WORK IN KNOWLEDGE ECONOMY: REASSESSING THE MARXIST THEORY OF ALIENATION

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DECLARATION

I declare that the dissertation entitled " **Work in Knowledge Economy: Reassessing the Marxist Theory of Alienation**" submitted by me in partial fulfillment for the award of the degree of **Master of Philosophy** of Jawaharlal Nehru University is my own work. The dissertation has not been submitted for any degree of this university or any other university.

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CERTIFICATE

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TO

MA, BABA & RAHUL

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ABBREVIATIONS

ARPA- Advanced Research Project Agency

ARPANET- Advanced Research Project Agency Network

GDP- Gross Domestic Product

IMF- International Monetary Fund

ISI- Import Substitution-led Industrialization

IT- Information Technology

ITES- Information Technology Enabled Services

MILNET- Military Network

NASSCOM- The National Association of Software and Services Companies

NIAS- National Institute of Advanced Studies

OECD-Organization for Economic Co-operation and Development

PIS- Post Industrial Society

PM- Prime Minister

STP- Software Technology Parks

UK- United Kingdom

USA- United states of America

USSR- Union of Soviet Socialist Republics

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Antara Ray Chaudhury

INTRODUCTION

> **"***Crises have a way of clarifying things. Remember when we were told, again and again by the Wall Street whiz kids and Ivy League economists that freeing up the economy was the road to stability? That solution to market instability was –to free up the markets even more? ……then after those fateful weeks in autumn 2008 as one wall street titan after another came to the brink of collapse or collapsed altogether, we witnessed the impossible. As workers lost jobs by the hundreds of thousands, pensions went up in a puff of smoke, life savings vanished, families lots their homes, the grim reality of capitalism, the remorseless logic of the profit motive became impossible to ignore……..And make no mistake for millions of workers across the world it has meant what crises always do- coming face to face with the fact that in capitalism, it is profit that matter, not people*."[1]
>
> *Leo Panitch, Greg Albo & Vivek Chibber*.

The global economic crisis which hit the world in 2007 was more than the narration of job loss, pension loss or loss of homes. It made us to see that, for decades the 'mountainous piles of books, essays, and stories produced to defend the free-market mani' as Leo Panitch says is 'nothing more than smoke or mirrors'[2]. Academic world again felt the need to go back to Marx's seminal work 'Capital' to understand the logic of the process of production. The call for 'Return to Marx'[3] precisely came for this. 'It is not altogether surprising that Marx's Capital has rocked up the sales charts and we see his familiar bearded visage on the cover of such establishment magazines as *Foreign Policy*.'[4]

'Exactly 150 years before the current crisis began in August 2007[5], the collapse of the Ohio Life Insurance Company in New York triggered what became known as the Great crisis of 1857-8. As it quickly spread to Europe's main financial markets, Karl Marx was delighted and thrilled by the prospects for another revolutionary upsurge on

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[1] Leo Panitch, Greg Albo & Vivek Chibber. eds.*The Crisis This time*. (New Delhi: Left Word, 2010) p. ix.
[2] Ibid.p.ix.
[3] Ibid.p.x.
[4] Ibid.p.x.
[5] It is to be noted that the housing crisis started unfolding in USA since 2007 itself though the bankruptcy of Lehman Brothers in 2008 marks the official beginning of the current global economic crisis.

the continent.'[6]Marx had already predicted the crisis in 1850 and it had made him to extend the scope and scale of his study for the 'Grundrisse' notebooks, he was working on so as to take into account of 'the first world economic crisis, affecting all regions of the world.' However as the crisis started fading out Marx tried to understand 'why it had not turned out as expected. He came to the conclusion that the relatively rapid recovery could be explained by the sharp depreciation of capital on a large scale and an equally sharp and major shift in the structure of exports from Europe towards the colonies'[7], with the British industry being central to the global capital accumulation. This allowed for the return to the dynamic growth of capitalism at the same time reproducing contradiction. All these led Marx to note that *capitalist production 'moves in contradiction which are constantly overcome but just as constantly posited*.'[8]

Generally the term crisis refers to 'interruptions in the process of capital accumulations and economic growth.'[9] And with any economic crisis primarily tied up is the question of 'Work' (here referred exclusively to the paid employment). Though crisis has many facets, however for the purpose of this dissertation it is the question of 'Work' that becomes more vital. The global economic crisis that we are witnessing since 2007 can be explained as Leo Panitch and Sam Gindin argues

> "*in terms of the historical dynamics and contradictions of the capitalist finance as they developed in the second half of the 20th century. By 1980s and 1990s as Giovanni Arrighi argues the 'predominantly monopoly capital' that earlier had succeeded 'predominantly competitive capital' was now 'giving way to what might be called predominantly financialized capital*."[10]

The term finance capital captures the greater mobility of the capital across sectors, time and space. But what does exactly the dominance of finance capital mean in the contemporary era? Economist Jayati Ghosh explains this by saying that 'it has accelerated and intensified the process of making capitalism the international system par excellence. With the process of globalization which is the defining feature of the

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[6] Ibid.p.1.
[7] Ibid.p.1.
[8] Karl Marx. Chapter on Capital in Notebook VII, '*Grundrisse: Foundations of the Critique of Political Economy*.' Translated by Martin Nicholas. (New York: Penguin, 1973), p. 410.
[9] Leo Panitch, Greg Albo & Vivek Chibber. eds. *The Crisis This time*. (New Delhi, Left Word,2010).p.2.
[10] Ibid.p.9.

era of finance capital involves not only greater trade integration but also mobility of finance across borders.'[11]

Thus if one compares this crisis with the last economic crisis that hit the advanced capitalist countries in the 1970s, the first thing that captures our attention is the fact of the dominance and flexibility or mobility of the finance capital which was earlier not there, markets were not this much integrated as it is today. In terms of 'Work' the same is the case, as today terms like flexibility and mobility are part of the job vocabulary. The question arises what has changed between then and now? If one wants to locate it in terms of 'Work', then the era of 'Fordism' which was the dominant form of production process (in the form of assembly line of production) till 1970s has declined quite visibly. It is interesting to note how social science academia has taken cognizance of this fact. Not only debate arose to call the post 1970 crisis period as the 'Post-Fordist' Era but also formulations were generated such as 'Post-Industrial society' (Daniel Bell), 'Post-Capitalist Society' (Peter Drucker), 'Information Society' (Frietz Machlup), 'Network Society' (Manuel Castells).

Here it is worth mentioning that though different theorists have given different names to the emerging new society but they are all united about the fact that the defining feature of the new era is 'Knowledge' and 'Information'. It is 'Knowledge' which is the main economic resource rather than capital and labor. And along with that they recognize the importance of the technological advancement made with the invention of computer and particularly with the Information Technology(IT). The argument given is that with the decline of manufacturing jobs and the subsequent blue collar work force, there emerges a more educated, skilled, technologically sophisticated, empowered white collar work force as 'Knowledge Workers' and this has led to the rise of knowledge based societies which were given different names (as mentioned above) by different theorists. At the same time it has sounded the death knell to the traditional blue collar industrial work force (at least in advanced capitalist countries) and subsequently categories like class, class struggle, alienation which were of utmost importance to understand the process of production in capitalism. And the logical corollary of this argument is that there is a 'structural shift' or a 'historical

[11] Jayati Ghosh. Reading Capital in the Age of Finance in *Marx's Capital: An Introductory Reade*r. ed. (New Delhi: Left Word, 2011).p.46.

discontinuity' in the capitalist mode of production itself. However the current ongoing economic crisis (from 2007) clearly indicates the other way round, a discussion of which is beyond the scope of this research.

The point to be noted here is that the capitalist world responded to come out from the 1970's economic crisis by granting market the overall supremacy. And it is the same time when the theories about the emergence of a new society based on 'Knowledge' started coming out. When this system started spreading itself across the globe, around 1990s the OECD countries in its official document came up with the notion of 'Knowledge Economy' which essentially is the characteristic of the knowledge based society.

It is in this context of the emergence of 'Knowledge Economy' with the redundancy of the classical Marxist concepts such as 'alienation', 'class', I want to situate this research work. Taking the context into account it becomes important to look into the concept of 'Work' once again to reassess classical Marxist categories like 'alienation'. 'Work' has always been associated with the concept of 'alienation' to understand the process of production within Marxist framework. And the question of 'class', particularly the working class has always been the central question for any Marxist analysis. Thus with the changing times, where the dominant academic discourses are in favor of seeing the traditional working class disappearing and in there place a new knowledge based workforce emerging as the dominant one, I would like to explore the following **Research Questions**:

- What are the primary changes that have taken place in the realm of 'Work'?
- With the changing nature of 'Work' what has happened to the process of 'alienation' or rather how 'alienation' is operative in the changing scenario?
- Finally what does it tell us about the class character of the dominant workforce in the 'Knowledge Economy'?

And through these questions I would like to establish a link between 'Work' and 'alienation' in the context of 'Knowledge Economy', keeping in mind the class character of the dominant workforce here. Thus 'alienation' will be the broader conceptual lens to understand the reality of 'Work' today and at the same time the contemporary work scenario will speak for the classical concept which is most of the

time taken as obsolete one. However though 'alienation' will be overarching conceptual lens for this study, first and foremost it will be used in the strictly Marxist Political Economic sense and thus it will be linked with the concept of labor theory of value and surplus value as these are primary concepts which Marx had used in his later economic writings to understand the reality of 'Work'. Thus 'alienation' will not stand here as feelings of isolation or dissatisfaction. Rather it will be located in the process of production in the changing scenario. Second, as far as the concept of 'class' is concerned it will be applied implicitly throughout the dissertation as the process of 'Work' and 'alienation' in this changing scenario is impossible to analyze without the understanding of the class character of the knowledge based workforce. Third, as in this dissertation I am mainly looking at the changes that has happened in the work process (paid employment) therefore I have chosen to describe the current era as the era of 'Knowledge Economy'. One can use the other similar terminologies like 'Post-Fordism', 'Post- Industrialism', and 'Information Society'.

Before going to the brief sketch of this dissertation in terms of the framework of chapters I would like to discuss about 'Knowledge Economy' so that the context in which I am talking about 'Work' becomes clear. At the same time it will tell us what are the main features of 'Knowledge Economy' and what does it promise for the future. This background will help us to understand the current situation of 'Work' and assessing the classical concept of 'alienation', in the subsequent chapters.

