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SCIENCE TECHNOLOGY AND SOCIETY

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Martin was writing after the Second World War okay at a time where the institution of science was under attack and scientists have become self-conscious about their being integrated with society being functionalist in sociology must Martin was English the same functionalist method of analysis to describe the relation between science and society he takes the institutional goal okay he takes the institutional goal and function of science to be the extension of certified knowledge okay.

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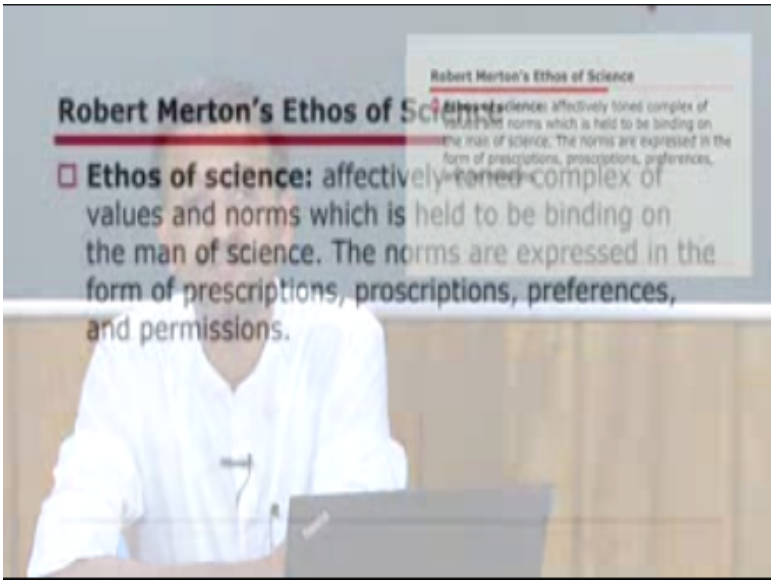

I mean the relevant definition of which he takes to be empirically confirmed and logically consistent statements of regularity hence Merton is mainly concerned with the cultural structure of science as an institution that is not with the method of science but it is more than not we

discuss methods of science after dealing with science as a social institution in a as a whole and moresoneul ethos of science in particular okay.

But what should be the moral framework what should be the normative structure of science and its practitioners was highlighted by Martin okay what do we mean by the authority of science for butter it is the effectively toned complex of values and norms which is held to be binding on the man of science the norms are expressed in the form of prescriptions restrictions preferences and permit we will we come to this I mean I mean we will discuss let us let go one by one okay.

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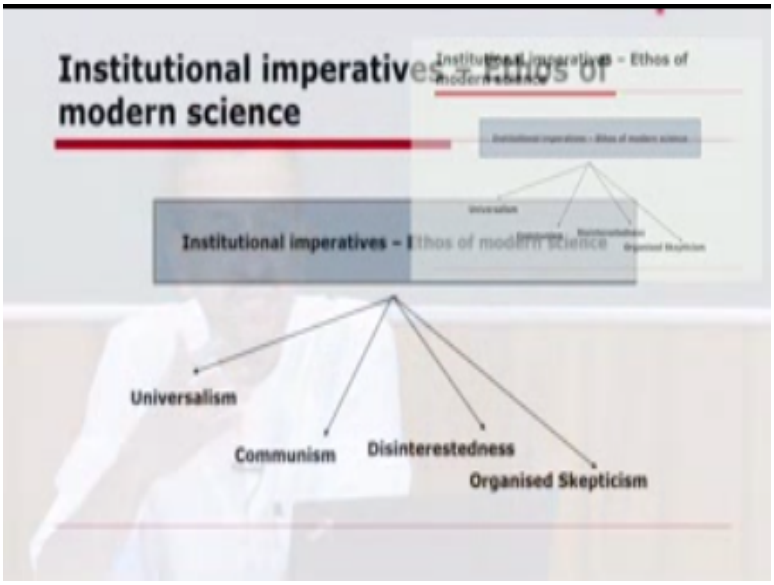

What and also if you look at the institutional imperative Martin Flags out you know Martin Flags for institutional imperative I mean for those of modern science okay thereby he be lineage for institutional imperative in terms of universalism communism disinterestedness and organization will come to this point a little while later in this lecture will come try to complete what one question that comes up okay.

