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Science, Technology and Society

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When we look at the social setting of Technology we have a little discursive political control of technological systems in the works off or through the workforce random winner blue-eyed effects and politics, now let us discus technology as knowledge through the world so it will t let him journey in then monumental history of Technology Charles finger hung out and over haul define technology and how things are commonly done or made of what things are done I mean how is technology defined by European.

Study we are trying to look at European history I mean technology when we look at their they the way the center stage was taken by European historians of science as well as American history later on a military, but first Hitleropens when can we go then how is technology defined by European historians of science and technology to give you the example from Charles finger EJ ho melt and air Paul for them technology is nothing.

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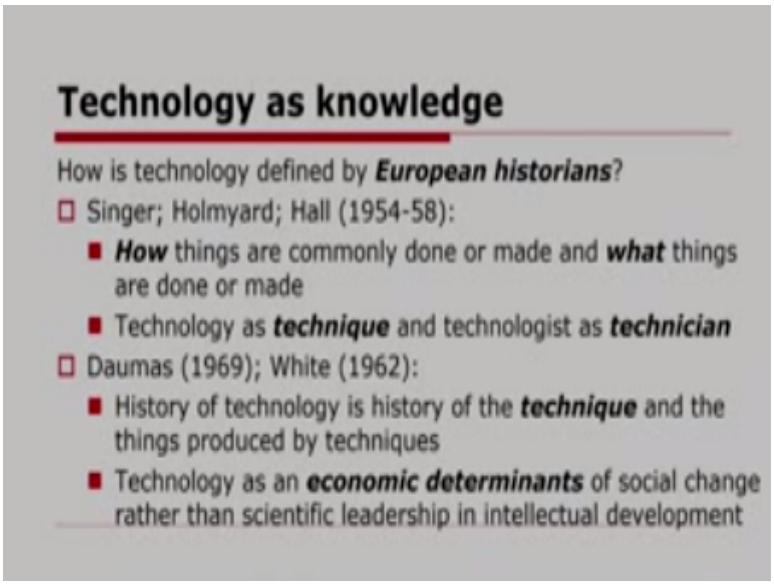

But how things are commonly done are made and what things are done on it how and what how things are commonly done are met and what things are commanded or then they it implies that technology is considered a technique and the practitioner of technology that is the technology is regarded as a technician in this you change the traditional definition of technology then what should be the traditional definition of technology, in this context I mean okay before getting into traditional definition.

Let us see how others also define I mean Thomas now white they also I mean Moorish Dahmer's white they discussed technology I mean the history of technology in the history of technique and the things produced by technique by social technology is maybe considered an economic determinants of social change rather than scientific leadership in intellectual develop there is the traditional definition this then what is the traditional definition by European historians of science and technology.

That they treat this is the European historian of science and technology they treat technology age I mean they treat term technology technique and the technology stage technician in such usage of the traditional definition of technology a systematic knowledge of the industry becomes quite absolute it becomes quite meaningless, okay I mean the character age the usual definition in the spreading systematic discourse about the useful lot as a modern artificial permission, since as they explained it was not until the 19th century that technology acquired a scientific contained and came ultimately to be regarded as almost synonymous with applied let certainly discussed

earlier that time is considered basic science of technology applied science okay the denial of a thought component to technology is the consequence.

Of adopting the theory of the relationships between okay theory of the relationships of sentient then what is that that.

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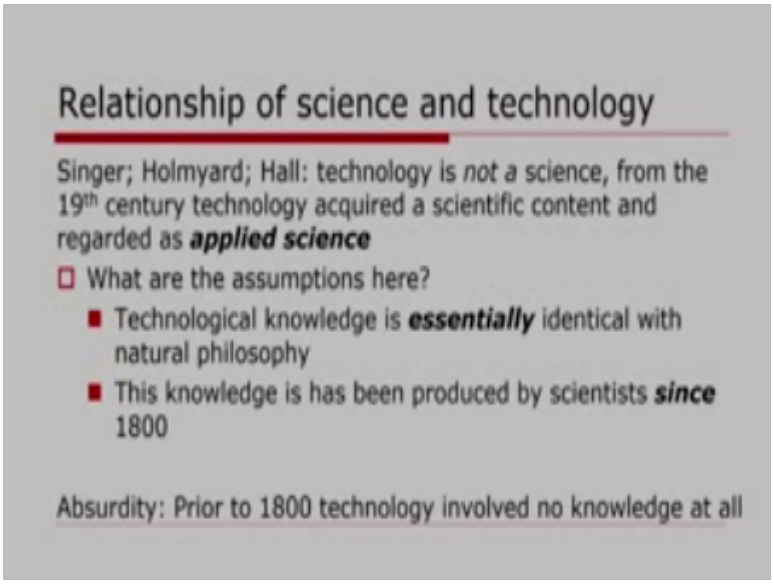

I mean this theory holds that technology is not a fine from the 19thcentury technology acquired of scientific content and regarded and applied sense that this that this theory holds that scientists generate new knowledge which technologists then apply, okay then it is to a junction switch are critical t1 I mean the first is that the technological knowledge is essentially identical with natural clock we have already searched natural philosophy, I mean till the 19th century it was considered science was regarded as natural flow.

Way well in the 19thcentury coined the term science and it will sign replace the term natural I mean there are two assumptions which are critical here, the first one the first assumption is that technological knowledge is essentially identical with natural philosophy and the second assumption is that this knowledge the technological knowledge has been produced by scientists since 1800 I mean such as absurdity will mean that logical deduction from beans to assumptions from these two pre- leads to an absurdity.

