be talking of lady fingers there, because they would be no lady fingers there.

It is important to give your vision of the future, to show where your progenies will be left behind if you are not the growing type. Organization management theories also reconstruct the future, because they lead the organization towards future; because, remember future cannot be crafted; you can only prepare for the future.

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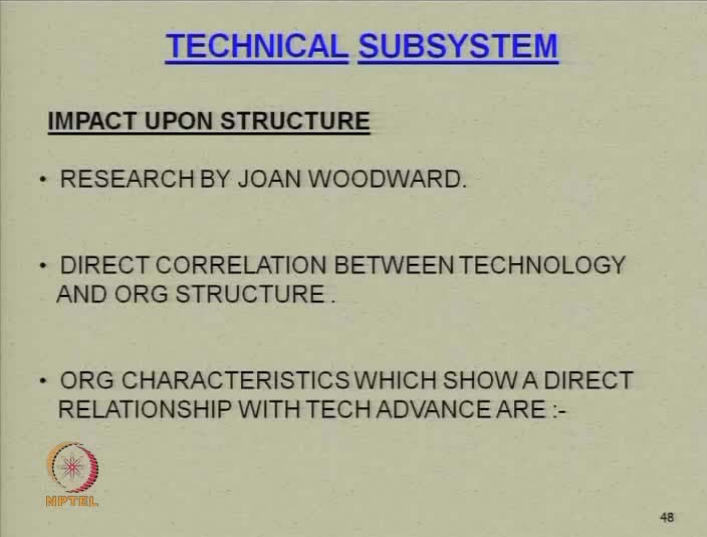

TECHNICAL SUBSYSTEM

CLASSIFICATION OF TECHNICAL SYSTEMS
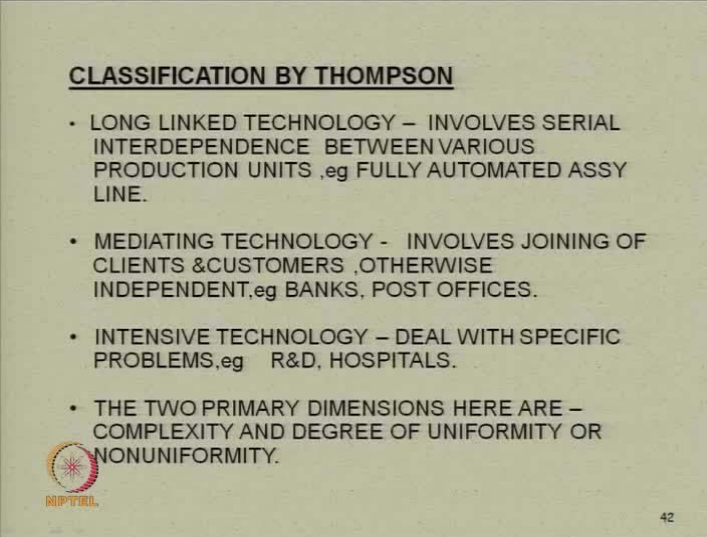
• BASIS OF PRIMARY FN - SCHOOLS , HOSPITALS,UNIONS, ETC.

• TECHNICAL SYSTEM BASIS.

• INDUSTRIAL ORGANISATIONS – SMALL BATCH MASS PRODUCTION AND CONTINUOUS PROCESS.

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The classifications of the technical system on the basis of, the systems which prevail- you will have schools, hospitals, unions, technical systems bases, industrial organizations, small batch, mass production, continuous process and we have discussed all that.