It is whether Martin thinks that these impurities are ideals and nerds that scientists actually act on or reddish ideals are known that they are supposed to act I mean what ought to D what should be their prescriptive in nature their normative in nature okay in a more prescriptive on the one hand he says Martin says that these non fastens the scientists conscience or his super-ego which seems like a descriptive claim button the other hand he says that he is trying to answer the question

which social structure provides an institutional context for the fullest measure of development of times which kind some which sounds prospective okay.

The distinction that you draw us between motivational and institutional norms and ideal also strike interesting he argues mean on the one hand motivational norms and values ideals and on the other institutional norms and values there is a difference between normal value non as I said earlier that norms evolved over open social acceptance okay when I say rule rules are legally bound okay rules are rules can be codified whereas norms may not be codified values are higher ordered norms.

Now as I will say speak the truth always honesty is the best policy they are valued okay they are not okay I mean Martin argues for instance that even though scientists may not individually be disinterested or unbiased there is something distinctive about the institution of science that makes scientists behave that way in an institutional level in other words it is because the institution in joints disinterested activity that is that it is to be the interest that it is to the interest of scientists to confirm to this norm and internal eject.

But on will we will come to this but I mean I hope you are able to follow the aspects of motivational and institutional norms okay motivational norm and value may be related to the way curiosity-driven research is being carried out when I talk about when Martin talks about institutional norms and values it refers to institutional mandate if you look at different institutional settings in India CSIR labs have different institutional mended so edge ICA our labs I mean Indian Council of agriculturalresearchsponsored research institutions have different institutional mandates.

That is why you will find mostly CSIR labs they work in the laboratory whereas icon labs they work in the field what you find molecular biologist in sensory lab okay mean they say sponsored research institutions they work in the laboratory and plant breeders in icy air sponsored research institutions they work in the field perhaps the time has come today how to integrate these two how there must be a cognitive empathy as Weber put it okay.

That understanding the role of the other understanding the need of the other okay a molecular biologist must be able to understand the need of the field of plant breeder at the same time must understand the constraints of the laboratory only after which will we be able to come out with

some implementable or deliverable solutions okay Martin after having discussed the motivational and institutional norms andvaluesmartin also talked about the relationship between scientists and the public.

This is very important he seems to see a benefit of benefiting scientists being in a way detached from the lay person he says he said this because the scientists do not have or do not stand these early lay person in the same fashion as the physician and loyal the possibility of exploiting the credulity and ignorance of the labors reduced what I mean here is that the scientists must try to understand the gap between the world of time and the world of the public.

It is also abounded duty on the part of the world of science and its practitioners to make public aware to make the public aware of scientific temper okay well we come to this I mean this scientific temper and so on over a period of time the ethos of science I mean it refers to the effectively toned complex of values and norms which is held to be binding on the man of science okay the norms are expressed in the form of prescriptions preferences and permission when I say when muttonheads prescriptions.

He meant not normative framework when he said prescriptions those norms which are legally bound preferences which are preferences switcher which come under motivational norms and values permissions which commanded institutional norms and language then I repeat prescriptions I mean normative framework normative structure of science prescriptions are those norms which are legally bound preferences are those norms which come under the scope and ambit of motivational norms and values or ideal permission feature which commander's institutional magnets institutional norms values and I okay.

Now if you if you look at these prescriptions preferences and Parisians okay they are legitimized in terms of institutional values these imperatives transmitted by precept an example and reinforced by sanction are in varying degrees internalized by the scientist themselves thus fastening their scientific conscience or if one prefers the letter de fridge they are super-ego okay perhaps the world of science is not able to not able to overcome these fourth wall of science okay.

Although the ethos of science has not yet been codified that's why I said norms are usually not codified to the way rules are fortified because rules that usually legally bound were eudemons

are not legally bound okay that is why although the ethos of science has not been codified it can be inferred from the moral consensus of scientists as expressed in use and heavy practices okay in countless writings from the scientist scientific spirit and in moral indignation directed toward contraventions of the eat watch okay.