A Brief Note on 'Knowledge Economy'

> *'Capitalism is undergoing an epochal transformation from a mass production system where the principle source of value was human labor to a new era of innovation-mediated production where the principle component of value creation, productivity and economic growth is knowledge.'*[12]

Our economies today are being called 'Knowledge Economy' on the basis of the argument, that we are living in a new time and in this, capitalism has undergone a profound process of restructuring and a paradigmatic shift. For past few decades

[12] John Houghton & Peter Sheehan. *A Primer on Knowledge Economy*. Prepared by Center for Strategic Economic Studies, Victoria University, 2000. p.2.

arguments have been put forward by number of scholars and academicians that the economies of the developed countries now have moved into a 'Knowledge Economy'. However there remains a lot of fuzzy thinking about the domain of 'Knowledge Economy'. But if there is consensus on one ground, then it is on the issue that, this economy is driven by the technologies based on knowledge and information production and dissemination. The broad label of 'Knowledge Economy' covers a wide array of activities and interpretations. Three main lines of research Powell and Snellman identifies:

The oldest approach of 1960s focuses on the rise of new science based industries and their role in social and economic changes. This line of research is based on the core principles of centrality of theoretical knowledge as the source of innovation put forward by Daniel Bell. Then the second variant is focused on the question of whether particular industries are specially knowledge intensive and thus effort has been put to calculate how much these sectors contribute to the growth in productivity. The third type of research has focused on the issue of managerial orientation, issue of learning and continuous innovation inside the firm. Management guru Peter Drucker comes under this category. He was one of the first people to coin the term 'Knowledge Workers'.[13]

Powell and Snellman define 'Knowledge Economy' as

> '*production and services based on knowledge intensive activities that contribute to an accelerated pace of technological and scientific advance as well as equally rapid obsolescence. The key components of Knowledge Economy include a greater reliance on intellectual capabilities than on physical inputs or natural resources, combined with efforts to integrate and improvements in every stage of production process, from the R&D lab to the factory floor to the interface with customers.*'[14]

It is important to note here that a large section of mainstream media and the mainstream economists appeared to be obsessed with the emergence of the 'Knowledge Economy' in the OECD countries and elsewhere. Therefore to get an exact idea of what the 'Knowledge Economy' is all about I would now refer to the official OECD document of 1996 (Paris) called *The Knowledge Based Economy.*

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[13] For more on this refer to Peter Drucker. *Post-Capitalist Society*. New York: Harper Business,1994.
[14] Powell .W.Walter & Kaisa Snellman. The Knowledge Economy. *Annual review of sociology.* Vol.30 (2004). p.201.

The document on Knowledge Based Economy[15] starts with recognizing the fact OECD economies are increasingly based on knowledge and information. It is now seen as the driver of growth and productivity. 'The term Knowledge Based Economy stems from this fuller recognition of the place of knowledge and technology in modern OECD economies.'[16] It believes that growing codification of knowledge and its transmission through communications and computer networks has led to the emerging '*Information Society*'. 'Knowledge' as embodied in human beings (as human capital) and in technology has always been central to economic development. But only in the last few years its importance has come into the forefront. The OECD therefore recognizes the fact that its economies are strongly dependent on the production distribution and the use of knowledge than ever before. Investments are therefore being directed towards the high technology goods and services, particularly information and communications technologies. This economy also demands the skilled labor.

> '*Although manufacturing sector is losing jobs in all across OECD it is the high technology science based sector which is producing more and more jobs. These are more highly skilled jobs with the higher wages. It is the knowledge based service sector which is also strongly growing.*'[17]

OECD document defines the '*Knowledge Workers' as 'non-production workers'* means 'those who do not directly engage in the output of physical products'[18]. According to this report these are the employees who are in most demand. The uses of new technologies are improving the 'skill base' of the labor force and thus employers are now paying more for knowledge than for the manual work.

The concept of 'Knowledge Economy' can be characterized as follows:

- 'Knowledge Economy' is based on increasing role of 'Knowledge' as a factor of production and its impact on skills, learning, organization and innovation.

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[15] Though OECD has a separate document on the 'Service Economy', here in this dissertation when I am using the term 'Knowledge Economy', the assumptions for the service work is also taken into account as the distinction between the two is often blurred. For more refer to OECD 2000 document on *The Service Economy*.
[16] *The Knowledge Based Economy*. OECD Document. Paris. 1996. p.3.
[17] Ibid.p.10.
[18] Ibid. p.10.

- There is an enormous increase in the codification of ‘Knowledge’ which together with networks and digitalization of information is leading to its increasing commodification.
- Increasing codification of ‘Knowledge’ in leading to a shift in the balance of the stock of knowledge- leading to a relative shortage of tacit knowledge.
- Codification is promoting a shift in the organization and structure of production.
- Information and communication technologies increasingly favor the diffusion of information over reinvention thus reducing the investment of a given quantum of ‘Knowledge’.
- The increasing rate of accumulation of ‘Knowledge’ stocks is positive for the economic growth as ‘Knowledge’ is not exhausted in consumption.
- Codification is producing a convergence, bridging different areas of competence reducing ‘Knowledge’ dispersion and increasing the speed of turnover of the stock of ‘Knowledge’.
- The innovation system and its ‘Knowledge’ distribution power are critically important.
- The increased rate of codification and collection of information are leading to a shift in focus towards handling skills.
- Learning is increasingly central for both people and organization.
- Learning involves both education and learning by doing, learning by using and interacting.
- Learning organizations are increasingly networked organizations.
- Initiative, creativity, problem solving and openness to change are increasingly important skills.
- A transition to Knowledge Based Economy may make market failure systemic.

- This economy fundamentally is so different from the resource based economy of the last century that conventional economic understanding needs to be reexamined.[19]

Thus it is clear that 'Knowledge Economy' needs the revision of the economic theories and models as in traditional model the process of production focuses on the labor, capital, materials and energy etc. But to make this economy work 'Knowledge' has to be included more directly into the production functions. This is definitely not an easy task as unlike other resources knowledge and information seemed to be abundant and thus it defies some of the classical (and favorite of mainstream economists) economic principles like scarcity. According to the OECD document for the facilitation of the economic analysis, distinction can be made between different kinds of 'Knowledge' which are important to the Knowledge Based Economy: *know what*- which is all about facts, *know why*- scientific knowledge of the principles and the laws of the nature and this kind of knowledge underlies technological development and product and process advances in most industries. *Know how* this refers to the skills and capability to do something. And *know who* which information about who knows what and who knows how to do what? Now the *know what* and *know why* are the broader component of knowledge and closest to be the market commodities and economic resources. The other two parts *know how* and *know who* more *tacit knowledge* difficult to codify and measure. The development of information technology here becomes important to handle what and why kind of knowledge. This 'Knowledge' by the virtue of being codified can be reduced to information and transmitted long distance at a very limited cost and thus the current era is called as Information Society. The OECD is of the opinion that due to this codification 'Knowledge' is acquiring the properties of a commodity. And therefore there is more and more connection now between tacit and codified knowledge as tacit knowledge as the skills are required to handle the codified knowledge. There is more demand in the labor market ever before for the skilled employees.

Since it is the diffusion and use of information and knowledge as well as its creation that is why the traditional linear model of innovation has undergone a massive change

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[19] John Houghton & Peter Sneehan, *A Primer on the Knowledge Economy,* Center for Strategic Economic Studies. 2000.p.9.

with the chain link model of innovation where inter firm interactions are permitted. Thus the OECD is of the opinion that these countries are continuing to evidence a '*shift from industrial to a post industrial knowledge based economies*.'[20] And thus *technological progress* and *accumulation of knowledge* are the two most important things which governments of these countries should take into consideration while following policies.

In a nutshell we can say 'Knowledge Economy' emerges out as a system based on four major pillars- innovation, new technologies, human capital and enterprise dynamics. The idea of the 'Knowledge Economy' is then not just a description of high tech industries. Because of its application part, it can be applied to all sectors, all companies and all regions from agriculture to retailing from software to biotechnology. And inevitably it is linked with the process of globalization and the growing role of competition in a less regulated market economy in determining economic outcomes.

Economist C. P. Chandrasekhar points out certain difficulties with this formulation as he says 'arrival of this 'Knowledge Economy' is a presumption rather than an empirically established fact'[21] and argues that the stock of knowledge embodied in production is difficult to measure and compare across time. He further states that, if the production and use of information and communication technologies are the indicators, this set of technologies is being privileged over others such as internal combustion engine or electricity in terms of its effect on economics, with the former denoting a systematic shift and the latter merely delivering the technological progress. This presumes that unlike the earlier technological breakthroughs the improve access to the IT that ICT ensures results in a qualitatively new conjuncture. He goes on to argue that if reliance is placed on contribution to the GDP and employment of not just IT but also IT related sectors then the period after late 1960s turns out to be knowledge intensive.

Thus it can be said, with the help of the brief discussion above that those who are proposing that a significant break or shift has happened in the society around are

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[20] Ibid.p.18

[21].C.P. Chandrashekhar. 'Who needs a "Knowledge Economy": Information, Knowledge and Flexible Labour'. *Social Scientist*, Vol.34, No. 1/2 (Jan- Feb, 2006) p: 70-87

arguing in favor of coloring the current economy as 'Knowledge Economy' with all its benefits and promises for the future. It is worth noting that this phenomenon is definitely not restricted to the advanced capitalist countries anymore as 'Knowledge Economy' itself is based on the process of globalization where subcontracting of jobs and outsourcing have become the norm. Thus countries like India and China are now considered to be the part of the benefit as they are now integrated with the global economy. Therefore the discussion on 'Knowledge Economy' will not be complete without mentioning the case of the developing world. Here I will mainly stick to the situation in India.

'Knowledge Economy' in India

> *'Knowledge as it is applied in entrepreneurship and innovation, research and development, software and product design and in how people use their education and skills is now widely believed to be one of the key resources of global economy. The increasing importance of knowledge creates both a challenge and opportunity for the developing world. A challenge in that to be competitive internationally countries must be able to participate effectively in the knowledge driven supply chains and the market that dominate the global economy. …..India can tap into a number of strengths as it transforms itself into a knowledge based economy. Skilled human capital, a democratic government, widespread use of English, macroeconomic stability, a dynamic private sector, institutions that support free market economy, one of the largest local markets in the world, a well developed financial sector, a rich cultural base that generates wealth of ideas, a broad and diversifies science and technology infrastructures as well as global niches in information technology.*'[22]
>
> *World Bank: 2005.*

This above view of the World Bank makes it clear why a country like India can think to be part of the 'Knowledge Economy' and it seems that in order to tap all the resources that will help India to be a power, it needs a free market, less state regulated economy and therefore the story of India has to be situated not only in the context of globalization but also in the context of state led liberalization of the Indian economy in 1991.

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[22] Carl Dahlman & Anuja Utz. (eds). *India and The Knowledge Economy: Leveraging Strengths and Opportunities*. (Washington: The World Bank, 2005.) p.ix.

India's story of economic reforms had begun since its independence when the debate was on the issue of role of state in the development of agriculture and industry and about economic planning. In this division of state and market Rahul Mukherjee[23] divides the Indian experience into three broad phases. The first period from 1947 to 1968 saw the birth of giant public sectors, trade protection and incentives for the Indian industry to operate within a protected Indian market. The second phase between1969 to 1974 saw the intensification of state intervention with agricultural reforms. The third phase from 1975 onwards saw the evolution of a model which increasingly relied on price incentives and efficiency. It was a slow and evolutionary phase. The shift happened from import substitution to the trade promotion but it was slow. The post 1975 period when the phase of economic reform started from 1991 represented a radical departure from the past. This period witnessed significant amount of structural changes which favor competition, private investment, and bigger role for the market particularly in the areas of telecommunication and capital markets.