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CLASSIFICATION BY THOMPSON
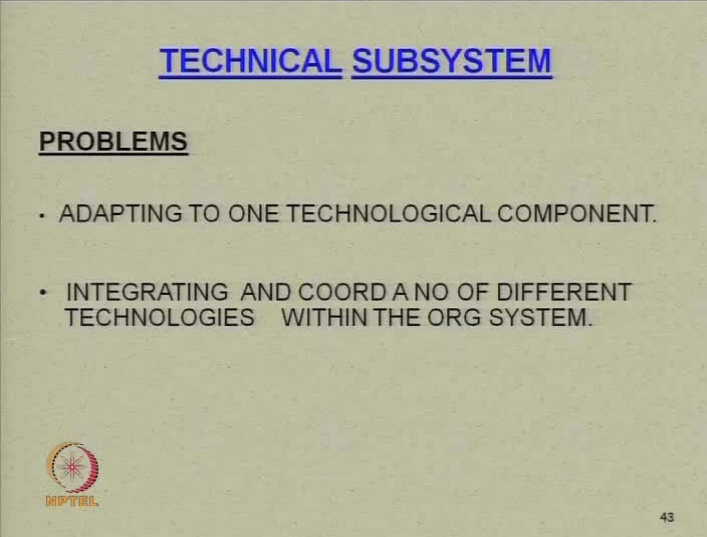
- LONG LINKED TECHNOLOGY – INVOLVES SERIAL INTERDEPENDENCE BETWEEN VARIOUS PRODUCTION UNITS ,eg FULLY AUTOMATED ASSY LINE.

- MEDIATING TECHNOLOGY - INVOLVES JOINING OF CLIENTS &CUSTOMERS ,OTHERWISE INDEPENDENT.eg BANKS, POST OFFICES.

- INTENSIVE TECHNOLOGY – DEAL WITH SPECIFIC PROBLEMS,eg R&D, HOSPITALS.

- THE TWO PRIMARY DIMENSIONS HERE ARE – COMPLEXITY AND DEGREE OF UNIFORMITY OR NONUNIFORMITY.

Classification by Thompson: created certain categories and you might as well be familiar with it. The long linked technology involving serial interdependence between various production units fully automated, mediating technologies involves joining of clients and customers, otherwise independent banks and post offices. Intensive technology deals with specific problems like R and D hospitals.

The two primary dimensions here are complexity and degree of uniformity or non-uniformity. You know the words- that is a classification of organizations. And organizations are classified according to the long linked technology, they are classified according to mediating technology, they are classified according to intensive technology, they are classified according to two primary dimensions which are of uniformity and nonuniformity and there are other ways of classifications.

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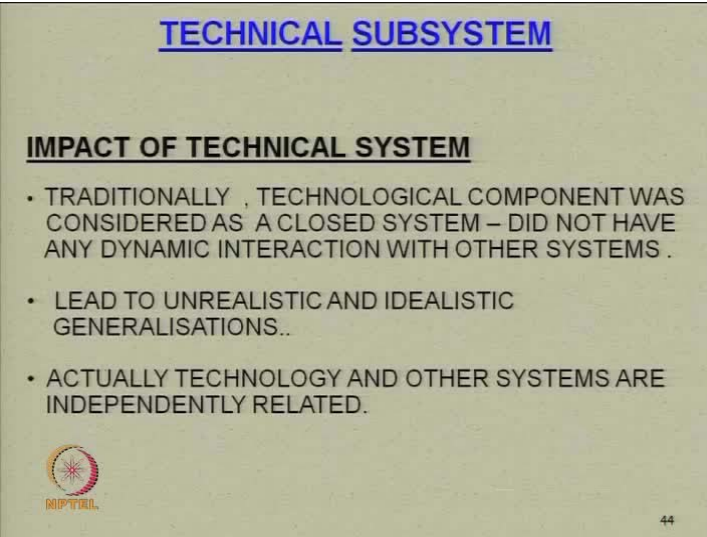
The technical subsystems have a problem adapting to one technological component, integrating and coordinating of different technologies within the organizational systems. Impact of a technical system, therefore, involves: traditionally - if you see - technological components has been considered as a closed system, it did not have any dynamic interaction with other subsystems; but if you look at it as an open system, it does have a dynamic interaction.
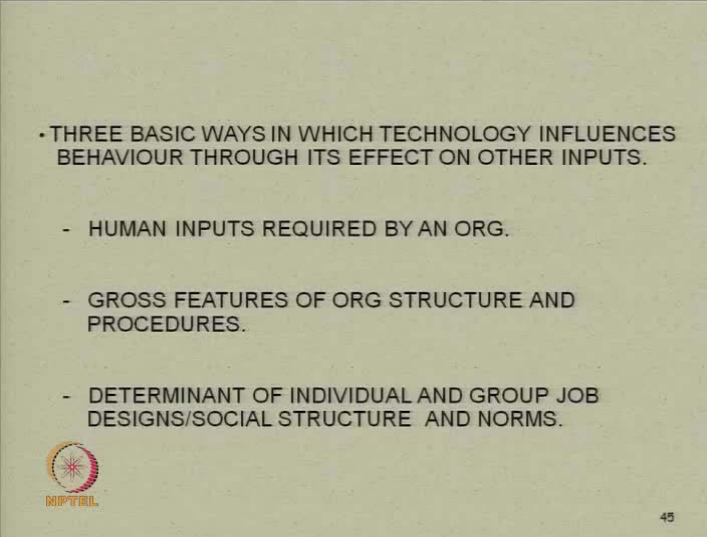
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One has to avoid leading to unrealistic and idealistic generalizations. Actually technology and other systems are independently related. Three basic ways in which technology influences behavior through its effect on other inputs: human inputs required by an organization, gross features of an organization structure and procedures and determinants of individual and group job designs and social structure and norms.