We will go ahead with this an examination of the ethos of model science is only a limited introduction to a larger program what is that mean the comparative study of the institutional structure of science it is very important whenever we wish study particular phenomenon it is important to make a company's comparative sociology teaches us how to look at a particular phenomena through our through the perspective of historical sociology philosophical anthropology political okay.

Then what we see what we will see that then the total of science I repeat if it is the effectively toned complex of values and norms which is held to be binding on the man of science and these norms are expressed in the form of one normative framework called prescriptions the norms secondly the norms which are legally bound that is prescription and also the motivational norms and values and in preferences and institutional norms andvaluesI mean permissions.

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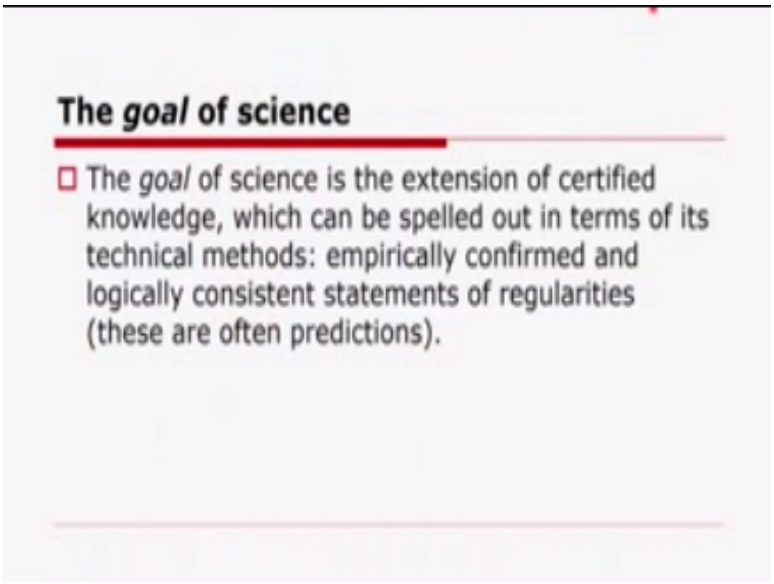

This is very important okay then what is the goal of life the institutional goal of time is the extension of certified knowledge which can be spelt out in terms of its technical method when

Martin talked about technical methods okay the technical methods employed towards the end I mean towards the towards this end of a certified knowledge okay provide the relevant definition of knowledge what is I mean when I say technical method I mean they are empirically confirmed and logically consistent statements of regularities these are often predictions.

I when Martin used the term prediction he did not use the term prediction no wayandan astrologer might have done okay this is not the way we use HDS callers huge predicts okay the way we use prediction suppose I will say that given the rice production in India or the production office in India was X amount or quantity in 1951 X + 1 in 1961 X + 6 in1971then what then how do we predict the production of rice in 2021.

I mean we take geographical indicators we take the agricultural production the productivity the quality of soil the quality of feed the farming practices and so on anyway next why we make those predictions not prediction in an astrological sense okay predicts the leaner very scientific okay the institutional impurity which are which may be termed as Moore's okay those more I mean the social mores that are widely observed and considered to have greater moral significance than others.

I mean more include and a version for societal cabbage you know such as incest okay the most of a society usually predict legislation prohibiting that image okay the institutional imperative or more okay they derive from the bowl and the method then what is the goal.

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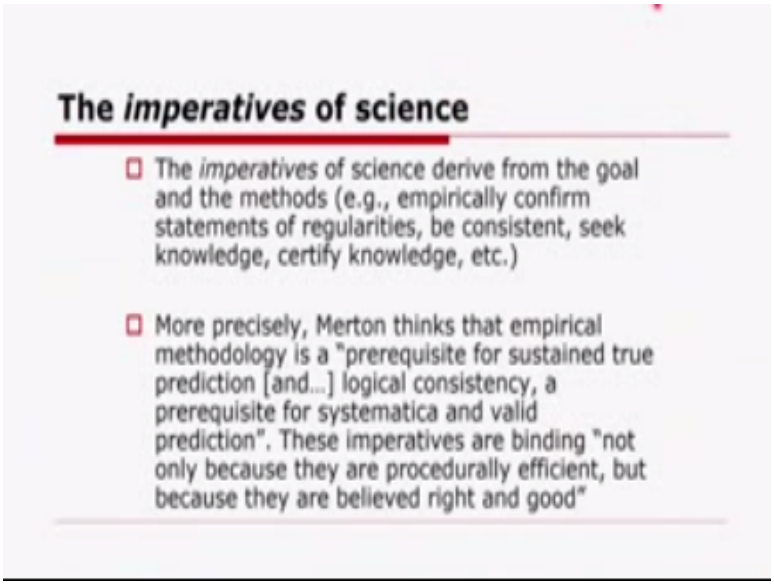