That is it prior to 1800 technology involves no knowledge at all it cannot let is what a jointly let in Jr. attempts to poach such question okay the French counterpart of a history of Technology.

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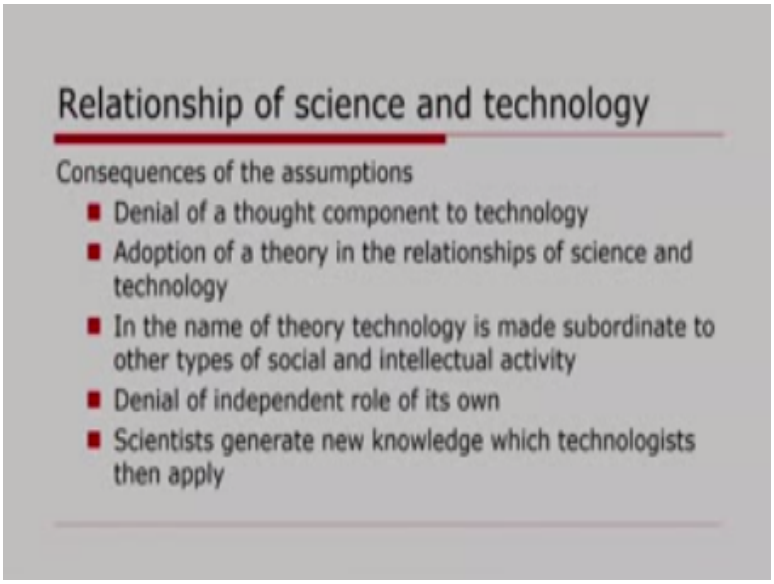

Edited by educate by Maurice Thomas again now European historian of science arrives that similarly similar historiography credit by a different route here to the history of technology is reduced to the history of techniques and the things produced by things, but in this case as Lynn White has pointed out the emphasis is on economic determinants of social change rather than scientific leaders defends intellectual development okay, let us start we have discussed okay, let that how Damas and white they said the history of technology history of the technique and the things produced by those techniques.

And technology is an economic determinants of social change rather than scientific leadership and in intellectual development okay, but in but in either case the net result in the same in the in the name of a theory if only in waves subordinate to other types of social and intellectual activity and virtually denied any independent role on of its own, in particular both theories of history deny technology a significant component a significant component of the form of knowledge okay such a Junction have been different.

Do I have various consequence it is they may include denial or forethought component to technology adaption of a theory in the relationships of science and get all in the name of theory technology made subordinate to other types of social and intellectual activity denial of an

independent role of its own scientists generate new knowledge which technologists then applying historians of technology that then how.

If we say this is how European historians of science define technology then how much technology perceived by American Historians of they talk to give you the examples of tangible personal purpose hunt hunter they use work, that our work as an organizing principle this cannot many things it may broaden the scope of the history of technology at least three things which we have spelt out in five point okay, it broadens the scope of the history of technology makes technology and independent.

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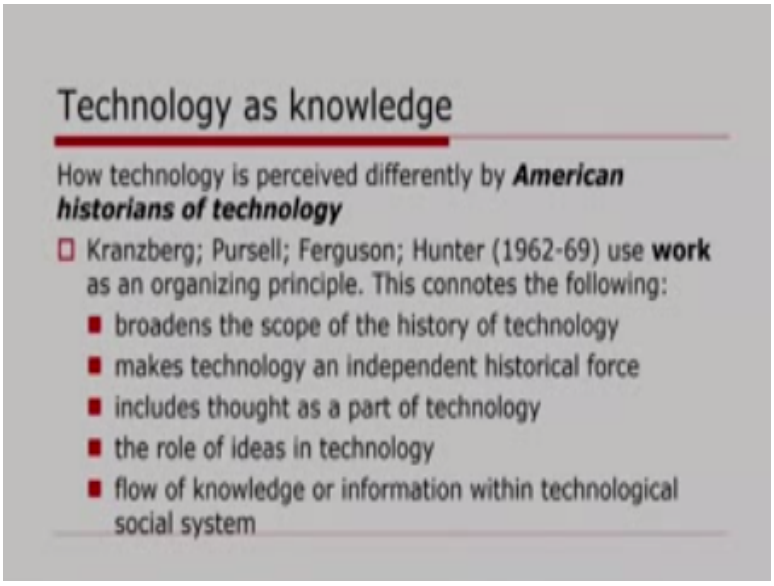

Historical force it includes thought as a part of technology the role of ideas in technology and the flow of knowledge or information would you not a specific technological social system, okay I mean these American historians of Technology M lead my friends Berg or personal in the

technology in Western civilization the way they new an organism this does at least three things one it broadens the scope of the history of Technology secondly it makes technology an independent historical force and thirdly it includes thought as a part of technology.

At least by impedance okay indeed the emphasis on thought is characterized characteristic of many American writers on the history of Technology Lynne white called conduct and directly a mixture of both European and American traditions I mean what they did among others they have written on the role of ideas in technology, okay the fourth point the role of ideas in technology okay and Ferguson very green a solo price and a hunter's eye' Dupree have discussed the flow of knowledge or information within a specific technological social system many other examples could be cited this was I mean to many meaningful.

Such diverse however diversity individual approaches these words represent an important development whose historio graphical implications deserves added, we have studied this point significant countervailing tendencies raised from American tradition.