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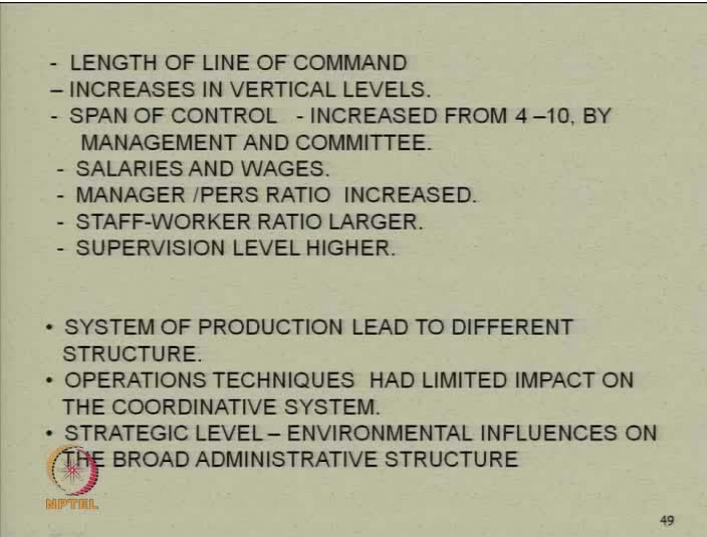
This component of determinants of individual as group job designs and social structure and norms will be taken up in the separate head, where we talk of theories of organization structure. The technical subsystems have other classifications; but, the important thing is the impact upon structure, the works of John Woodward, direct correlation between technology and organization structure, organization characteristics which show a direct relationship with technological advances are: length of command, increases in vertical level, span of control, salaries and wages, manager per personnel ratio, staff-worker ratio, supervision level higher. These are illustratively seven

dimensions of organization structure which would be classified according to the diagram which you saw earlier on and I will bring it back on the screen again of organizational subsystems.

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To give you an idea, let us show that diagram. Again, this is what I am talking about; and, how this gets impacted by goals and values, technical subsystems, psychological subsystems and structural subsystems. And, I just gave you seven dimensions of doing the same. Systems of production lead to different structures. Operations techniques had

limited impact on coordinative systems. Strategic levels environmental influences on broad administrative structures.

In other words if you look at the systems theory and if you see it at tandem with the contingency theory, both of them have certain elements of truth and both of them impact the way organizations work; and, that is a theme of today's presentation.