There is significant amount of debate regarding the fact whether this opening up or structural adjustment were needed at all or not? That debate is beyond the scope of this research. But it is true that the transition of 1991 was of paramount importance to understand the emergence of India as a 'Knowledge Economy'. Proponents of 'Knowledge Economy' hailed the reforms as the much needed one. For them the financial crisis in India was long brewing and when the gulf crisis came and the oil prices hit high, India found it had no money to buy oil and countries. Foreign exchange reserve dwindled to a dangerous level. Therefore the country was on the verge of bankruptcy and the loan form IMF was much needed at that time. However this theory was challenged by Marxist economist Prabhat Patnaik as he says that the question here is not about the situation prior to approaching the IMF for credit under a range of facilities but it is about the fact that the crisis itself first and foremost was 'entirely speculative in origin having little to do with the development in the real sectors of the economy.'[24] Thus he argues the reason that India went for the process of liberalization was not because of any objective necessity faced by our economy but

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[23] Rahul Mukherjee.ed. *India's Economic Transition: the Politics of Reforms.*(New Delhi:Oxford University Press, 2007) p.1.

[24] Patnaik Prabhat & C.P. Chandrasekhar: *The Indian Economy Under Structural Adjustment* in Rahul Mukherjee ed. *India's Economic Transition: the Politics of Reforms.*(New Delhi: Oxford University Press, 2007.) p.53.

because of the 'liberalization lobby' of both Fund and Bank as well as elements within the government and the business class who considered this as a opportunity to tie the country down to the structural adjustments.[25] It is worth mentioning that the World Bank in its report in October 1990 already suggested that rupee should be devalued by 20% which may have started the speculative outflow. The flight of capital form the Foreign Currency Non Resident Accounts alone added up to $1.33 billion between October 1990 and June 1991.[26]

Today after more than two decades of economic reforms we get to see that India is now being called a Knowledge Based Economy and in her case the only criterion on the basis of which this has been said is the growth of her IT sector. It is true that today this country has achieved a sizable IT sector. The latest NASSCOM report suggests that in the year 2011-12 this industry has generated a 19% growth rate than the previous year and estimated to aggregate revenues of US$100 billion. In terms of its contribution to the Indian economy NASSCOM claims this industry amounts to 6.4% of India's GDP and 14% of total export and 10% India's service sector revenues. Thus placing in the context of the whole economy this sector becomes vital to study among the non-agricultural sector. India's IT sector in the last two decades has grown so rapidly that Bangalore is compared with the Silicon Valley. However the story of the Indian IT industry was not always as bright as it seems today. Prior to 1984 the story of the Indian IT sector was highly regulated, under the model of ISI and the ideology of self reliance of the Indian economy. It was the time when India was not integrated to the global economy. Therefore the software exports never took off in that period. However Rajiv Gandhi's election as a PM was the turning point for the policy reform in India's software industry. 'A computer policy announced in November 1984 recognized software as an industry making it eligible for an investment allowance and other incentives.'[27] In 1986 further the Computer Software Export, Development and Training Policy marked an explicit rejection of the ISI and the goal of self reliance. The software technology parks (STP) were established in early 1990s by the department of electronics ensured that the infrastructure and

[25] It is interesting to note here that the Govt. of India has never brought any white paper on the balance of payment crisis as demanded by several opposition parties at that time. Ibid.p.55.
[26] C.T. Kurien, *Global Capitalism and Indian economy*. (Delhi. Oxford University Press,1994).p.100.
[27] AnnaLee Saxenian .Bangalore: The Silicon Valley of Asia*?* in Rahul Mukherjee ed: *India's Economic Transition: the Politics of Reforms*. (New Delhi:Oxford University Press, 2007) p. 360.

administrative support for export were available in India. STP became an Export Processing Zone for software in India. The introduction of STPs in India collided with the process of economic liberalization in the country. The introduction of the STPs facilitated the shift from the onsite to offshore service provision in the 1990s. In this scenario the state govts are also not far behind as they have also promoted some of the far reaching policy innovations for the IT sector. Chandrababu Naidu, former Chief Minister of Andhra Pradesh (1995-2004) was one of them. He was effectively promoting e-governance at that time. And the central government made the National Task Force on IT and Software Development in 1998. They came up with the IT action plan within a year. This plan called for more liberalization of the telecommunication market in India. And the then PM Vajpayee showed his support to the plan by creating a Ministry of Information Technology in 1999 to see its implementation. So we can clearly see what made this country today to be called the part of the 'Knowledge Economy'.

Thus it seems that this IT dream has captured the imagination of the Indian Policy makers to make India a world class, in IT; rather I should say a superpower in IT. The basic distinction that exists in IT is between hardware and software, now for India IT is mainly software because the hardware industry is not as robust as the software is. And the software mainly means 'analysis, specification of requirements, design, coding, testing, installation, maintenance and support' and many of these mainly the coding and testing involves routine IT skills in which most of India's workforce in this industry is employed. It is the software export that has captured the headlines in India. Therefore question arises whether this story of IT boom is another version of the global sweatshop production with lines of code replacing the garments.

What comes out from the brief note above that any discussion on the issue of 'Work' in the context of 'Knowledge Economy' has to take into account not just the scenario of advanced capitalist countries but also the developing world, as today all parts of the globe are integrated through the market. Keeping this in mind I would like to proceed to the detailed layout of this dissertation in terms of the framework of the chapters.

Framework of the Chapters

In the first chapter called '***Debates on the Restructuring of Capitalism***' I will highlight the various debates on the issue of restructuring of the advanced capitalist society post 1970s crisis, to look at the different formulations that arose to characterize the emergence of a knowledge based society. This becomes important as these formulations are the precursors of categorizing the contemporary economic system as 'Knowledge Economy'. Here I will go through the arguments given by different schools of thought that took part in the Post-Fordist debate and then by Daniel Bell, Manuel Castells. They can be clubbed together to take the position in favor of a decisive break in the Capitalist Mode of Production. Then I will talk about the position taken by David Harvey and argue with him that though contemporary period is a period of transition and transformation, but the same does not signify the change in the mode of production as such, and it urges us to take account of dynamism of the present mode of production itself which remains a critical feature. It is necessary to take cognizance of the fact that role played by the invention of IT in all of this and also to understand technology is a product as well as instrument of capitalist process of production itself- like every other forces of production. Any attempt to render an autonomous agency to technology leads into mystifications about real labor process and operative laws of mode of production.

Keeping in mind the role of technology within capitalist mode of production, I will go to the second chapter called '***Work Process in Knowledge Economy***' to make an attempt to understand what it mean to 'Work' in 'Knowledge Economy' and how is it different from past? As Harvey makes the point that, it is in the realm of 'Work' and occupational structure that the question of continuity and discontinuity of a mode of production can be critically assessed. To do that rather than analyzing the responses of workforce, following empirical path to arrive at conclusions which prove indecisive at best, and reproducing the ideological claims of bourgeoisie; I will use theoretical framework of labor process debate and 'deskilling' which is linked with the understanding of 'alienation' to assess the changing work scenario. This effort is inspired by Harry Braverman's '*Labor and Monopoly Capital',* which is one of the most important intellectual events of the 1970s. His book started and renewed the study of the workplace and inspired a whole generation of social scientists to look into the question of what is 'Work', conditions of work and workers in advanced capitalist

societies. Proceeding from Braverman's argument I will go on to study the scenario of work process in 'Knowledge Economy'. Here one qualification I would like to make that as the IT revolution first took place in the Silicon Valley of USA and it started changing the notion of 'Work' with the coming up of new kind of 'Work' in terms of Software Work, I will assess the changes there primarily. It is to be taken into account that this kind of 'Work' has been primarily responsible for changing the 'Work' in the other sectors like R &D, Finance, and Services etc. And as the process of subcontracting is part of the overall change I will look at the scenario of IT Sector in India as that stand as the prime sector of 'Knowledge Economy' in India. In this chapter I would like to put forward the argument that the picture that emerges is far too complex and cannot be reduced to either deskilling and displaying tendencies of increasing proletarisation of 'Knowledge Workers' or on the other hand, that of reskilling and thus blanketly endorsing the claims of capital- that of true realization of labor's potential. The effort is to delineate the salient features of capitalism such as private property, automation as a strategy for generating of surplus value, and weakening of organized labor indicating growing sway of capital, primarily assisted by technical-managerial systems to realize the surplus in the current context. Thus it will help us clear the ground for a full view of a system very much following the rules of the capitalist mode of production.

In the beginning of the third chapter called '***Understanding Alienation in the Context of Knowledge Economy***' I will try to answer the point about selecting 'alienation' as the conceptual lens for this research and also will discuss the concept given in Marx. From there I will go on to analyze the questions such as how do we place the 'Knowledge Workers' in particular and technical-managerial workforce in general, in the scheme of production? Does this labor produce value? Can we equate this labor with labor producing commodity or in simple terms, does the popular distinction between 'blue collar' and 'white collar' jobs hold true any longer? If not, then how does one demarcate this class from capitalist class? Does application of the framework of theory of value and conceptual lens of alienation to analyze the labor of technical- managerial nature produce any meaningful insights into the functioning of the capitalist mode of production and how capitalist societies produce the conditions of their own reproduction in the context of 'Knowledge Economy'?

Thus through this dissertation I not only hope to bring out the reality of 'Work' in the contemporary era against the propaganda of empowerment of the workforce, liberating aspect of 'Knowledge Work' but also to make the point about, the necessity to keep referring back to classical theoretical concepts such as 'alienation', 'class', 'labor theory of value', 'generation and realization of surplus' to understand what lies in the heart of the process of production. The larger point that need to be understood is as Marx says in 'The Communist Manifesto' that;

> '*the bourgeoisie cannot exist without constantly revolutionizing the instruments of production, and thereby the relations of production and with them the whole relations of society……..All that is solid melts into air*.'

A Word on Method

As far as the methodology of this dissertation is concerned it is based on the literature review of the secondary sources like classical Marxist texts, and other related contemporary texts and journal articles. And in terms of primary source I have only used the data provided by the NASSCOM in their annual report 2011-12 to see the percentage of the population engaged directly and indirectly with the IT and IT related knowledge professions in India and also how much this sector is contributing in the overall economic growth in India.

CHAPTER I

Debates on the Restructuring of Capitalism

The interval between the decay of the old and the formation and establishment of the new constitutes a period of transition- which must always necessarily be one of uncertainty, confusion, error and wild and fierce fanaticism.