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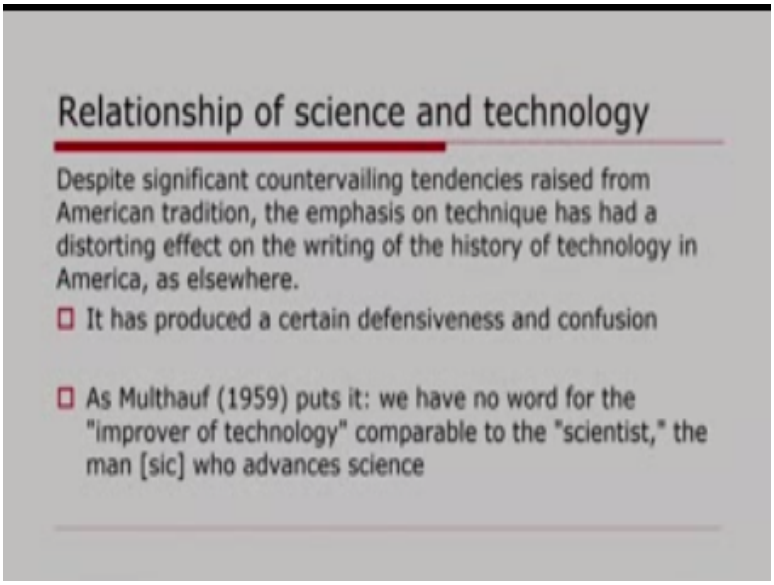

The emphasis on technique has headers distorting effect on the writing of the history of Technology in America as elsewhere it has produced a certain defensive nation confusion as Robert term multhaf has pointed out we have no word for the improver of technology okay comparable to the scientists the man who advances science and this theory has the effect of projecting into.

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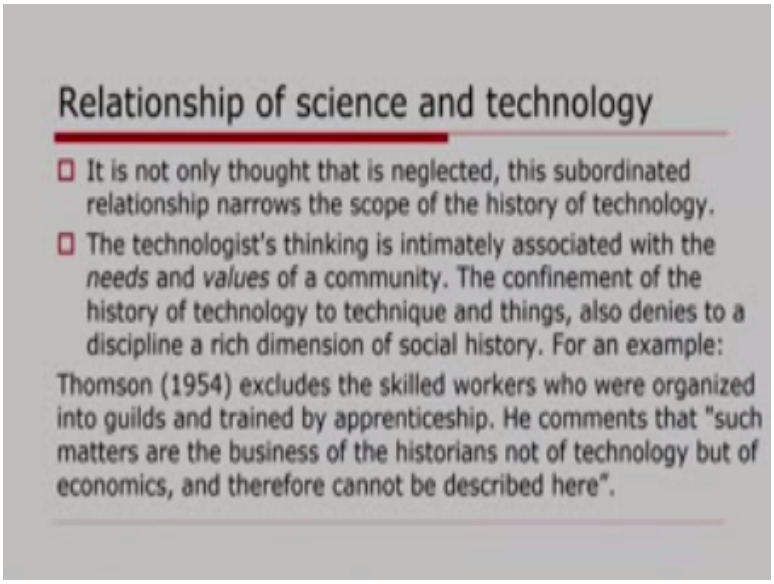

The history of them now pecking order of science reducing the history of technology to basic questions of things and persons this theory narrows the scope of the history of technology it is not simply thought that is neglected okay, it also subordinated the relationship I mean hit such the motivated relationship narrows the scope of the history of technology itself okay, the technology's guilty is intimately associated with the needs and values of a specific community of communities at large by confining.

The history of technology to technique and things we also deny to our disciplines are rich dimension of its oscillation, for example in the article on the medieval adhesion in a history of Technology Thomson in noting that skilled workers were organized into games and trained by a pen tensed comments that such matters are the business of the historians not of technology but of economics and therefore cannot be restricted here okay cannot be described.

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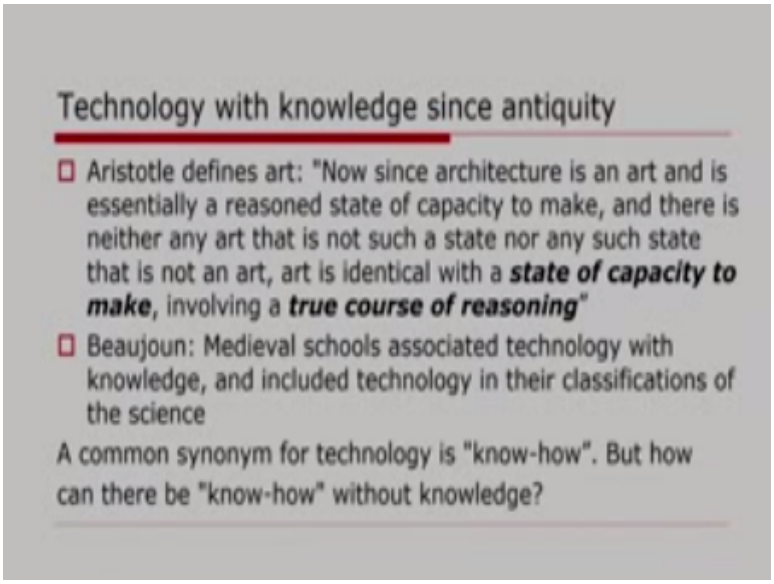

And when we when we talk about technology with you know a since antiquity the very beginning, but far from constituting of modern statistical information the linking of technology which knowledge is very old honest total how our Institute defined are totally different art like this that now since architecture is a not and is essentially a result state of capacity to make and there is neither any art that is not such a state nor any such state that is not an art is identical with state of capacity to make involving the true course of written okay that the reference to architecture.