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Traditionally, assumptions lead to adaptation but it affects the network of social relations amongst workers, size and composition of workgroups, range, character, frequency or

contact with fellow workers and supervisors. The consequences are: leads to job insecurities, status positions of the workers, physical and social mobility, outmoded jobs, self-image and motivation which links up with social systems of the diagram which I was showing you.
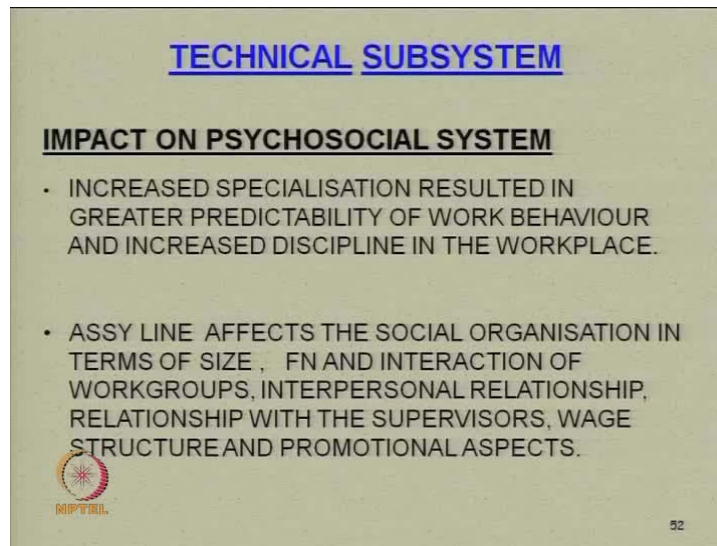
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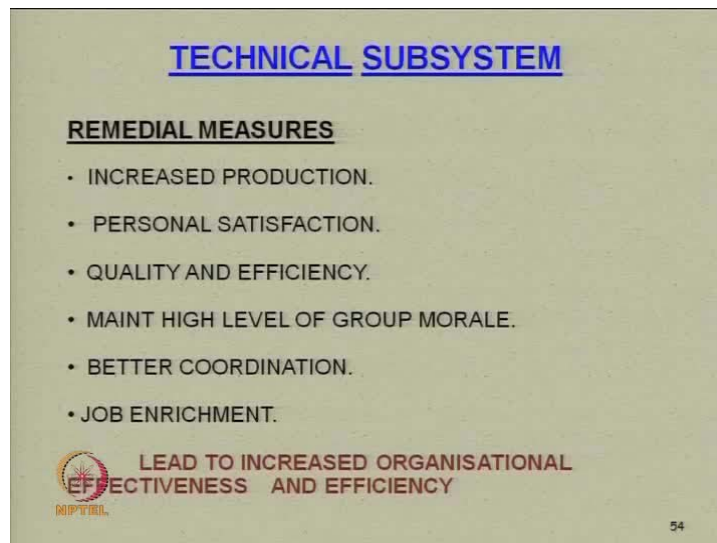
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Impact of the psychosocial systems: the technical systems have, therefore, remedial measures of increased production, personal satisfaction, quality and efficiency, maintain