John Calhoun[1]

Introduction: It is a well known fact today that the heightened presence of Information Technology (IT) and its subsequent diffusion and penetration in all corners of the society has brought various changes in an unprecedented manner. At the same time it has thrown questions about how to characterize the contemporary society taking into account its presence? The issue of contestation is whether the emerging new trends represent a radical break from the past or a refinement, modification of the old structures. More specifically, technological innovations have done it in the past to bring unprecedented changes like the invention of steam engine for the Industrial Revolution. The question is therefore about how to theorize the change. Though not uncontroversial, there is an emerging consensus in social sciences that the period since mid 1970s represents a transition from a distinct phase of capitalist development to a new one[2] and those who are arguing in favor of the change have come up with the concept of 'Information society' or 'Post-Industrial Society', 'Post-Capitalist Society' or 'Network society'. They have increasingly begun to talk about Information as the defining feature of the modern world. We are told that we are entering an 'information age', that a new 'mode of information' predominates and that we have moved into a 'global information economy'.[3] The main argument was given that this new spread of information technology is transforming economic activity. More recently terms like 'New Economy' and 'Knowledge Economy' are increasingly in use implying that a range of developments including of course the ICT

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[1] John Calhoun in David Harvey's Book: *The condition of Post-modernity*: *An Enquiry into the Origin of Cultural Change*. (Oxford:Blackwell Publishers,1989).p.123.
[2] Ash Amin ed. *Post – Fordism: A Reader*.(New York:Blackwell Publishers, 2000) p.1.
[3] Frank Webster. *Theories of the Information* Society. (New York:Routledge, 1995) p.1.

revolution, necessitate a paradigmatic shift in our understanding of how economic mechanisms and economic systems work.[4] And proponents of 'Information Society' and of 'Knowledge Economy' argue in favor of "historical discontinuity" in terms of the capitalist mode of production. The understanding is 'technological change is transforming the nature of current day capitalism'[5]. What becomes interesting here is to note the political fallout of this kind of theorization. Questioning the vitality of capitalist mode of production in terms of describing the change as 'restructuring of capitalism' or 'structural crisis' means questioning its fundamental laws put forward by Marx and subsequently concepts like 'alienation', 'class' and 'class struggle', which has been instrumental so far to understand what lies at the heart of the production process. At the same time it asserts a deterministic role for technology and technological innovations for bringing about the transformation ignoring the fact that technology itself is not autonomous or independent and thus technological changes are very much structurally and socially embedded process.

Formulations about the rise of 'Information Society' started getting preeminence around 1970s when the advanced capitalist countries suffered a massive set back in terms of economic crisis and they took the 'neoliberal turn' with the fall of the welfare state. All the transformations and churning that has happened in the global economy since then definitely requires our attention. But at the same time it is also important to lay bare the ideological underpinnings of this kind of theorizations. In this chapter my aim is to characterize the debate that arose in the context of the formulations regarding 'Information Society' & later the 'Knowledge Economy', to understand what implication it has for the nature of 'Work' today.

The framework of the chapter will be as follows: I will first examine the historical context of this transformation. Following that the focus will be on the different kind of responses to the change and the debate it has generated. Here focus will be on the Post- Fordist Debate along with three kinds of theorizations staring with Daniel Bell and his formulations about the *Post-Industrial Society* which is supposed to be one of the earliest formulations and then will discuss one of the very latest formulation given by Manuel Castells as the *Network Society* and finally will discuss David Harvey for

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[4].C.P. Chadrashekhar. Who needs a "Knowledge Economy": Information, Knowledge and Flexible labour. *Social Scientist*, Vol.34, No. 1/2 (Jan- Feb, 2006) pp: 70-87.
[5] Ibid.p.70.

whom this overall change does not represent any kind of break from the past and arrival of a new society but rather a change in the regime of accumulation which he terms as *flexible regime of accumulation*. Thus Through this broader debate of 'break' and 'continuity' in the capitalist mode of production I hope to aggregate certain features that this period shows or promises to show. One of the central features is the primacy of knowledge and information which explains the emergence of the terminologies like 'Knowledge Economy' (which I have already discussed in detail in the introduction of the dissertation.) and thus through this we will be able to situate and contextualize the study of 'Work' in the contemporary era and will build the connection between 'Work' and 'alienation' in the changing scenario. At the same time I hope to bring out the ideological underpinnings of the various positions of the debate and the political fallout of the entire scenario.

A Brief Historical context

As I have mentioned earlier the debate takes us back to the era of 1970s which marks a 'revolutionary turning point in the world's social and economic history'.[6]In 1973 the world witnessed the Oil crisis, 1979 Paul Volcker took command of the US Federal Reserve and within a few months dramatically changed its monetary policy. In Britain Margaret Thatcher had already been elected as the prime minister with a mandate to curb the trade union powers. In 1980 Ronald Reagan became the US President and started to support Volcker's move and his own politics of cutting the powers of the laborers, deregulation of industry, agriculture and liberate the powers of finance internally and on the world stage.[7] Thus if on one hand industries were deregulated then on the other the withdrawal of the state happened from many areas of social provisions which marked the decline of the welfare state model.

All of these political developments changed the scenario of 'Work' largely. Before going into that change it is important to state in brief what the situation before 1970 was and what led to that crisis in 1973. One of the ways of looking into it is by using the notion of crisis of Fordism. Fordism broadly refers to the way in which economic, social and even cultural life was organized in the USA and Western European countries. The symbolic initiation date of Fordism surely would be 1914, when Henry

[6] David Harvey .*A Brief History of Neoliberalism.* (New Delhi: Oxford University Press, 2005) p.1.
[7] Ibid.p.1

Ford introduced the 'five dollar, eight hour' day as recompense for workers manning the automated car assembly line he had established the year before at Dearborn, Michigan. In many respects Ford's organizational and technological innovations were a simple extension of previous trends like the corporate form of business organization. F.W.Taylor's *The Principle of Scientific Management*[8] was published by 1911.The separation between management, conception, control and execution was already well under way in many industries but the special thing about Ford was his vision and explicit recognition that mass production meant mass consumption, a new system of reproduction of labor power, a new politics of labor control and management, a new aesthetics and psychology, in short, a new kind of rationalized, modernist, and populist democratic society.[9] Antonio Gramsci noted in his *Prison notebooks* that Americanism and Fordism are 'the biggest collective effort to date to create, with unprecedented speed and with a consciousness to purpose unmatched in history, a new type of worker and a new type of man.' The fact is, it took long for Fordism to establish itself as a full-fledged regime of accumulation. Harvey explains this by saying that 'Ford believed that a new kind of society could be built simply through the proper application of corporate power.'[10] The five dollars and 8 hours a day were the way to secure the compliance of the workers needed for the assembly line production process. Harvey points out to two major difficulties for the spread of Fordism: first the *state of class relations* which was a major factor in the capitalist world to make the system conducive to the easy acceptance of this routinely regime of work[11]. The second difficulty was the *way of state intervention*. It was the great depression of 1933 and the near collapse of capitalism which made the capitalist world accept the welfare state model. The problem as economist like Keynes saw it to arrive at a set of scientific and managerial strategies and state powers that would stabilize the

[8]*The Principle of Scientific Management*- it is basically an influential tract which described how labor productivity could be radically increased by breaking down each labour process into component motions and organizing fragmented work tasks according to rigorous standards of time and motion study. David Harvey.*The Conditions of Postmodernity: An Enquiry into the Origin of Cultural Change.* (New York:Blackwell Publishers, 1989) p.125.
[9] Ibid. p.125-126.
[10] Ibid.p.126.
[11] Harvey points out that it took major revolutions in class relations – a revolution which began in the 1930s but came to its fruition only in the 50s to accommodate the spread of Fordism. *The Conditions of Postmodernity: An Enquiry into the Origin of Cultural Change.*(New York:Blackwell Publishers, 1989) p.128.

capitalism.[12]Therefore it was not very hard to understand why the compliance and discipline of the worker was needed and a capital and labor accord was inevitable. All of these were achieved in a full-fledged manner only after the Second World War which became the basis for the long post war boom and remained intact till 1973.

During this time the advanced capitalist countries achieved strong and stable rates of economic growth, living standards rose, Fordism became firmly connected with Keynesianism. Therefore this Fordist-Keynesian era can be characterized as having mass production of goods as the norm. It saw the rise of series of industries like cars, ship buildings, transport equipments, steel, petrochemicals etc. The predominant group of employment was industrial workers mainly male blue collar workforce and in the industry high degree of unionization was recognized which were effectively used to maintain the accord between capital and labor. Along with it mass consumption following increase in wages, decreasing cost of consumer goods became the norm. Planning was vividly acknowledged and that gave the room for the rise of welfare state model. The states undertook various ways of providing social security like healthcare, education, housing etc. However the forms of state intervention varied across advanced capitalist countries. Harvey therefore sees Postwar Fordism not merely as a system of mass consumption but as a total way of life.[13] And along with it one thing should be remembered that it was very much of an international affair as this boom was depended upon the expansion of the trade and investment in the world scale. And this new international effort after the Second World War made the wake of other activities like banking, insurance, services, tourism, hotels, and airports possible. And all of these were secured under the hegemonic umbrella of USA's financial and economic power backed by their military domination.[14]The Bretton Woods agreement in 1944 turned dollar into the world's reserve currency and thus tied the world's economic development to the US fiscal and monetary policy.[15] Now the balance or equilibrium that this era had established between mass production of goods and mass consumption as the norm worked to prolong the inherent tendency of

[12] Ibid.p.129.
[13] Ibid.p.135.
[14] Ibid.p.137.
[15] Ibid.p.137.

capitalism towards the crisis of overproduction and under consumption.[16] For nearly 25-30 years this equilibrium could be maintained till the time it hit the crisis and this system started getting disintegrated and for many the way of looking things now after the dissolution of Fordist era is via the terms of Post-Fordism. However as Nick Heffernan suggests that while there was a considerable amount of agreement among the scholars about what meant by Fordism, Post- Fordism is a much disputed category.[17] I will be dealing with these new notions of characterizing the capitalist society in the post crisis era in detail in the next section of this chapter through the debates regarding restructuring of capitalism. But let us come back to the period of crisis[18] in order to contextualize the debate.

Harvey analyses the problems with Fordism since the mid-1960s. By that time Western European and Japanese recoveries were complete and their internal market saturated. During the period of 1965-1973 it was very clear that Fordist-Keynesian system could no longer sustain the inherent contradiction of capitalism. Harvey explains this problem as the rigidity, rigidity of long term and large scale fixed capital investment in mass production system, rigidity of labor markets, labor allocation and in labor contracts and also rigidity of state commitments. The way out at that time was bringing flexibility into monetary policy to print money in whatever rates necessary to keep the economy stable. And thus become the 'inflationary waves' which started sinking the postwar boom. Therefore both USA & UK tried to maintain the postwar boom via loose monetary policy during this time and when they attempted to curb the inflation in 1973 it exposed ' a lot of excess capacity in western economies triggering first of all a worldwide crash in property markets and severe difficulties for financial institutions.'[19] This entire situation was proliferated with the Arab- Israeli war of 1973

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[16] This balance meant that the increasing number of working population were able to consume the very goods that they helped in manufacturing.