Makes it clear that our term technology included in Aristotle stone art okay equally clear is Aristotle's association of art with knowledge, it is important I mean as a matter of fact if you look at what indeed Aristotle's risen state of capacity is a quality of human being to arrest it it might be manifested in things, but he would not have confused it with the things it produced Aristotle was not only isolated except, okay let us let us see how do so now those on our has pointed out build on our suggested that medieval school name associate.

I am in medieval schools associated technology with knowledge and they included technology medieval schools included technology in their classification of the science or science age okay Hugo st.Victor's for example he will that mechanics is a form of knowledge which must embrace the methods of production of all things the linkage of Technology which knowledge has a long

history in India as a brief purview of the section sometimes and art in the Oxford English Dictionary will testify it is hard.

To avoid the conclusion that the separation of knowledge and technology is both listened and ethically that is also self contradictory, okay how it is self contradicted this is obviously true in an etymological sense but it is also true logically technique means detailed procedures and skill and death admit decay technology refers to detailed procedures and kill and that effective but complex procedures that these detailed procedures can only come into being okay true knowledge.

Here is the ability to use one is knowledge effectively a common synonym for technologies no but how can there we know how without knowledge this is what Clayton vinius was then this question workforce purgatory now the common synonyms worked for technology is knowhow but how can there be no how without knowledge, it might be worth mentioning or it makes might be worth examining the origins of the notion that technology does not includes knowledge the current model of science technology.

Realism has its roots you know in a semi-official ideology of science that is I mean I mean Nathan Rheingold has stretched the origins of this ideology in America to the writings of Joseph Henry in the early 19thcentury but it is become widely accepted, okay through the writings of modern spokes persons for science in America Venable boosts heroes the endless frontier heroes endless horizon, okay he was the first to talk about linear model of innovation in science and technology in a more sophisticated manner okay.

In America Venable Booth was an important source okay what he did he for according to whenever both basic science leads to new knowledge it provides scientific capital it creates the fund from which the practical applications of knowledge must be drawn, okay new product and processes do not appear full good they are founded on new principles and new conceptions which in turn are quenched achingly developed by refers in the purest realness of kindness a recent British governmental publication okay, expressing the same theory maintains that the justification for basic research is that this constitutes the count of all new knowledge without which the opportunity for further technical progress must eventually become exhausted okay, clearly if basic science is the source of all if basic sanity is the source of all a new technical knowledge.

Then technology itself produces no new knowledge and the technologists role becomes that of applying knowledge generated else and this is precisely the theory we find in a finger concert and whole history of Technology okay, until it was through the work of halt and such another historians of finds that this theory was introduced into the writing of the history of Technology it is possible that some historians of science we were led to their view of science technology relation in a reaction against the Marxist attempt to reduce science to the level of a superstructure for materialist.

For whole in particular appears to have been influenced by the collar and craftsman controversy that is a must and interpretation, now I mean interpretation made by in 1942 which was attacked by Hall in 1959 that children attempted to provide a masculine interpretation of the Scientific Revolution now he held Jesus Jill held that the scientist was a hybrid combining the drafts means empiricism and the scholar systematic thought the Scientific Revolution took place when the social barrier between the two component of the scientific method.

Broke down and the method of the superior craftsmen were adopted by academically change scholars and Daren we witnessed the birth of real-time, we are census born okay one of the most effective of those who attacked Jill was hot in a series of classic sub studies he refuted the notion that the experimental methods of science were realizable by virtually direct imitation from the trial and errors half I said and fortuitous progress of the ground and scientific laws were not simply a projection and enlargement of the role changed by craftsmen.

But I mean halls model of science in science technology relationship I mean technology influenced science through instrumentation by presenting problems such as in chemistry science influence technology by theory scientific theory was in was of slight use to technology prior to the 19th century, therefore engineering could not at once until the mid 19th century those halls are moving that is also model of science technology religiously, but housework was not simply negative we constructed a sophisticated model of science technology relationships in essence it is a standard one.

Now in huge technology influence times through instrumentation and by presenting problems in less developed Sciences like chemistry in 50 in the 1950 fact an experimental procedures to add burrowers science also encouraged technology bite you but all research does not work but what

is research, I mean convinced all that scientific theory was of flight use to technology prior to the 19th century but the soul suggested that engineering could not advance in the 17th century because of the limits of eggs existing material.

And this limitation has been overcome subsequently vector that all maintained all maintain that is that is chiefly through the use of I mean the limited such limitation of not heavy or the absence of existing material in the thermal density okay has been overcome subsequently chiefly through the use of concrete and metals that is by chemical knowledge but the advance of engineering was believed until the middle of the19th century since until then there was no useful body of chemical theory from which useful consequences could be drawn to benefit metallurgy.

It is important to note that while all and several other spokes person for the current model of science technology relations are the followers of Alexander cooler then holding water for the water schools views on it direction of tangent cone hider a different view of science technology related I mean code it means reduce technology to technique on the contrary he insisted that technology is a system of thoughts based on common sense an independent system different from scientific thought.

I mean did not reduce technology to techniques number one rather on the contrary choirs insisted that technology a system of thought based on commonsense that is an independent system different from scientific thought okay an independent system also different from science system of thought, okay he considered quite considered each a system of thinking based on common sense he held that the technical thought of common sense, okay does not depend on scientific thought of which it can nevertheless at those the element incorporating them into common indeed whoever is further to him the history of technology.

Is inseparably to inseparably linked to intellectually I believe that I mean history of technology cannot be separated from intellectual history as much that is what technologies knowledge technologies a form of knowledge quite believe that science, obviously influenced technology but not directly rather in subtle and indirect ways the element I mean when code believes that signs indeed influence technology okay, but the element observed were not necessarily the results of science it is large and finding require emphasized or rather subtle in direct influence in a specific case.