Now the goal the institutional goal of sign is the extension of certified knowledge okay awe have already discussed and here the method such as empirically confirmed statements of regularities and logically state consistent statements of regularity I mean you one must be consistent one must try to seek knowledge one must be able to certify knowledge okay I mean this is very in line the difference between as we discussed yesterday the difference the distinction between science from religion that religion may also produce knowledge.

But the production of knowledge is based on beliefs whereas science produces knowledge on the basis of empirically confirmed statements of statement and logically consistent empirically confirmed and logically consistent statements of regulation okay these are important aspects the Internet the entire structure of technical and moral norms implements the final object in the world of life.

What is the technical norm of empirical evidence must be adequate and reliable which is a prerequisite for sustained true predicts okay any question is important and reliability is important okay they know that the aspects of adequate as the aspects of adequacy and reliability and very much contingent upon the empirically confirmed and logically consistent statements of regularity okay.

The technical north of logical consistence we have prerequisite for systematic and valid friend clinics the mores of science the model framework of time the ideals of science okay for this a methodological rationale but they are binding not only because they are procedurally efficient but because they are believed right and good it is not simply an epistemological question but also an ethical consideration that is what we discussed earlier which skascholars are deeply engaged okay.

That is why when you combine a system logy with ethics it becomes philosophy of science okay this is Moore's of science okay their moral as well as technical prescriptions more that that is why when we when we look at the for institutional imperatives which are Merton slacks or flank letter he held a he held aloft the banner of social institution of science no okay in terms of for institutional imperative for ethos of times I mean these four institutional imperative namely universally Jean communism disinterestedness and organized skepticism okay.

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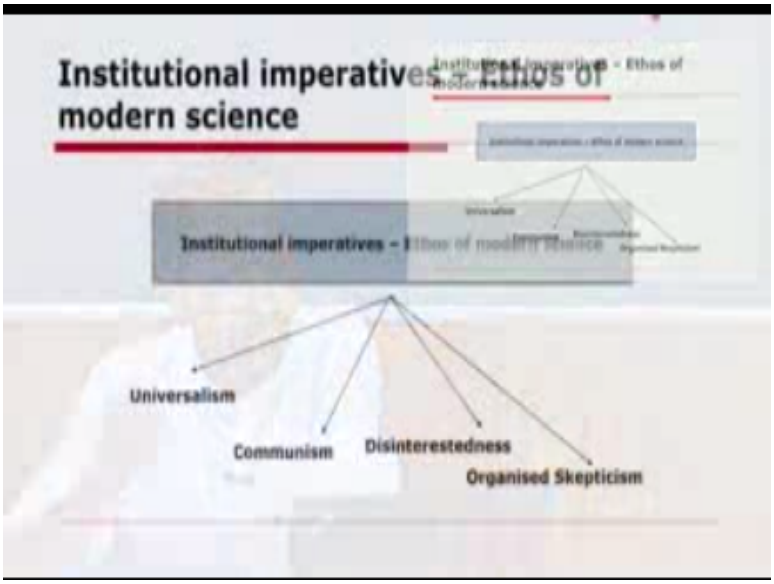

They become a part and parcel law they become a part and parcel of the ethos of modern life okay then what we have learnt till but before we move on to this area that what we have done we have learnt now the ethos of science and effectively to effectively tone complex of values and norms which is binding to be or which is held to be binding on the man of science the norms are expressed in the form of prescriptions permissions and references the goal of science weave discussed that is the extension of certified knowledge which can be spelt out in terms of its technical methods.

And these technical methods include empirically confirmed and logically consistent statements of regularities okay and the imperatives of sciencederives the derived from the goal and method okay more precisely Martin thinks that empirical methodology is prerequisite for sustained through reading and logical consistency prerequisite for systematic and valid predicate okay.