[17] It is worth mentioning that there are many versions of Post-Fordism on offer in the period of flux in which the notion of 'restructuring' has become a commonplace. Nick Heffernan.*Capital, Class & Technology in Contemporary American Culture: Projecting Post-Fordism.* (New York:Pluto Press,2000). p.4.

[18] For more on the 1970s economic crisis refer to Robert Brenner. *The Economics of Global Turbulance: The Advanced Capitalist Economies from Long Boom To Long Downturn, 1945-2005*. London,Verso.2006. and also Giovanni Arrigi's response to the Brenner Debate in the article called 'The Social and Political Economy of Global Turbulance'in 2003 in *New Left Review*,20.Mar-Apr.2003.pp.5- 71.

[19] David Harvey. *The Conditions of Postmodernity: An Enquiry into the Origin of Cultural Change.* (New York: Blackwell Publishers, 1989). p.145.

and the subsequent oil crisis and it resulted into what we know as 'stagflation'[20]. This made the entire 'Fordist compromise[21]' untenable and capitalism needed to adopt radical changes to come out of it.

The period of economic restructuring that took place along with social and political readjustments raised questions of whether the fundamental laws of capitalist mode of production are operative today or not.[22] I will analyze this question in the later section. For the time being, I will just underscore what are the principle changes has taken place in this transitory period which gave rise to the debate and the new kind of formulations such as 'Information Society' and later 'Knowledge Economy'.

David Harvey characterizes this change as the change from *rigidity to flexibility*. One of the primary political fallout of this restructuring in an advanced capitalist country is the *assault on organized labor mainly the trade unions*. They were disempowered considerably particularly in Britain under Thatcher and in USA under Reagan Administration. And the second most prominent feature was the *'vertical disintegration' of the organization.*[23]*Thus the labor market has to undergo a radical restructuring*. Now with the strong market volatility, more severe competition, and lesser union power the employers can push for more flexible work regime and labor contracts. So the broader picture that emerged was that a core group of employees with full time jobs and permanent status was shrinking considerably and this group at the same time is expected to be geographically mobile if the need be. At the same time these changes lead to the increase in the pattern of sub contracting of jobs and its temporary nature. Harvey points out that the current trend in the labor markets is to reduce the number of the core workers and to rely increasingly upon a work force that can quickly be taken on board and equally quickly and costlessly be laid off when

[20] Stagflation means where output of goods are stagnant and at the same time high inflation of prices are there. Ibid.p.145.
[21] It is called a compromise as it tried to achieve things as full employment, rising standard of living etc which undermines the inherent tendency of capitalism.
[22] It is worth mentioning that production for profit is taken as one of the fundamental features of capitalist mode of production.
[23] Vertical disintegration basically means that instead of producing as much as is possible within a single organization there is a trend towards contracting with outsiders for as many as possible of the company's requirements. This is related with the strategy of outsourcing. Frank Webster. *Theories of the Information Society*. (New York: Routledge, 1995.) p. 143.

times get bad.[24] This transformation in the labor market also got reflected in the shifts that happened in the industrial organization as it opened up opportunities for the small business ventures. I have mentioned earlier was the assault on the organized labor, as functioning of the labor union heavily depended upon the massing the worker within the factory. With the coming of new techniques and organizational forms in production process it sounded the death knell of some traditionally organized business as adapting to the flexibility was not that easy for all, especially small enterprises with limited financial, operational resources. The emergence of subcontracting and outsourcing has sharpened the competition and has led to more risk.

Further, focus on flexibility in work has led to the acceleration in the pace of production process as a whole and thus the turn over time which was always influential for capitalist mode of production got reduced dramatically. Turn over time got reduced not just in the process of production but at the same time in the consumption part also. Harvey believes all the churning that has happened since then in the process of production, consumption coupled with information gathering and financing 'underlay the proportionate surge in the service employment since the early 1970s.'[25]

What becomes clear from Harvey's account given above, is that whatever restructuring has gone through in the advanced capitalist countries since the crisis, points to the fact that the fundamental visible change has occurred in the realm of work i.e. there is change in the occupational structures. And in this change in the nature of work, technology particularly the advancement of information technology (IT) has become the most crucial factor for the vast changes that has taken place. Though information and dispersal of information were always crucial but IT through the innovation of Internet has made accurate and up-to-date information the most crucial factor. Because with the vertical disintegration of the organization; it has become more important to have access and control over information to maintain the control. And in this process knowledge has become a key commodity. This has happened along with the global reorganization of the financial system which according to Harvey has become so complicated that it is out of common man's

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[24] David Harvey. *The Conditions of Postmodernity: An Enquiry into the Origin of Cultural Change*.(New York: Blackwell Publishers, 1989) p. 152.
[25] Ibid.p.156.

understanding.[26] With the change in the financial system the banks and financial organization are more powerful now.

Frank Webster analyses this change as the fall out of globalization. There is a considerable debate on globalization as well which is beyond the scope of this chapter. I will flag off the basic understanding with which Webster has analyzed this change from 'rigidity to flexibility'. For Webster the term globalization is not just growing inter-nationalization of affairs but much more than this it signals 'the growing interdependence and interpenetration of human relations alongside the increasing integration of the world's socio-economic life.'[27] Therefore he believes that it is capitalism which has pioneered globalization, has proven its success by the way of globalizing the market, the production process, the finance sector and of course the means of communications. And all these things have made Fordism untenable.

The debate regarding the characterization of the era after the crisis and subsequent demise of Fordism also harps upon another factor that is the role played by IT and particularly the Internet. Therefore it is important to put into context the genesis of the IT particularly internet as much of the characterization of the contemporary society as information society and then the economy as the 'Knowledge Economy' is based on this particular feature and its massive expansion since 1970s.

Information Technology (IT) is actually an all encompassing word where converging set of technologies are being incorporated like the technologies in micro electronics, computing (machines and software), telecommunications and broadcasting, and 'opto-electronics'. Manuel Castells also includes in this realm the technology of genetic engineering and its expanding set of applications.[28] Around these constellations of technologies major breakthroughs has occurred in the last two to three decades. Now a close look at the history of technological revolutions will reveal that all of them were characterized by their pervasiveness and penetrations in the domain of human activity. For many the current IT revolution is different as it is essentially dependent upon the centrality of information and knowledge but like Castells, they would

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[26] Ibid.p.160.
[27] Frank Webster. *Theories of the Information Society*. (New York:Routledge, 1995). p.136.
[28] Manuel Castells. *The Rise of the Network Society. (* New York:Blackwell Publishers, 2000).p.29.

suggest it is not the centrality of information and knowledge but the application of the same to knowledge generation and information processing that becomes vital. For our purpose the focus will be particularly on the Internet as its invention was one of the prime factors for the development of the kind of work that is being done in 'Knowledge Economy'. The invention in the field of IT particularly started after the Second World War. The history of this invention can be traced in the three main technological fields as Castells shows like in the micro-electronics, computers and telecommunications. Whether it is the transistor that was invented in 1947 at the Bell Laboratory or the IC (integrated circuit) in1957 but the most crucial invention which made this diffusion of microelectronic technology possible to such a large extent came in 1971 with the invention of the microprocessor by the Intel Engineer Ted Hoff which practically made the computer come on a chip.[29] This increasing chip power enhanced the micro computing power dramatically in the last twenty years and thus the networking capability increased so many times than the earlier one because of invention in both telecommunication and computer networking technologies. Telecommunication has been revolutionized by the combination of the 'node' technologies like electronic switches and routers and new kind of transmission technologies and the opto electronic technology and digital packet transmission technology has enabled broadening of the capacity of the transmission lines. And the convergence of all these electronic technologies led to the creation of the Internet which became the most crucial invention in the IT field.

Castells gives us brief detail about the creation of the internet. It resulted from a unique blending of military strategy, big science corporation, technological entrepreneurship and counter cultural innovation.[30] The origin of the internet lies with the US Defense Department's Advanced Research Projects Agency (ARPA). Its main aim was to prevent a Soviet takeover of American communication system in the case of a nuclear war. The first computer network that went online on September 1, 1969 was named ARPANET. At that time it was only open to the research center

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[29] It is worth mentioning that computers which were till date conceived as mother of all technologies, was invented in 1946 in Philadelphia if we except the war-related tools of the 1943 British Colossus for deciphering enemy code and the German Z-3 produced in 1941 for aircraft calculations. Mauchly and Eckert in 1946 produced ENIAC the first general purpose computer and the first commercial version of this machine UNIVAC was produced in 1951 by the same team. Manuel Castells. *The Rise of the Network Society*.(New York: Blackwell Publishers, 2000.) p.41-42.

[30] Ibid.p.45.

cooperating with the US Defense Department but scientists started to use it for their own communication purposes which afterwards became difficult to handle as the separation between military use and personal use became little problematic and thus in 1983 there was a split between ARPANET for scientific purposes and MILNET for military use.[31] By late 1990s internet became an all pervasive phenomenon of common life. It seems that if the first industrial revolution was British then the first information technology revolution was American with a Californian inclination. It is Silicon Valley which was formed as the milieu of innovation by the convergence of new technological knowledge, large pool of skilled engineers, scientists from major universities, generous funding from an assured market with the defense department, the development of an efficient network of venture capital firms and in the very early stage by the institutional leadership of Stanford University.[32] And from that time what role IT with the help of internet plays now in our life does not require any further elaboration. With this historical background in mind we will now proceed to the next section of the chapter about how this transition has been theorized in social science circle.

Transition from Fordism: Key Theoretical Debates

The question of transition or restructuring of capitalism was pitched from many corners in the academic circle post 1973 crisis as I have mentioned before and one of the ways of looking into it is through the transition from Fordism to Post-Fordism. It is a debate because there are different positions within it and the term Post-Fordism itself is disputed. My aim here is not to go deep into the debate itself but to point out the main features that has come out and at the same time to critically analyze three particular formulations that has come up to frame the contemporary society with Daniel Bell, Manuel Castells and David Harvey. These three positions are chosen to highlight the question of restructuring as it is directly linked to the question of change in work pattern, occupational structure and the political fallout of it. But first let me briefly state the Post-Fordist Debate.