The idea of a world governed by precise mathematical laws okay in a specific case the idea of a world governed by precise mathematical laws was transmitted to technology through Galli news QB conversion of the mechanical clock into an instrument of pressing the idea that the universe is the world by precise mathematical laws, it should be noted was not a scientific result but one of its pressure points further assume that the influence was indirect involving something like a translation of the idea from one medium to the other one medium.

To another to coil the result was not simply the gusting buffer scientific result on to pathology but rather a transformation of the very structure of technology's own system okay then in quite good theory of the interaction of science and technology is settle and powerful what let in thought that it is essentially correct in, so far as it tricks science and technology as having separate bodies of thought which different from one another in significant which it is easy to sympathize with square characterization.

Of technological thought as common-sense the writings of technologists can sometimes appear to be nothing more than common sense especially their way through spectacles provided by philosophy or you may say philosophy or resistance ok tell us business the question is it possible that one of the wage I mean one of one of the difficulties okay, you know is that the technological thought differs from that of philosophy including natural philosophy the design in an even more radical way than we had imagined artists for example technologies philosopher scientist uncommon and it is artists for example things quite different from philosophers in specific cases it can be shown that technologies display a plastic geometrical and to some extent.

Non verbal mode of thought that has more in common with that of artists than that of philosophers Aristotle for one suppose that there was an essential unity in the work of artists and technologists that both a thoughtful distinguished fragment mystical maintains that all art is concerned with coming into being that is with contriving and considering.

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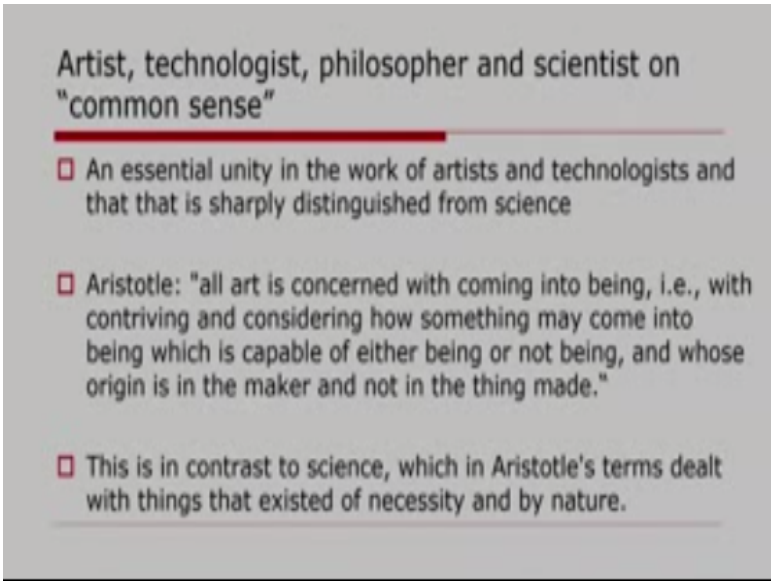

How something may come into being which is capable of either being or not being and which origin in the makers and not in the things made okay this is this is in contrast to science I mean it is important that all art according to Aristotle all art is concerned with coming into being that is with contriving and considering how something may come into being which is capable of either being or not being and whose origin is in the makers and not in the think mate and this is in contrast to science which in Aristotle's terms dealt with things that existed of necessity and by nature okay.

Then they we need not assume I mean we need not as you hear the technological thought is a single monolithic whole or entity or that it can be uniquely characterized in any single formula rather than the common denominator to technology that is designed to be more precise or ability to design or reason state of capacity to make we need I mean the ability to design common denominators when we talk about I mean we need not assume that technological thought is a single monolithic formula or a monolithic whole okay or that it can be uniquely characterized in any single formula.

Yet it does have characteristics which differentiate it from science in this regard it is interesting to note that American engineers in 18th century was not 18th century but 19th century American engineers in the 19th century and early part of the 20th century have assumed that there was a common denominator for technology and they have identified this as design or to be more precise the ability to design okay.

There are several points about this characterization of which they deserve a detailed discussion emphasis first the engineers who used to who used this also assumes that engineering comprised all technology okay and secondly this idea is used now this idea used not only in after-dinner speeches which are not necessarily to be taken seriously but also in training membership criteria for the professional grades of engineering societies of matter I mean a matter which engineers take with deadly seriousness.

The professional engineer is usually considered the creative practitioner the real engine in the definition of such a person the ability to design okay has been almost universally acknowledged as the crucial test though in practice only the most professionally oriented societies have actually adopted it is interesting to note that ability to design and recent state of capacity to make are very similar both in for as well as in substance design is clearly distinct from flaws including natural flaws.

It is as both Aristotle and modern engineer have healed an attribute of a human being which may be expressed in an object but which is not identical with the object itself at the outset design is an adaptation of means to some pre consistent the first stages there is a the first stages of design involved a conception in a person's mind which by degrees is translated into a detailed plan or design but it is only in the last stages in drafting the blueprint that design can be reduced to a mere technique.

And it is still later that design is manifested in tools and things made design involves a structure or pattern a particular combination of details for component parts and it is precisely the gestalt or pattern that is of the essence for the design we may use technology as a spectrum technology may be used as a spectrum with ideas at one end and techniques and things at the other end which design as a mediator okay.

I mean technology needed viewed as a spectrum with ideas at one end okay techniques and things that the other with design as a middle okay technology this technological ideals must be translated into design these in turn must be implemented by techniques and tools to produce things and the current model of science technology religion looks at only one end of the spectrum it would be an equal distortion to see technology.