high level of group morale, better coordination, job enrichment and it leads to increased organizational effectiveness and efficiency; you might as well add there - and health.
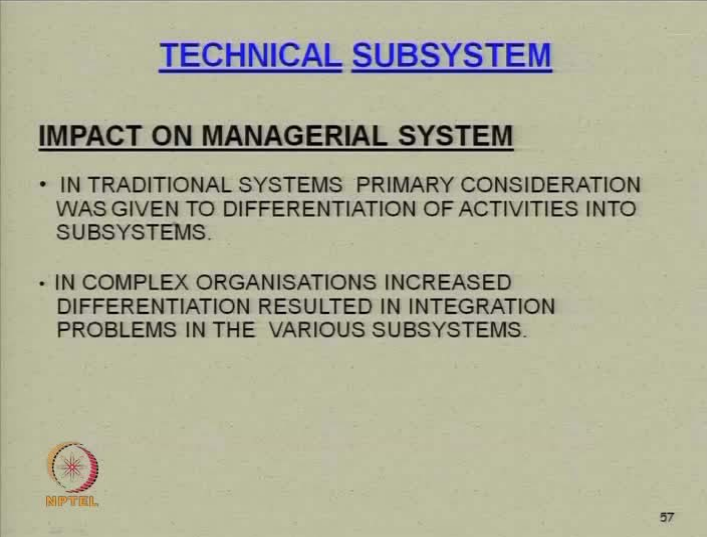
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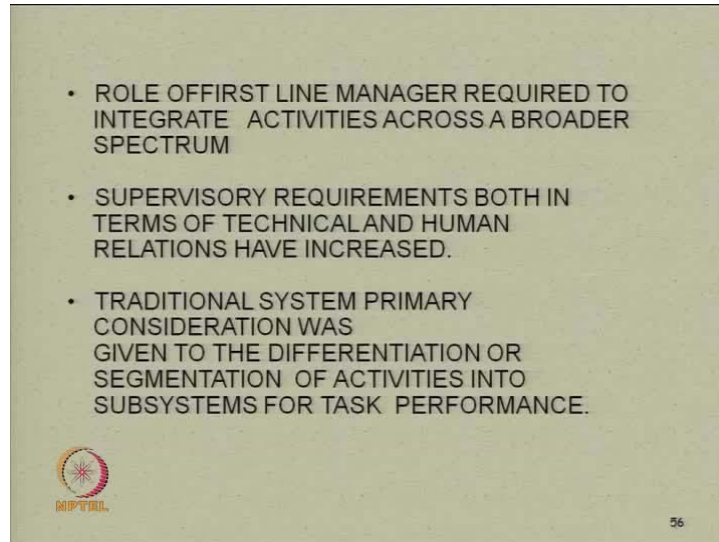
Role of first line managers required to integrate it, created with activities across a broader spectrum, supervisory requirements - both in terms of technical and human relations, traditional systems - primarily consideration was given to differentiation or segmentation of activities into subsystems for task performance.

Now, these are intervention strategies. This is how you can alter the way an organization works. Remember, ultimately, the purpose is through all these methods lead to how organizations can be altered through a conscious intervention. Remember, where I began this session - the problem is not just of understanding the world, the problem is doing something to change it. So like in any science, there are structured ways of carrying out an intervention which are very clinical in character.

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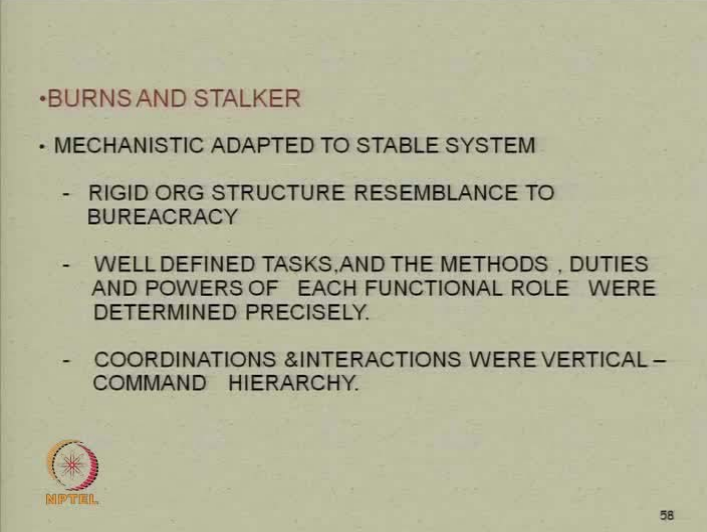
In traditional systems, primary consideration was to give to differentiation or activities into subsystems; in complex organizations, it increased differentiation resulted in integration problems of various subsystems. So, when you are trying to change an organization, check out what is the problem - differentiation or integration or both. Is it span of control, is it wages? Is it job design? Is it the information flow? And in each case, there are indicators.