[31] Ibid.p.46
[32] Ibid.p.62.

a] The Post-Fordist Debate

The Post Fordist debate concerns the nature and direction of the epoch making change in the capitalist world. It is a debate about 'the putative transition from one dominant phase of capitalist development in the post war period to another thirty to fifty year cycle of development based upon very different economic, societal and political norms. It seeks to identify the driving forces in each historical phase and through this process to elaborate how these forces constitute a paradigm or system capable of securing relative economic stability over the long term.'[33] There are different positions within the debate but somehow each accept the fact that history can be 'periodized into distinct phases guided by a coherent frame of dominant principles, but giving way to a period of uncertainty and transition during which the elements of a new paradigm will develop and mature.'[34] However this periodization of capitalist history has been criticized from certain Marxist circle stressing the 'dialectical and evolutionary nature of such historical change.' Dependence upon the sharp distinction between phases has been critised as they fall for the 'logic of binary contrasts between rigid old times and flexible individualistic new time denying the key aspect of history as a complex heterogeneous process of many determinants.'[35]

As I have mentioned earlier that there exist different position within the debate itself regarding 'the nature of passing age', 'the origins of its crisis', 'the bearers of the change and the shape of the things to come' etc . Ash Amin suggests that it would be an error to think Post Fordist debate as a variant of one position. However it can be said that broadly the debate is about 'one broad theorization of change.'[36] In a nutshell Post-Fordist debate is 'a confrontation of diverse viewpoints, heterogeneity of positions which draw on different concepts to say different things about past, present and future.'[37]

There are broadly three commonly accepted positions in the debate: regulation approach, the Neo-Schumpeterian approach and flexible specialization approach, However other theorizations about the transition also exist. **The Regulation**

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[33] Ash Amin.ed. *Post – Fordism: A Reader.*(New York: Blackwell Publishers,2000) pp.2-3.
[34] Ibid.p.3.
[35] Ibid.p.3.
[36] Ibid.p.4.
[37] Ibid.p.5

Approach was pioneered in France in 1970s and then was refined in 1980s. The regulation school seeks to explain the contradictions within capitalism between its inherent tendencies towards instability, crisis and change and its ability to stabilize and give a long period of economic boom. The observation of this school was based on explaining that the crisis of world economy in 1970s was more than cyclical lull but it was the crisis of generalized crisis of institutional forms that has come to guide the post war world economy. It seeks to identify the structures, principles and mechanisms of the old regime to explain its internal contradiction and also wanted to speculate on the future possibilities for growth. The regulation theory explains all of these with the help of certain key concepts like 'regime of accumulation' which is basically a 'set of regularities at the level of whole economy, enabling a more or less coherent process of capital accumulation.'[38] By this they seek to identify 'the prevailing organization of production, ways in which incomes are distributed and how different section of economy is calibrated and how consumption is arranged.'[39] The mode of regulation is more to do with institutional laws and their arrangements. Basically these two taken together will give the unity of the process. Besides that there are other three concepts like 'dominant industrial paradigm', 'mode of development' and 'mode of societalization'.[40]

All these five concepts taken together regulation school answers the basic question how the capitalist accumulation secured? For the regulation school the crisis happened because of several reasons as follows: decrease in productivity gain due to the social and technical limits of Fordism, expansion of mass production with globalization made the economic management difficult and Fordism led to the growing social expenditure. Thus the crisis could have been resolved by only an establishment of new regime of accumulation which has replaced the older Fordist

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[38] Ibid.p.8

[39] Frank Webster . *Theories of the Information Society*. (New York:Routledge,1995). p. 133.

[40] The concept of 'dominant industrial paradigm' (Coriat, 1979) talks about patterns of industrial and work organization including the nature of technologies and management rules etc, 'mode of development' (Lipietz,1988) stands for the total pattern of development within a economy based on the industrial paradigm, regime of accumulation and mode of regulation, ' mode of societalization' (Jessop, 1992, Lipietz, Esser, Hirsch 1991 etc) stands for the series of political compromises, social alliances and hegemonic processes of domination which feeds into a pattern of mass integration and social cohesion thus serving to underwrite and stabilize a given development path. Ash Amin ed. *Post – Fordism: A Reader*. (New York: Blackwell Publishers, 2000) p.8.

regime. As this regime became unsustainable the new Post Fordist regime has taken over and tries to reestablish and sustain the capitalist enterprises.

The Neo-Schumpeterian approach has certain features in common with the regulation school such as cyclical nature of capitalist development, periodization and general dynamic of Fordism etc but the major difference comes from the particular emphasis on the technology that Neo- Schumpeterian approach places. This approach is most closely associated with the work on innovation by Freeman and Perez around mid 1980s.[41] In this approach the era of Fordist mass production was referred as the fourth Kondratiev or the fourth long wave based upon the electro-mechanical technologies, the products of mass consumption industries and oil and petrochemicals as the basic sources of the cheap energy. The crisis appears for them due to the worst effect on the growth of oligopolistic competition in the face of maturing technologies and the mismatch between the emerging techno economic paradigm and the existing socio-institutional framework. Thus they see the emergence of the fifth Kondratiev after the crisis in which the information technology (IT) lie at the core. It is this that will drive the entire economy and its growth. Thus the new era is supposed be based on innovation and knowledge intensive along driven by IT leading to flexibility. However this approach was critised for being technologically deterministic.

The flexible specialization approach is associated with the work of Piore, Sabel, Zetilin and Hirst. There argument is that during the era of Fordism mass production predominated and it required large volume manufacturing of standardized products and at the same time specialization of machinery along with specialization of labor which was mainly low skilled. The assembly line production with Taylorist techniques and semiskilled labor were the requirements. The argument given is that we are living through a 'second industrial divide', the first being the era of mass production and the new one is the flexible specialization. The flexibility is the key note of the new age; it is the one which requires increase in the skills of employees and allowing greater variety of production of goods. This school of thought has denoted three main reasons for the crisis and emergence of flexible specialization.

[41] Freeman and Perez's work is based on the earlier work of Kondratiev in 1920s which suggests the fifty year long waves of boom and the bust in the development of capitalist economy and later on Schumpeter's in 1930s which is based on the path breaking role of the innovative entrepreneurs in giving birth to a new technological paradigm for the future growth. Ibid.p.12.

First is the labor unrest of 1960s and early 70s which was responsible for the corporations to decentralize. This resulted in emergence of the small technically sophisticated firms and restructuring of large firms. Second reason was the change in the market demand with a marked difference in consumer tastes. And third the new technology enabled even the small firms to produce competitively. Thus the key determinant factors for the new era which have come out from this approach are *skills, flexibility and networking.*

What emerges out of the Post Fordist debate is that there is the emphasis on the transition and coming up of a new kind of society (a definitive break from the past rather than continuity), explanation for which varies from one school of thought to the other. And definitely a decisive role has been given to Information technology for bringing about the transition. As Frank Webster suggests this automatically leads to an easy endorsement of a binary opposition between Fordism and Post-Fordism which clearly 'oversimplifies the historical processes and underestimates the uninterrupted presence of capitalist relations of production through time.'[42] Keeping in mind the broad features of this debate I would now like to proceed to an elaborate discussion of three different kinds of formulation about the nature of the current society. Out of which some will have major agreement with the Post Fordist kind of formulation and some will not. I will first discuss the formulation given by Daniel Bell as it can be taken as the genesis of the formulation about a new kind of society. It is called **The Post-Industrial Society**.

b] Daniel Bell's Post-Industrial Society

Daniel Bell's formulation about the post industrial society can be subscribed as by far one of the earliest and best detailed formulation about the coming up of an new society based on the primacy of information and knowledge. Published in 1973 it is of no wonder why this formulation became an instant fit to describe the new society and it seemed that Bell could foresee 'the turmoil the computer communication technology especially were bringing into beings.'[43] Earlier also he had written about the need for massive expansion of IT and thus once this formulation came he was

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[42]. Frank Webster . *Theories of the Information Society*. (New York:Routledge,1995) p.148.
[43]Frank Webster . *Theories of the Information Society*. (New York:Routledge,1995) p. 31.

regarded as 'something of a guru'[44]. Now let us go to the detailed formulation about the Post Industrial Society.

Bell makes it clear that this is an essay in social forecasting. And it deals with the future of the advanced industrial societies. The idea of post industrial society is a social forecasting about a change in the social framework of western society. Analytically, Bell divides the society into three parts: social structures, the polity and the culture. The social structure comprises of economy, technology and the occupational system where as polity regulates the distribution of Power and adjudicates the conflicting claims and demands of individuals and groups. The culture is the realm of expressive symbolism and meaning.

Bell put forward the argument that in the next 'thirty to fifty years we will see the emergence of what I have called the Post-Industrial Society' (PIS).[45] The original concept of PIS was presented at a forum on technology and social change in Boston in 1962 as an unpublished paper. The concept of the Post-Industrial Society is a large generalization therefore Bell has divided the concept in five dimensions to make it clear.

1. **Economic sector**: the change from a goods-producing to a service economy.
2. **Occupational distribution**: the pre-eminence of the professional and technical class.
3. **Axial principle**: the centrality of theoretical knowledge as the source of innovation and of policy formulation for the society.
4. **Future orientation**: the control of technology and technological assessment.
5. **Decision-making**: the creation of a new "intellectual technology".

Therefore our discussion on PIS will also revolve around these five salient features of the system. Bell based his discussion on economist Colin Clark's analytical division of economy into three sectors –primary, secondary and tertiary. Primary here denotes agriculture, secondary industry and tertiary service sector. Now any economy will be mixture of these three but according to Clark as nations become more and more industrialized there will be more people engaged in manufacturing and then as the

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[44] Ibid.pp.31.
[45] Daniel Bell.*The Coming of Post-Industrial Society*. (New Delhi: Arnold-Heinemann Publishers (India) Private Limited,1974). p.x.

national income will rise there would be more and more demand for services and a corresponding shift there. Thus Bell draws the point that by this logic 'the first and simplistic characteristic of a post industrial society is that the majority of the labor force is no longer engaged in agriculture and manufacturing but into services which are defined as trade, finance, transport, health, recreation, research, education and government.'[46]

Bell contends that in an industrial society services are bound to increase as the need for auxiliary help will increase such as transportation and distribution but in the post-industrial society the importance is on different kind of services all together. If services can be grouped as personal (retail stores, laundries, garages, beauty shops), business (banking, finance, real estate, insurance), transportation, communication and utilities and health and education and research and government etc then it is the last category which will prevail the most and Bell calls it 'new intelligentsia'. This leads us to the second point Bell is making about PIS which is the change that will prevail in the occupational distribution not in terms of 'where people work but the kind of work they do'[47]. It is with this point that my work is related as it is with this change in the nature of work that the question of class location of a modern day dominant work force and the question of fundamental laws of the capitalist mode of production is intertwined. Bell himself makes the point that occupation is the 'most important determinant of the class and stratification in the society.' If industrialization has given us semi-skilled worker as the single largest category in the labor force then service economy with 'its emphasis on office work, education and government has naturally brought a shift to white collar occupations.' And the most important change is the growth of professional and technical employment which requires minimum college education. For Bell scientists and engineers are going to form the key group in PIS.