So thought both aspects are required for a balanced view examining technology from the point of view of design is hardly novel it has already proven useful to historians of art architecture and building current conduct work or a case in point okay it is possible that historians of Technology okay may find still why the reasons for this concept design may be of assistance in understanding the nature of inventor for designs differ with respect to novelty if neither the desire nor the separate parts are new we have no ordinary we have we have rather ordinary engineering.

The designer simply adapt no means too of the end see or he may build a truss bridge of familiar design and materials the sole novelty means in adapting those two leads to the particular case but even here quite a bit of original thinking may be required as for example in the case of Turks brings of unusual size or exceptional conditions of loading one or more of the component may be needed this could involved anything from minor design improvements to the translation of and anything from minor I mean I mean this could involve anything from minor design improvements to the translation of an established designing to a new medium okay.

As in as in adapting the wooden or trust-based to idle construction of measuring of it or we might have a new design with semi opponent in this case we speak of an invention the that what is that invention that that the invention of the Tusk bridge for might be an example there are also new types of design using new components this two would be called an invention or perhaps innovation though it can represent a higher order of novelty as for example in the case of Edison's electric bulb I mean Edison incandescent and lighting system okay.

It is Thomas Alva Edison start invention of electric bulb okay that is also a part of social setting of technology we can discuss it now, so the design for the final products of technology do not exist in isolation okay they are intimately associated with production and management okay which also require design for example the innovations of Whitney and fault okay where lays in the final product whether muskets or automobile than in the design of systems of production and conversely Layton’s note books appears to contain designs which the technology of he jae's could not believe okay.

But perhaps the more fundamental way of looking at designs would be in terms of the types of system to which directly okay I mean technology has relied on rational principles I mean will be and theoretical construct since at least classical antiquity okay will we I mean as I mean if we

look at a complex whole capable of functioning as a working system okay of some thought such systems are not confined to a particular medium or nor are they mechanically similar okay.

Whatever the type of design the use of used by engineers of ability to design as a test of technological ability or creativity succeed because so much technological work requires combining elements into what we hold in order to reach some frequency of American engineers do not define technology solely in terms of design okay they put great emphasis on the engineer as some kind of practical scientist okay as Layton are Layton joiner argue that these descriptions are not thought to be mutually exclusive they conceive of the engineer as a practical scientist who is able to design certainly technology has relied on rational norms and theoretical construct.

Since at least classical antiquity in more recent times these rational elements these rational principles these rational norms values have been transformed into systematic bodies of thoughts that is they have become sciences in some sense okay and it is these theoretical parts of technologies that present the biggest problem for models of the interaction of science and technology Jill, Jill.

Who provided a Marxist interpretation of the relations relationship between science and technology okay taught technological rules where environment laws of nature okay hold to attack Jill Jill who attacks the Marxist interpretation of the relations of Science and Technology okay whole denied this and asserted that hardly technological goals are governed by a rule of thumb or roles of trees or by aesthetic announced they had no analytical justification and to halt of course modern rules simply attached okay.

And such I mean I mean whole theory of science technology religion has received much attention okay in recent years the idea that science generates the knowledge employed by technology has not proven sufficient science may indeed influence technology in this way but this does not provide adequate explanation this does not provide an adequate explanation of most technological change that is the limitation of false theory of science technology that the idea that science generates the knowledge employed by technologists has not been has not proven subjective okay.

It may be maple netting that now this is necessary but actually thanks may indeed increase for technology in this in this way or may be differently but this does not provide an adequate

explanation now of most technological change for example for example in the in the specific case of metallurgy okay, Stanley Smith and Theodore what time have shown that knowledge was generated by technologies with only a slight indebtedness to natural philosophy until very recently now let us come back to Co expose it okay here two quotes position is subtler than that of its followers and it means probably.

The useful point of departure for understanding the rational elements of technology or hell that technology generated or rather technology constituted a system of thought essentially different from that of science technology generated its own independent rules which came ultimately to constitute a body of technological theory and this body of knowledge which was built and formed in fundamental way under the influence of science but the result was not simply science applied to technology but something different which were called technology that is not simply time supplied the technology but something different the earlier craft rules and modern engineering science form continuum that that unfortunately the term technology has lost its original meaning in English and we must use circumlocutions like technological science or engineering times but whatever the term the implication is that the earliest craft rules and modern engineering science has however different form of feed changing.

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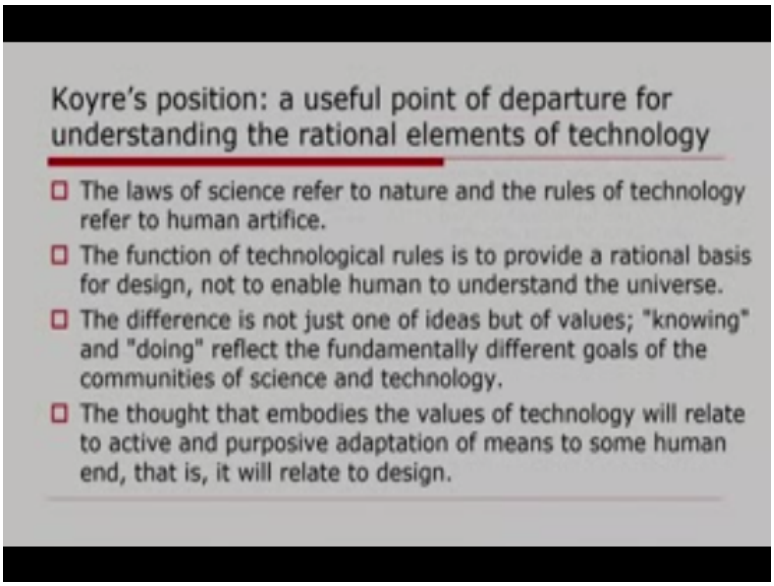

We might restate the matter we might restate the matter by noting that the laws of science refer to the nature and the rules to nature and the rules of technology refer to human mortifying I mean

what is what is the what is force positioning that is a useful point of departure for understanding the rational elements of Technology they include these rational elements into the laws of science refer to nature and the rules of technologies which refer to human artifice the function of technological rule is to provide the rational basis for design not to enable human to understand the universe the difference is not just one of ideas but of values knowing and doing reflect fundamentally different goals of the community generally.