And these imperatives are binding not only because they are procedurally efficient but because they are believed to be right and code we lived right angle okay I think I think from here on work

what we will do we will try to cover will try to fore ground the foliage of science at length and in detail okay universalism what is this university universalism find immediate expression in the Canon in the rule the truth claims whatever their source are to be subjected to pre-established impersonal criteria.

What do we mean by pre-established impersonal criteria mean consonant with observation and not wish and consonant to it observation agile consonant with previously confirmed knowledge okay I mean they must be empirically confirmed and logically consistent then the acceptance or rejection of a scientific claim entering the lists of science is not is not the acceptance or rejection of a scientific claim should not depend upon the personal or social backgrounder attributes of that protagonist or the scientist.

I mean to put indifferently the acceptance or rejection of a scientific claim should not depend upon the social or personal background of the person offering that case okay I mean the persons are race nationality religion region class cached gender personal qualities and I such irrelevant when you when you accept or reject or scientifically okay I mean that is how science maintains its objectivity okay that is why these factors these subjective factors okay.

It must be done away with when you offer scientific claim for mate okay that is why objectivity precludes particularity the circumstance that scientifically verified formulations refer in that specific fails to objective sequences and correlations are militates against all efforts to impose particular isticcriteria of validity okay if you look at this I mean the institution of science is very much a part of a larger social structure with which it is not always integrated that is why it gets isolated from the larger framework of society larger social chemical society.

When the largest culture opposes Universal the ethos of science is subjected to Phineasstraightthat's why science is I mean I mean science is always situated within larger social framework which may approach Universal engine that's why F no-scent regime is not compatible with universal nature this is very important okay here Myrtle notes that even when violated the force of the norm is still evident I mean then but for TJ's no signature.

We know what a universal engine I mean the acceptance or rejection of scientific claim should not depend upon the personal or social background of the person offering that cake now what is ethnocentrism why it is not just an regime is incompatible with universality what is ethnocentric

it’s no central immediate term which was coined by William Graham Sumner in 1906in folk which to describe he used this term it's not intriguing.

Some not use this term ethnocentrism to describe thefrigidwill attitudes between in-groups and out-groups and the way the members of ingroupsuncritically evaluate and unquestionably put their own cultures own behavior on custom on a higher pedestal visa other cultures other behavior pattern and other custom I mean if I say today my culture is superior to your culture it is essentially its new centric in nature that is why for a long time for a long time different social groups claimed even today.

They claim that no culture of X is superior to culture of Y this cultural superiority racial superiority caste superiority okay I mean gender superiority sexual so period six superiority based on sake there means one must understand this okay if I mean that's why ethnocentrism now the way it has crippled our society our culture our economy our politics must be understood that is why when we when we look at ethnocentrism which is based on the biological school loss.

If we loosen any theory ok I think a modern society amore civilized society now must restrict the entry of an ethnocentric worship okay it's recent regime it’s not compatible with Universal okay perhaps for this reason perhaps for this reason Martin now note sets even when violated the force of the norm of universalism is still relevant okay even under counter presses scientists of all nationalities ideas to the Universalist extended in Moore directors the international impersonal virtually anonymous character of science is reaffirmed and denial of the norm of universalism is conflicted a bit of effect okay.

Then universalism finds further expression in the demand that carriers be open to sell it okay I mean the time to be a meritocracy since the goal of science is to further our knowledge recruiting and precluding computing practitioners would impede this goal access to scientific carriers should based should scientific carriers should be based on computing hello okay competence the way we discussed today was not there in the framework of Martin okay.

I mean he was trying to make okay a more open democratic society where edge the way different sections of the society have been marginalized just because on the basis of their descriptive qualities in India Aquila is in the West they should not their concerns should not be marginalized on the basis of their ascribed qualities on the basis of their body but on the basis but they're dead

I mean that their concerns their achievements that their accomplishments their voices must be taken into consideration on the basis of their achieved qualities not ascribed quality achieved statuses not ascribed status Universal okay.