Bell goes on further to identify the axial principle or the defining feature of the new society. If industrial society was based on the coordination of machine and men for the goods production then PIS is organized around 'Knowledge' for the purpose of innovation and social control so that new social relations and new structures can emerged. And this does not mean that knowledge was not part of the previous

[46] Ibid.p.15.
[47] Ibid.p.15.

societies but here bell points out that the character of knowledge itself is different as it is the primacy of what he calls '*theoretical knowledge*'. It is basically the primacy of theory over empiricism and the codification of the knowledge into abstract systems of symbols. Bell points out that every modern society lives by innovation and the social control of change and tries to anticipate the change to plan ahead and 'it is the altered awareness of the nature of innovation that makes theoretical knowledge so crucial.'[48] It basically means that previously innovations were made on the whole by talented amateurs who, encountering a practical problem worked on the trial and error based method but in the PIS due to primacy of theory over empiricism innovation now is based upon known theoretical principles like computer science takes on from Alan Turing's 1937 seminal paper on the computable numbers which laid the basis for binary mathematics. And the proposal further goes to explain the fact that theory is not just eminent in the area of technological innovation but also in the case of social and economic affairs. For example governments introduced policies that are based on theoretical models of economy like Keynesianism, monetarism etc. thus bell derives the point that this gives PIS the capacity to plan and control the future of the society to a much grater extent.

Tied up with the question of the theoretical knowledge is the question of technology and the control and planning of it. Bell points out that earlier technological introduction was uncontrolled and thus technological advancement were followed with its consequences but at the same time to maintain the growth and advancement in the society new technologies has to be introduced and thus in the PIS it will be necessary to have not just new technologies but also assessment and regulation of technology so that future can be estimated and controlled. And thus the need will be to have what Bell calls 'intellectual technology' as it is the substitution of algorithms with intuitive judgments something which can be achieved through a computer program. The new technology will be able to define rational action and identify the means to achieve it and thus the larger motto that will be achieved according to bell through this "the dream of ordering the mass society."[49]

[48] Ibid.p.20.
[49] Ibid.p.33.

It is interesting to note the underlying assumptions of Bell's formulation. First, *replacement or end of ideology by technical decision making* as Bell categorizes the first one as emotional and expressive and the other one as calculating and instrumental. Thus it is technocracy to guide polity in PIS. Second, the *changing character of the labor force* as the industrial working class is declining with the decline of manufacturing to the technical professional service worker. Third, *believing in technology as the open sea* of immense possibilities[50] Taken together, all these assumptions about PIS seems to be as one which believes in break with the past and at the same time questioning the very nature of the working class itself as Bell believes that the category of class and the 'ordained role of the working class' in explaining the process of production will not help much in this changed era of PIS. For him there is definitely an erosion of the working class in the new age and any attempt to harp on the fact that the working class as a category is valid in this is nothing but an attempt to 'save Marxist concept of social change and the Leninist idea of the agency of change.'[51] PIS based on information & knowledge is the 'game between persons. What count is not raw muscle power or energy but information. The central person is the professional equipped by his education and training.'[52] Thus Bell calls his PIS also '*knowledge society'* as here innovations are derived from research and development (R&D) and the weight of the society is measured by the GNP and a larger share of employment is increasingly in the knowledge field. Therefore there has to be a constant supply of highly skilled persons to feed this kind of economy and thus higher education is the field to be financed more and more according to Bell.

Before going into the criticism of this particular formulation I would like to go the next formulation given amore recent theorist Manuel Castells who has depicted the current society as the 'Network Society' as I believe that his formulation is also somewhat close to the Post-Fordist debate and the PIS by Bell and therefore clubbing all of them together will help to cull out the main features they are all harping upon

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[50] Bell has listed five different ways in which technology has brought the transformation in the new age: 1) by producing more goods at lesser cost it has been the chief engine of raising living standards in the world. 2) it has created a new class ,3) has created a new definition of rationality, 4) it has revolutionized transport and communication and finally,5)esthetic perception of time and space have been radically altered. Ibid.p.189.
[51] Ibid.p.40.
[52] Ibib.p.125.

about the change or restructuring of the CMP rather than commenting upon them individually.

c) The Network Society by Manuel Castells

Castells formulation becomes important to consider as if on one hand Daniel Bell's PIS stand for one of the earliest formulation about the nature of the contemporary society then Castells network society can be taken as one of the latest. A close look at the work will reveal that both agree largely about the fact that it is a new time with new technology where knowledge and information plays the most vital role in shaping the society. Whereas Bell was more or less forecasting about the future, for Castells it is about seeing the change unfolding for the last couple of decades and then theorizing about it.

Castells makes the IT revolution as his entry point into the theorization. He says that 'a technological revolution centered around the IT began to reshape, at accelerated pace, the material basis of society.'[53] With the global integration of economies, collapse of USSR, with the fundamentally altered geopolitics, 'capitalism has undergone a process of profound restructuring.'[54] So the new era for him is characterized by greater flexibility in management, decentralization, and networking of firms, considerable empowering of capital vis-à-vis labor with the decline of labor movement, increasing individualization and diversification of working relationships, etc. and in all of these vast changes Castells locates the role of technology primarily as he says that 'we must treat technology seriously using it as a point of departure of this enquiry.'[55]

For Castells 'Technology does not determine the society nor does society scripts the course of technological change since many factors including individual inventiveness, entrepreneurialism intervene in the process of scientific discovery, technological innovation so that the final outcome depend on a complex pattern of interaction. He also believes that technological determinism is a false problem, since technology is society and society cannot be understood or represented without its technological

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[53] Manuel Castells. *The Rise of the Network Society.* (New York: Blackwell Publishers, 2000) p.1.
[54] Ibid.p.1.
[55] Ibid.p.4.

tools.'[56] This understanding makes him treat 1970s as the constituent of a new technological paradigm organized around IT. The constitution of this paradigm took place in United States precisely to some extent in California. This particular paradigm Castells believes was instrumental in allowing the fundamental restructuring of capitalist system 1980s onwards. Castells continues the legacy of Daniel Bell and Alan Touraine who put the distinction between pre-industrialism, industrialism and informationalism or post-industrialism. Castells for his analysis built up the distinction between 'modes of production' and 'modes of development'. Mode of production is a well known Marxist terminology used to denote the system of production and in our case the capitalist mode of production is based on the commodity production for market in search for profit, private ownership of property, competition among the participants etc. However distinguished from all of these the 'mode of development' is presented to us as the means of generating a given level of production. It is the technological arrangements through which the labor works on the matter to generate the product thus each mode of development is defined by the 'element that is fundamental in fostering productivity in the production process.'[57] Castells calls this new mode of development the *informational mode of development* as in this the source of productivity lies in the 'technology of knowledge generation, information processing and symbol communication.'[58]

It is not the case that 'Knowledge' was not instrumental in the previous modes of developments but this time it is the action of 'Knowledge' upon 'Knowledge' itself as the main source of productivity. It is the orientation towards technological development means 'accumulation of knowledge' and higher complexity of information processing.[59] Going back to the era of crisis Castells refers to the fact that though in mid 1970s the advanced capitalist world were shaken by the major economic crisis fundamentally prompted the restructuring, which he believes was to

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[56] Ibid.p.5.
[57] Ibid.p.16.
[58] Ibid.p.17.
[59] It is worth mentioning that Castells points out that in the agrarian modes of development it is the source of increasing surplus used to result from quantitative increases in labor and natural resources like the land and in case of industrial modes of development the main source of productivity lied with the introduction of the new energy sources and in ability to decentralize the use of energy throughout production and circulation process. And all these previous mode of development knowledge and information played important role as all of them required some degree of knowledge and processing of information. Ibid.p.16-17.

achieve four main goals of 1) deepening the logic of profit seeking, 2) enhancing productivity of labor and capital, 3) globalizing the production, 4) marshalling the gains of the state's support for the productivity gains and competitiveness of national economies but yet Castells is not ready to argue that the new technological paradigm that emerged can be called as the response by the capitalist system to overcome its internal contradiction. At the same time it was not even a response by the capitalist world's military superiority over the Soviet though Internet was initially created for that only. Thus rather than going for its social context of emergence he rather calls it a 'historical coincidence' and argue his case as the development of this paradigm is a relatively autonomous matter.

Let us now briefly see what does this new *information technology paradigm* holds for us. Firstly, here information is the raw material as these are technologies to act on information and not the other way round, secondly, pervasiveness of the effect of this new technology, as information is part of our all sorts of activities thus it practically shape our individual and collective existence. Thirdly, this system is based on the logic of networking and fourthly, flexibility is the key issue to be highlighted here, and finally there is a growing convergence of the specific technologies into a highly integrated system and leading to more and more integration and interdependence.

Based on this information technology paradigm the 'New Economy' emerges in the last quarter of the twentieth century which I have addressed in terms of 'Knowledge Economy'but for the time being, will use the term New Economy as suggested by Castells. The main features of this are that it is *informational, networked and global*. This economy was created as the material basis for its production was provided by the IT revolution. With the emergence of this Castells argues that 'we are witnessing a point of historical discontinuity.'[60] As it is based on the IT paradigm here it is possible to have information itself to be the product of the production process. To be more precise, as Castells says that 'the products of the new IT industry are the information processing devices or information processing itself.'[61] The question that arises now is what is so new about this new economy that led Castells to comment about the historical discontinuity? The New Economy emerged in 1990s in USA around mainly

[60] Ibid.p. 78.
[61] Ibid.p.78.

two industries information technology and finance. Castells is of the opinion that the seeds of IT that were planted in the 1970s bore fruits in the 1990s in the form of this New Economy. But the question is why USA? Castells is of the opinion that it seems to be the result of 'a combination of technological, economic, cultural and intuitional factors all reinforcing each other.'[62] The New Economy which took shape first in two industries namely information technology and finance put the internet related firms at the heart of it. In order to understand this economy a little better one needs to know internet related industries are primarily of four types:

i.) Providers of the internet infrastructure like telecommunication companies, internet service providers like Compaq, Qwest etc,

ii.) Firms developing the internet infrastructure applications that is software products and applications and services for web transactions like Oracle, Microsoft etc,

iii.) Firms which do not directly generate revenue from business transactions but from advertising, membership fees, and commissions like Yahoo, E-bay etc.

iv.) Web based economic transaction companies like Amazon, E-toys etc.

With the coming of these companies by the turn of the century this economy and the IT industry became the core of the US economy both quantitatively and qualitatively. By 1990s the financial world was transformed by the set of institutional and technological changes. The roots of the transformation in the financial world can be found in the deregulation of the industry and the liberalization of the domestic and international financial transactions throughout 1980s and 90s first in USA and then UK and then slowly other parts of the globe. The major change that has come in the finance sector is the global integration of the financial markets. This has led to the establishment of the direct relationship between investors and securities markets.[63] The dynamism of the finance sector allowed increasing amount of capital from all sources and from all around the world. And this led the financial markets to be the

[62] It is worth mentioning that technologically California was the birth place of the IT revolution, economically US economy was the largest and most dominant one in the world market which Castells believe gave the breathing space to the technological innovations, culturally USA has the culture of individualism, entrepreneurialism, flexibility etc and institutionally capitalist restructuring happened in the form of deregulation, liberalization of the economy. Ibid.p.148.