We have a little discussion is how science was considered an act of knowing technology was considered an act OF doing but this such distinction is not rigid but porous and the thought that embodies the values of technology will relate to explain purposes adaptation of means to some human end that is it will relate to design dough or curing superiors to the usual model of science technology relations both suffer from some of the same different both as asymmetric that point law I mean codes so the difference between science and technology in platonic terms.

As the distinction between two briefs lots of cool ideas that is if epistemology that is knowledge and technique that is art okay from this point of view it would accept to think of knowledge flowing from technology design okay let us officially knowledge epistemology we have already discussed a few body of knowledge or theory of knowledge okay, that epistemology and technique is art okay and from this point of view it would be meaningless to think of knowledge flowing from technology design okay.

But if one sees the difference in social terms as values held by different community the result is symmetric I mean the result the estimated model of science technology interactive there is no contradiction involved in assuming that knowledge might flow from a community that values doing too.

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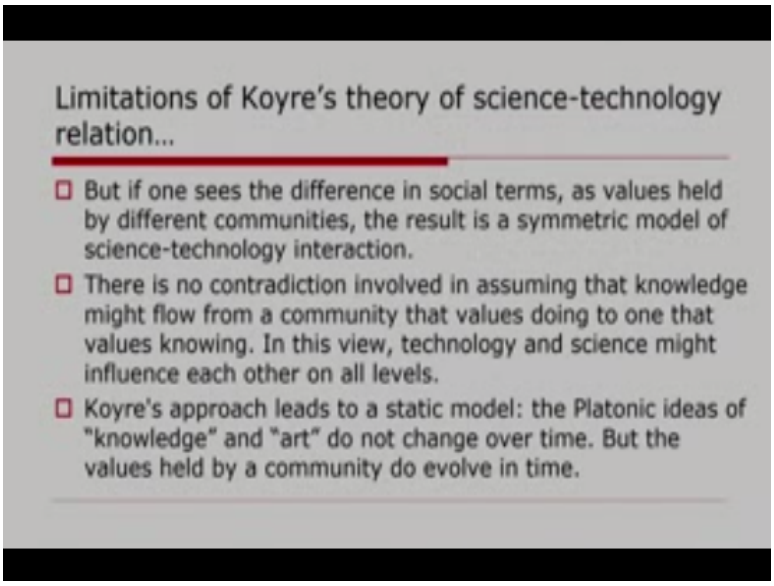

One that valued noise in this way technology science might influence each other on all levels that there is no contradiction involved in assuming that knowledge might flow from a community that values doing to one that values knowing okay we just cannot say that science is superior to technology or technology is superior to time technology science might influence each other at all levels it is approach leads to static model the I mean I mean in this view technology and science as they might influence each other on all levels similarly for approach leads to a static model that is the Platonic ideas of knowledge.

And not do not change overtime but the value held by a community to evolve in time even if even if we look at it even if scientists and technologists continue to value knowing and doing knowing in science and doing in technology okay even if scientists and technologies continue to value knowing and grain the precise significance of these values will change because of the changing context provided by other values and ideas and such changes are interesting and important subjects of historical inquiry but they have been scarcely touched by historians of Technology okay.

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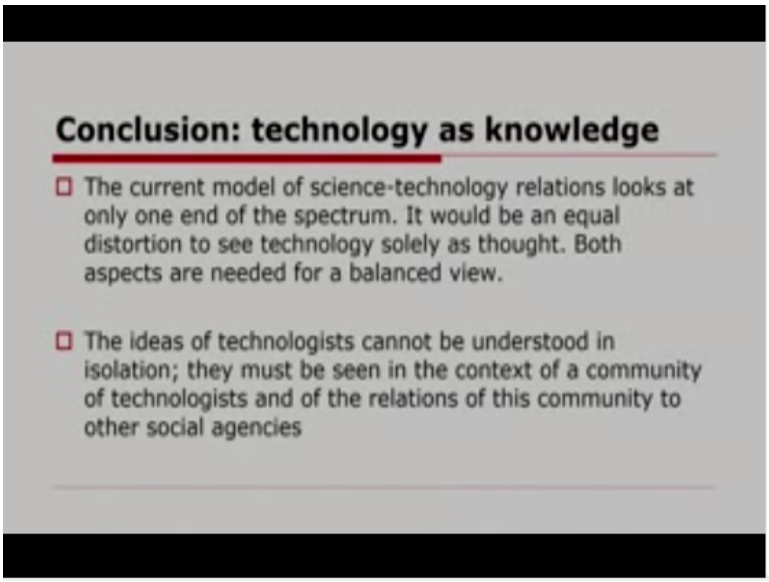

If the to conclude that technology and knowledge that the current model of science technology relations looks at only one end of the spectrum it would be an equal distortion risky technology so thought both had aspects and needed organs to you needed for wellness through the ideas of technologists cannot be understood in isolation they must be seen in the context of a community of technologists.