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Burns and Stalker, another duo, which had significant contributions to make to organizational theory, talked of mechanistic systems adapted to stable systems, rigid organizational structure has resemblance to bureaucracy. Well-defined tasks and methods, duties and powers of each functional role were determined precisely, coordination of interactions were vertical with a command hierarchy. As compared to mechanistic systems, organismic systems adapted rapidly to changing technology and environment, suitable to unstable conditions, flexible structure, continuous adjustment and redefining of individual task through interaction and use of networks.

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Lateral communication, wide dispersal of power based on technical expertise and knowledge, authority and superior knowledge, which do not necessarily coincide or overlap the problem insecurity on the part of managers, innovative judgmental decision making and you could cause yourself a bureaucratic jungle and we come back to the organizational system.

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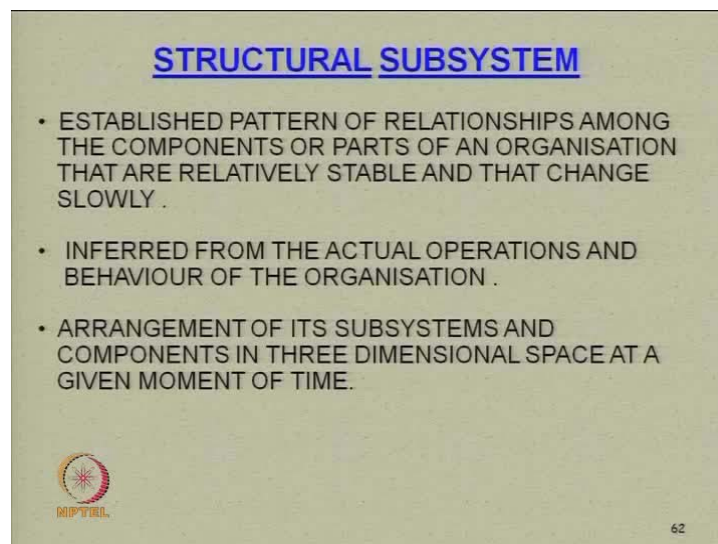
In other words, any intervention which you carry out has to be assessed on the kind of impact which it is making on the organizational system. When you come to the structural
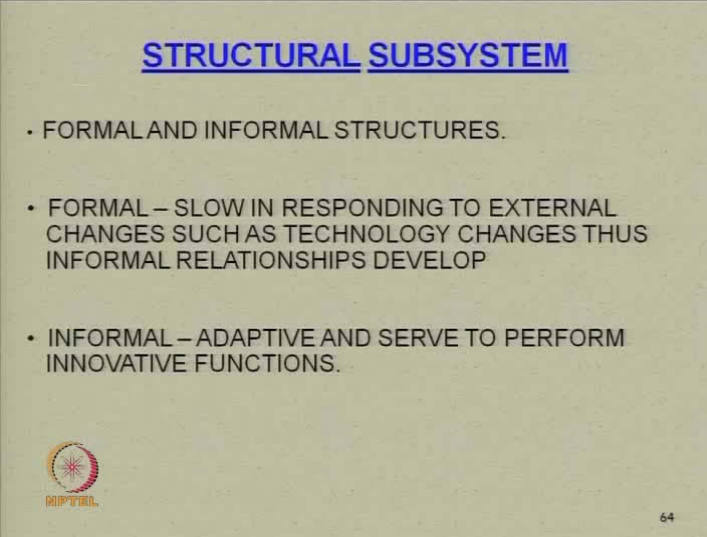
subsystem, there are similarly established patterns of relationship amongst the components of parts of an organization that are relatively stable and that change slowly. Inferred from actual operations and behavior of organizations, arrangements of its subsystems and components in three-dimensional space at a given moment of time.