For Burton according to Martin Universal Egypt Asia is a lesser fair I mean democratic principle okay as Martin right okay impersonal criteria of accomplishment and not fixation of status characterized the open democratic society okay mean when we when we do this okaydemocratizationaccording to Merton is tantamount to the progressive elimination of restraints upon the exercise and development of socially valued capacity impersonal criteria of accomplishment and not success and of status characterized the open democratic society.

And in so has such constraints do persist they are viewed as obstacles in the path of full democratization thus insofar as necessary democracy per unit the accumulation of differential or stages for certain segments of the population differentials that are northbound up with demonstrated differences in capacity the democratic process leads to increasing regulation by political authority and under changing conditions new technical forms of organization okay.

It must be introduced to preserve and extend equality of opportunity and no-win Indian context we were in STS we talk about equality of opportunity which he dealt into in the 1940 30 40 right so and the political apparatus may be required to put democratic values into practice and to maintain universalistic standard okay now this equality of opportunity to designs equality of opportunities to practice signs okay leaves our discussant to another institutional imperative another ethos of science namely community.

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Now let us come to the second integral part of the ethos of science that is community in the non-technical and extended sense of common ownership of goods is a second integral element of the scientific ethos the substantive findings of science or a product of social collaboration and are assigned to the community these substances the substantive findings of science constitute a common heritage in which the equity of the individual producer is severely limited and eponymous law or theory does not enter into the exclusive position.

The position of the discoverers or their health nor do the most bestow upon them special rights to use and disposition property right the way we talk about property rights in lay mans language they are different from property rights in science okay we will discuss intellectual property rights in science especially in the context of developing countries say India will discuss these things later on but so far as the ethos of science and within to Geosciences communism as an integral part of such scientific ethos is concerned that.

Property rights in science are whittled down to a bare minimum by the rationale of the scientific ethic the scientists claim to their intellectual property is limited to that of record whistle and esteem which if the institution functions with a modicum of efficiency is roughly commensurate with the significance of the increments brought to the common fund of knowledgeappallinglyfor example the Copernican system Boyle's law is thus at once mnemonic and commemorative device okay.

That given such institutional emphasis on recognition and esteem as the sole property right of the scientist is the of the scientist isothere discovering the concern with scientific priority becomes a normal response normal when I say normal mean non bound response okay normative structure bound response those controversies over priority whether the property right in science should be owned by an individual scientist or the community of scientists okay.

Such controversies over scientific priority becomes I mean over our priorities now which punctuate the history of modern science are generated by the institutional accent on originality they are issues of competitive cooperation the products of competition our communities and esteem accrues to the producer lessons take up claims to private and press entries into the Commonwealth of science attacked with the names of Nationals okay.

We can witness the controversies ranging from arranging over the rival claims of a Newton enlivening to the differentialcalculusyou can look at the history of differential calculus by Newton andleibniz it is interesting to see in then the context of history of science now the way I mean history of scientific controversies but I am not going to well much up on this controversy between Newton and Leibniz it is interesting how Newton being very powerful.

I mean he was the president of the Royal Society of London and the way he and that there were controversies who first invented differential calculus whether it was Newton or lightning it is still a matter of controversy okay but this all does not challenge the status of scientific knowledge is common property whether this whether Newton invented differential calculus or Leibniz if invented differential calculus but butte scientific community always used town this there was no controversy at that time about individual property right okay.

I mean the institutional conception of science as part of the public opinion or as part of the public domain okay is linked with the imperative for communication of findings secrecy is the pressure for diffusion of results is reinforced by the institutional goal of advancing the boundaries of knowledge and by the incentive of a recognition which is of course contingent upon publication scientist.

Who does not communicate his or her important discoveries to the scientific fraternity okay becomes the target for ambivalent responses they are esteemed for their talent and perhaps for

their modesty but institutionally considered their modesty seriously misplaced okay in view of the moralcompulsivefor sharing the wealth of facts okay.

The communal character of science communal when I say I do not do not meaning the way today we use the term communal in Xiamen which is based on community okay this community based character of science is further reflected in the recognition by scientist of their dependence upon of cultural heritage to which they know they lay no differential claim okay that's why that's why if I quote Newton he said if I have seen further it is by standing on the shoulders of giants this if I have seen further okay.