And of the relations of this community to other social economic political cultural institutional legal ethical and ideological alien if the current if the treatment of technology as thought is an important tendency in contemporary historians wearing it to needy and in persistent always puts the stress on with on ideas of intellectual this is essentially the historiography approach of Collingwood and also soil it should therefore have the effects of integrating the history of Technology more closely to other branches of intellectual.

And social history the emphasis on knowledge further serves to direct attention to innovations InTechnology as against ignore Techno sphere this has two sorts of implications on the one hand it leads towards an intellectual history of Technology and on the other hand innovation suggests considerable consideration of the role of Technology in social change in either case I mean first one leads to in the first case it leads to the intellectual history of Technology.

And in the second instance innovation suggests considerable consideration of the role of Technology in social change in either case the ideas of technologists cannot be understood in they must be seen in the context of community of technologists and of the relations of this

community to other social agencies paradoxically a concern for knowledge starts to emphasize the importance of social history for the for the history of Technology okay.

Then what are we discussed till now I mean in this in this lecture on technologies knowledge that that very quickly we will see we started with how technology has been conceived by European historian then a medical historian okay I mean historians of Technology okay and the hybrid.

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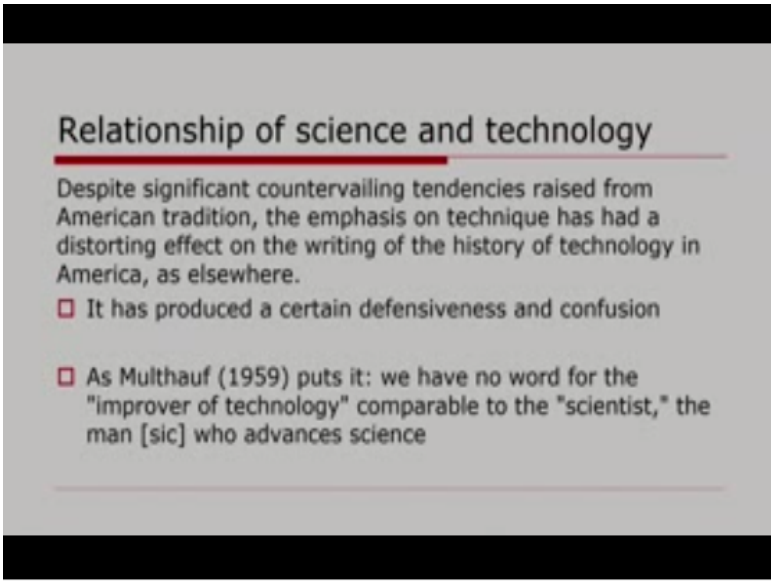

I mean the hybrid version of and medical European American historian so science and technology okay and then we discussed the relationships of science and technology.

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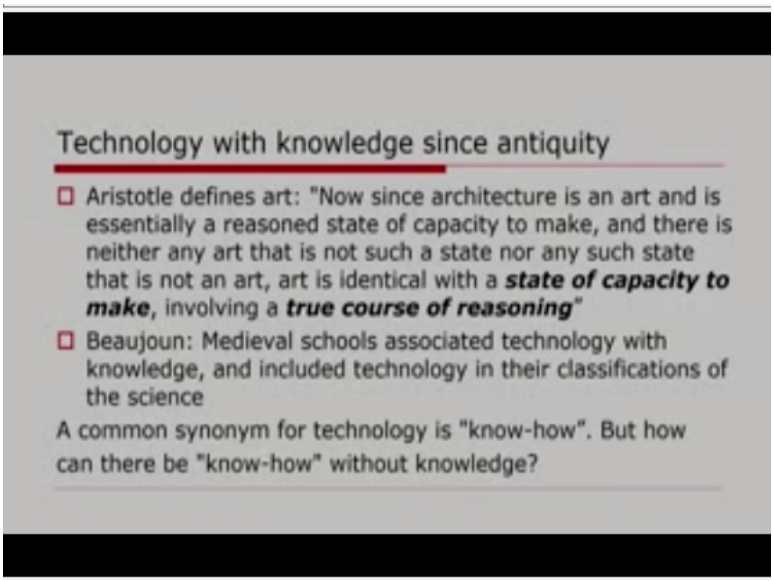

Then technology with the linking of technology which knowledge is the way it is very old I mean we try to look at examine how to link technology I mean the way technology was linked to its knowledge things classical antiquity then examine we try to examine the origins of the notion that technology does note instead of knowledge on the on the one end and on the other okay how it can also include knowledge we also discussed halls model of science technology relationships in contradicting some width course view on the interaction between science and technology then well looking at classical and security.

I mean looking at the relation so relationship of Science and Technology since classical antiquity we try to look at destructor I just talked to worse than of the relations people science and technology are taste technologists philosophers scientists views on common skills okay the ability to design from that is a common denominator to technology from the ability to design we will have discussed what are the inherent limitations we will all security of science technology relationships what are the what are the problems with voice position that is a useful point of departure for understanding the rational elements of technology okay.

Then what are the limitations of course theory of science technology relationships and thereby what we come to know that the current model of science technology relations looks at only one end of the spectrum it would be an equal distortion to free technology it is only a thought or to discard technologies not both aspects were needed for a balanced view.

The idea of technologies cannot be understood in isolation they must be seen in the context of a community of technologists they must be seen in the context of our economy our culture our quality and of the relations of this community to other social agencies concern for knowledge okay serves to emphasize the importance of social history for the history of technology in the in the lectures to follow we are going to discuss further the social setting of technology before we go into the later version related to Accords the later parts of the portion okay.

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