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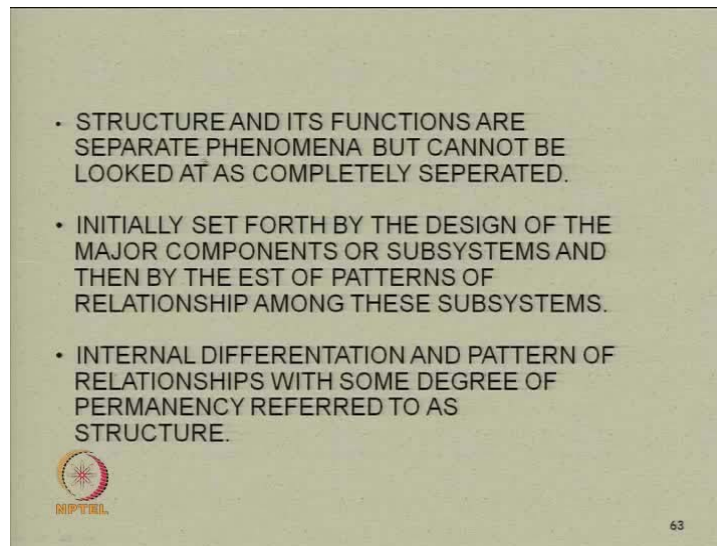
In other words, just as we have looked at the technological characteristics, we will look at structural characteristics of the organizations, as we have looked at behavioral characteristics of the organization and all that goes back to the organizational systems design which I have been showing to you repeatedly. Structure and its functions are separate phenomena but cannot be looked at completely separated, which is why there are independent courses on structure and processes and the heart of an organization management is its structure and process.
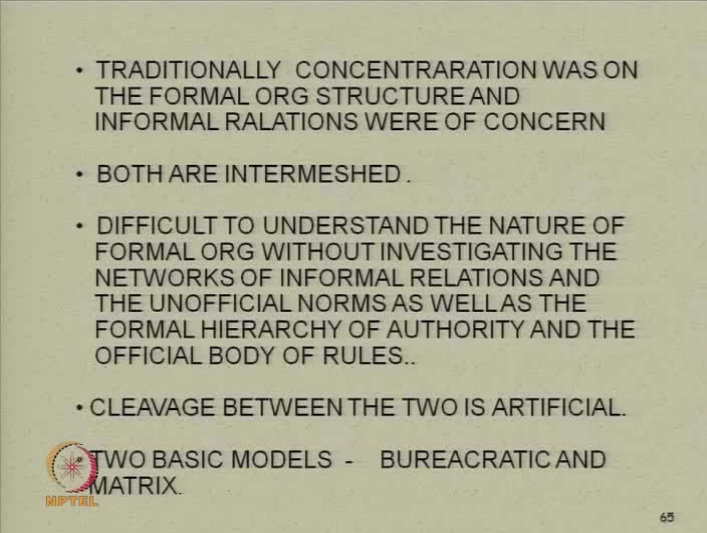
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Initially set forth by the design of the major components or subsystems and then by the patterns of relationship among these subsystems; internal differentiation and pattern of relationship with some degree of permanency refer to as structure. The structural subsystems can be both formal and informal - formal is slow in responding, informal is adaptive and serves to perform innovative functions.

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An informal structure is that which grows up through a network of relationship. A formal structure is that which is an administered system of relationship among subsystems.

Traditionally, concentration was on the formal organizations and formal relationships were of concern. Today both are intermeshed. In fact the truth is in a very large number of organizations decision-making grows much quicker on the network of informal relationships than on the network of formal structures.

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It is difficult to understand the nature of formal organizations without investigating the network of informal relationships. Cleavage between the two is artificial. Impact of sociocultural environment was something which was researched on by Stinchombe.

Structure at the strategic level has a great impact on forces in the task environment. MNCs strongly influenced by different cultures in which it operates and has to adapt its goals and structures and managerial approach to different cultures; which is why one of the major contributions to impact of culture on organization system, even to this day, is by Hoffstede, who looked at subcultures in IBM, and his field work till today has not been improved on. The impact of sociocultural environment on cultures is something which you will be looking at in the next session and we will look at the works of Chandler.