It is by standing on the shoulders of child this statement expresses at once a sense of indebtedness to the common heritage in are cognition of the essentially cooperating and selectively cumulative quality of scientific achievement the humility of scientific genius is not simply culturally appropriate but results from the realization that scientific advance involves the collaboration of past and present generations the community that we see okay.

The community within science that we see of the I mean the community of the scientific approach is incompatible with the definition of technology as private property in a capitalistic equal current writing from the frustration of science the reflection is conflict ok petaledproclaim exclusive patent righty mean patents over different products processes ok proclaim exclusive rights of use and often no use or non each the suppression of invention defined or the suppression of invention the rationale of scientific production and diffusion as may be seen from the court’s decision in the case of u .s. versus American Bell Telephone Company okay.

Even look at the history of this I mean the inventor is one who has discovered something of value it is his absolute property he may we hold the knowledge of it from the public okay these such pencils okay we're not there or here I mean whatever discoveries have been made they must be made to the public the fruits of any technological development must be enjoyed by the public at large okay.

Then responses to such conflicting situations that whether the community of scientists the practitioners of science should have access to the discoveries and inventions or the individual scientist will have absolute authority absolute only flip over the product okay such the responses to such conflict situation event a defensive measure okay some scientists have come to our petal

their work to ensure it is being made available for the public use that is also called negative patenting people use it will come to this point.

When we talk about intellectual property rights regime in a sign thing indeed I mean developing countries particularly okay for according to Merton some scientists also seek to resolve this conflict by advocating social this is also important okay these proposals both those which demand economic terms further scientific discovery and those who demand those which demand a change in the social system to let science get on with the job reflect discrepancies intheconception of intellectual property okay.

To recapitulate this Ito your signs means community okay mean established scientific knowledge should be accessible to all members of the scientific community the huge Explorer and so ones a result communication of scientific result is priced and secrecy about them Scott if a law or a theory is named after a person this only be stones prestige upon the person so named usually because the law or theory is significant contribution since this is the only privilege of ownership of theory it becomes the priced projector that is why we say laws of motion Newtonian logic theory of relativity Einstein's theory of relativity okay.

Myrtle notes that originality and priority but are accented because of this okay that's why community has become more important okay especially in the wake of the ICR regime throughout the I mean IP a regime across the continent in the globe and especially in the context of developing countries including India okay coming to the third integral part or third integral scientific approach which is disinterestedness okay.

It is not to be equated with altruism or interested action with our ego in science must include disinterestedness as a basic institutional element okay as said science must not be equated with altruism or interested the action of with egoism such equivalences confuse institutional and motivational levels of analysis a passion for knowledge either is curiosity altruistic concern with the benefit to community and a host of others special motives have been attributed to the scientist.

I mean the practitioners the quest for distinctive motives appears to have been misdirected it is rather a distinctive pattern of institutional control over control of a wide range of motifs which characterizes the behavior of scientists for once the institution enjoins disinterested activity it is

to the interests of scientists to confirm on pain of sanctions and in so far as the norm has-been internalized on pain of psychological conflict the virtual absence of fraud in the annals of science.

Which appears exceptional when compared with the record of other sphere surrogate activity has at times been attributed to the personal qualities of scientists by implication scientists are required or by implication scientists are recruited from the ranks of those who exhibit an unusual degree of moral integrity there is in fact no satisfactory evidence that such is thecae as muscle argued a more plausible explanation may be found in certain distinctive characteristics of science itself.

Involving as it does the verifiability of results scientific research is under the exacting scrutiny of fellow experts otherwise put and doubtless the observation can be interpreted at least majesty the activities of scientists are subject to rigorous policy to a degree perhaps unparalleled in any other field of activity okay I mean when I when I come to this point I mean when I say this I mean scientific claims should not be put forth solely to further one interest or advance one's own agenda.

Martin first notes that disinterestedness is an institutional obligation it should not come in the way of way of personal interest and ideology when it is an institutional obligation we must remember that it should not be confused with any individual motifs scientists may have in any number of individual drives or desire fail curiosity altruism etcetera okay that motivated the institutional control of a wide range of these motifs better characterizes.

What is central to science and it is a torture this explains why science is written thewiserthis this explains why there is little fraud in time Martin explains that this comes about because scientists are well policed by rigorous empirically confirmed tastes logically consistent taste preferred bother scientists that is hyper-established impersonal criteria prior knowledge is very important to maintain missing scientists also have a very different relationship to late clientele than other professors when there is stronger relationship between laypeople and scientists incentives for fraud and pseudoscience become more precious.

This is also interesting in this connection the field of science differs somewhat from that of other processes the scientists did not stand visa vie L lay clientele in the same fashion as to thefinishin

or loyal for example as we have discussed the possibility of exploiting the credulity ignorance and dependence of the lemon is thus considerably reduced fraud and irresponsible claims are even less likely than among the service professors to the extent that the scientist lemon relation does the compared amount there develops incentives for evading the most of signs.

The abuse of expert Authority and the creation of pseudo-sciences are called into play when the structure of control exercised by qualified computer is read and rendered ineffective it is probably maybe probable it is probable that the repute ability of science and its lofty ethical status in the estimate of the lemon is in no small measure due to technological achievements every new technology bears witness to the integrity of the scientists science realizes its claims however its authority de can be and is appropriated for interested purposes precisely because the Lacey is often okay.

They the lady is often in no position to distinguish hoodless from genuine claims to such authority okay the presumably scientific pronouncements of totalitarian spokesperson on race or economy or history are for the uninstructed lately for the same orders newspaper reports of an expanding universe or waist necklace okay I mean the borrowed authority of science which Taos presets on the unscientific doctrine what I what we mean to do here in the form of these three ethos of science universalism communism and disinterestedness we have we are trying to cover the institutional imperative institutional goals institutional control institutional obligation on the part of individual scientists okay.

So far as the institutional normative structure is concerned okay now how to arrive at the truth having followed the principles of empirically confirmed and logically consistent statements of regularities assumes greater significance if we come to the fourth institutional imperative fourth ethos effect it is very important okay I mean the last one organized skepticism is variously interrelated with the other elements of the of the scientific thought namely universalism communism and disinterested.

It is both methodological and an institutional mandate we have discussed institution institutional mandate are namely universalism communism and disinterested but it is important to note this methodological mandate what does it imply that scientific claims should be evaluated by suspending judgments and scrutinizing claims inters of empirically confirmed and logically

consistent considerations alone when I say organized skepticism mean temporary suspension or temporary suspension of judgment or postponement of judgment.

Until and unless all facts are attained if we do not have adequate and reliable fact verifiable facts at hand observable facts at hand then we must try to keep on postponing of our judgments or we must keep on temporarily suspending or withholding our judgmental the temporary suspension of judgment and the detached straightening of beliefs in terms of empirical and logical criteria have periodically involved science in conflict with other institutions suppose other institutions they immediately come to conclusion but science cannot afford to do that thanks should not effort to do that unless and until all facts are attacked okay.

That is why science which asks questions of fact including potentially concerning every aspect of nature and society may come into conflict with other attitudes toward the same idea or the same data which have been crystallized and often ritualized byotherthe scientific investigators do not preserve the slippage between the sacred and the profane between that which requires the uncritical respect and that which can be objectively analyzed okay.

Now what have we discussed till now very quickly okay we started with the real most technology science and society their interrelationships the models of the relationship between science technology and society only the linear model the interactions model and the embedded model and then we try to provide certain examples which will challenge the idea of technological determinist okay.

And by the construction of the New Year preached by Robert Moses and then the way scientific knowledge and the associated technological artifact have profound destabilizing changes both at the levels of both at the level of cognitive and political and those these changes have been at the level of ontology what is being what is existing what is unreality okay but now we are going ahead with what ought to be to address the problem source what is being what is existing we must have some normative structure prescriptive structure.

And there on we started discussing the mostoniel normative structure of science I mean in the form of ethos of science which are effectively do not complex of values and norms which is held to be binding on the manners and these norms are expressed in the form of prescriptions

preferences and permissions then we discuss the goal of science the imperatives of science and for institutional imperatives of science in the form of or approach of science.

Which mark which must earn flags namely universalism communism disinterestedness and organized skepticism okay and then we try to look at what ought to be what should be what should be the prescribed for most scientific practices and so on okay and in the next week we will start with a few assignments okay and then we try to cover the methods of science in the next few weeks okay thank you.

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