[63] One important institutional advancement was already made in 1971 by the creation of NASDAQ which allowed an electronic marketplace to be built around the computer networks without a central trading floor. Ibid.p.153.

strategic dominant network of the 'New Economy'. Writing about the high productivity, technological innovation, networking and globalization Castells seemed to believe that this new economy primarily based on IT industry and finance is able to maintain a sustainable growth with low inflation, low unemployment though it is unevenly distributed throughout the world. But at least the advanced capitalist countries, he believes have been able to transform themselves fully into the new informational mode of development. However this is spreading fast to the other parts of the world due to networking. And this leads Castells to comment that the network enterprises are quintessential for the growth of the 'New Economy'.

He put forward the theses that 'the rise of informational global economy is characterized by the development of a new organizational logic which is related to the current process of technological change but do not depend upon it. It is the convergence and interaction between a new technological paradigm and a new organizational logic that constitute the historical foundation of the informational economy.'[64] The organizational restructuring that has happened in the business firms since 1980s can be analyzed in the following manner:

1. Organizational changes that had happened from the mid 1970s were towards a major divide in the organization of production and markets in the global economy.

2. These changes interacted with the diffusion of IT but they were by and large independent.

3. The fundamental goal of the changes was to cope with the uncertainty caused by the fast pace of changes in the economy, institution and technology. It was motivated towards enhancement of flexibility in production, management and marketing.

4. Many organizational changes were aimed at the redefining the labor process and employment practices with the introduction of "lean production" by automation etc.

[64] Ibid.p.164.

5. Knowledge management and information processing are essential to the performance of the organizations for operating in the era of informational economy.

However Castells is against any kind of sweeping generalizations about the organizational restructuring. As there can be specific particular trends thus he told us to be cautious about talking in terms of an organizational paradigm. But the broader converging trends according Castells are:

1) The shift from mass production to flexible production. The new technologies allowed the transformation from the assembly line of production process to the flexible production.

2) This shift was associated with the crisis of the large corporations where the small and medium firms as innovation of agents and sources of job creation came out however Castells maintains that though we are witnessing the fact that small and medium size firms are well equipped to handle flexible production system but that does not mean the death of large corporations at all.

3) Another major shift here according to him is the *new methods of management* most of which have originated in Japanese firms. The Japanese automobile firms were responsible for this new formula of *Toyotism* opposed to Fordism. It is a management system that is designed to 'reduce uncertainty rather than to encourage adaptability.'[65]

4) Along with these changes there other forms of organizational flexibility that Castells points out like inter-firm linkages which were achieved by 'multidirectional network model' and 'licensing-subcontracting model of production under an umbrella corporation.'

5) In recent years the pattern that has emerged is the strategic alliance of the large corporations which is referred as the '*intertwining of large corporations*.' This is known to be the decisive instrument for the survival in the market as the nature of international competition is now more severe.

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[65] It is worth mentioning that some the key features of Toyotism are: just in time production, total quality control of products, aiming at near zero defects, best use of resources, using team work, decentralized initiative, greater autonomy of decision at the shop floor, rewards for team performances flat management hierarchy etc. Ibid. pp. 169-170.

6) Within the corporation itself the vertical bureaucratic models are gone and replaced by the horizontal structures. Here team work, customer satisfaction, incentive based work etc becomes more important. And with these factors, the '*Cisco system'*[66] as Castells would call, pioneered this global networked business model which became the predominant model for the most industries.

Castells put forward the argument that all these different trends that have emerged in the organizational structures are relatively independent of each other and should not be taken as the mechanical consequence of technological change. However as these network enterprises are able to generate knowledge and process information efficiently and also being able to change their means as the goals changes rapidly due to the impact of institutional, technological and cultural changes and they are capable to innovate as innovation is the key in this system thus Castells calls them '*the material the culture of the informational global economy.*'[67]

It is interesting to note here what Castells has to say about the formulation such as PIS which he also considers as one of the relevant question of social forecasting. Castells first proposes the shift from industrial to not a post industrial economy but to informationalism as he thinks because societies are informational not because 'they fit into a particular social structure but because they organize their production system around the principles of maximizing knowledge based productivity through development and diffusion of information technology.'[68] Thus for him the fundamental transformation that can be visible is of *individualization of work with the fragmentation of the society*. Castells is aware of the fact that any sort of historical transition can be best judged by the change in the pattern of employment and occupational structure as it is the most direct evidence or empirical reality. However formulations such as PIS are based on the assumption that there is a natural law of economics and society which follows 'a single path of trajectory of modernity in which American society has led the way.'[69] Thus Castells says though there can be

[66] Cisco systems, is a company based in California which provides the switchers and routers that direct the data around communication networks. It is the leader of internet backbone equipment which till 1999 had supplied 80% of such equipment around the world. Ibid.p.180.
[67] Ibid.p.188.
[68] Ibid.p. 220.
[69] Ibid.p.217.

commonality in the pattern of change in the nature of work but there are specificities too which cannot be ignored.

The point that theorization of PIS makes regarding the growth of service industry and the demise of manufacturing, which according to Castells is not totally true as 'though in the advanced capitalist countries service based jobs are dominant; under the sway of globalization one cannot make the differentiation between advanced and developing economy like that as it is now part of the same productive structure'. He maintains that those analysts who are claiming deindustrialization for USA and Europe they are ignoring what is happening in other parts of the world. What was happening that these jobs of manufacturing were getting transported to the developing world and in this the IT revolution played very important role. And there is problem also with the notion of service in itself. The category of service generally includes all that is not agriculture, mining, construction, utilities, or manufacturing. Castells is of the opinion that in order to understand the new type of economy we need to further categorize different types of services[70]. Therefore he also challenges the notion of expansion of information rich occupations by saying that there can be expansion of also low end unskilled service occupation and is of the opinion that these advanced societies can be characterized by the increasing polarization where the top and bottom both increases along with a shrinking middle. Therefore Castells put some qualifications on characterizing our future as the 'republic of learned elite.'[71] He is also not ready to accept that the historical revolution will lead to a single model of development of informational society as this is for him as similar to a single construct of capitalism given by Marx and Adam Smith. Thus he is of the opinion that what Marx and Smith did by formulating capitalism based on the English experience only to find exceptions the single formulation such as PIS based on US experience will lead to the same mistakes.

Thus according to Castells, the scheme of formulation such as PIS is flawed from three senses: first, by assuming a sort of homogeneity of transition from agriculture to industry and then to services, second did not paying attention to the truly

[70] Here it is worth mentioning that following Singelmann's categories of service industries Castells also divides the services as distributive service, producer service, social service and personal services etc. ibid.p.223.
[71] Ibid.p.221.

revolutionizing character or role of the IT which ultimately allows the network to be establish between different sorts of activities and third forgetting the cultural, historical diversity of the advanced capitalist countries along with their linkages in this age of globalization. So the question arises about the commonalities that Castells can see in the informational society. He outlined certain commonalities for this new age:

1) The phasing out of agricultural employment.
2) The steady decline of traditional manufacturing employment.
3) Rise of both producer service and social service with the emphasis on business services in the first category and health in the second.
4) Increasing diversification of service activities.
5) Rapid rise of managerial, professional and technical jobs.
6) At the same time formation of the '*white collar proletariat*' made up of sales and clerical workers.
7) Relative stability of substantial share of employment in the retail sector.
8) Simultaneous increase in the upper and lower levels of occupational structure.
9) Relative increase and upgrading of occupational structure over time as the share of those which requires higher skills and advanced education will increase rather than the lower level categories.

Thus the larger picture that Castells portrays is of the redefinition of the capital labor relationship with the emergence of global informational economy where powerful role has been played by the IT revolution. It is the picture where labor is dispersed due to the extraordinary increase in flexibility and adaptability along with the mobility of capital. Thus the trend is of more and more individualization of work where there is no standard definition of skills as technology has created a situation where there is the need for constant upgradation of skills. Therefore on the surface 'societies are becoming dualized with a substantial top and bottom growing at both ends of the occupational structure, so shrinking the middle at a pace and …….

However a more fundamental process has been triggered by informational work: the disaggregation of labor, ushering in the network society.'[72]

The picture that emerges out of the discussion on Post Fordist debate, PIS and the Network Society can be clubbed in as a broad theorization about the change or restructuring of capitalist societies with its respective distinct positions. A close look at all of them will reveal that all of them are making the larger point about *upgradation of skills of the worker in the new society, increase in flexibility and networking with the primacy of knowledge and information* .

There are following flaws in Bell's argument. *First,* it assumes the centrality of information and knowledge in the new society in such manner that it assumes with the rise of the white collar professions there will be phasing out of so called blue collar industrial jobs and that will usher an era where all the workers (at least the dominant work force) will have higher education and skills in turn. If that happens then its corollary logic will be replacement of ideology with technical decision making.

Thus what sort picture of politics bell is offering us in the PIS? Rule of the technocrats? Thus categories like class and class struggle to understand the process of production will no longer be of much relevance. However it is problematic to accept Bell's argument of erosion of working class due to advancement in technology.

First, If advancement of technology creates new opportunities for one section of people then it creates unemployment for certain sections also and they become the part of the reserve army of labor using the Marxist notion. It is always not possible for them to rip the benefit of the new technology by getting absorbed in the new system thus the process of proletarisation does not stop with the ushering of new knowledge based technology. *Second,* this entire formulation places too much emphasis on the role of the technology which makes it technologically deterministic giving an autonomous agency to technology rather than situating the emergence and further growth of the same in the historical context of existing economy and highlighting the dialectical side of their inter-relations neglecting the systemic need for the upgradation of it. *Third,* once the agency has been conferred to technology and innovation in itself denying the systemic need the next step becomes the denial of the

[72] Ibid.p.302.

system and here by system I mean the overarching framework of capitalist mode of production under which we are operating. According to Bell, the new society (PIS) with its new logic makes the capitalist mode redundant as this system is based on profit, exploitation of working class, endless accumulation of capital and supersession of it by class struggle giving the possibility of radical politics leading to the radical transformation of the society; whereas PIS, with its thrust on technological innovation with knowledge and information is going to bring the rule of professional technical class which will effectively do away with 'politics' as such replacing it with mere 'technology-determined choices' in decision making. Thus writing about it after 40 years of its initial formulation we can categorize PIS as nothing but a conservative bourgeoisie utopia.

Let us turn to Castells's formulation about the network society. It is not a social forecasting like Bell rather he was writing as the things were unfolding so it was filled with more empirical data and factual analysis. Castells focuses on the importance of the flow of information and the emphasis on the establishments of the information networks. Now these are definitely one of the important features of the current age and at the same time by putting the required qualifications on the PIS model he has at least tried to show the process of polarization that exists among the working classes. He admits that today the workers are more vulnerable in the hands of the network enterprises and highlights the fact of individualized nature of work. Therefore his analysis of network society is definitely illuminating on one hand but at the same time it can be critised due to the following features: Castells makes technological advancement particularly in the field of information technology the entry point for his enquiry and provides us with the minute detailed facts about its genealogy however goes onto make the point that its discovery has to be treated as an independent autonomous. It is a historical coincidence that the development of the IT paradigm happened at the time when the capitalist world was facing the worst economic crisis post 1945. And from here Castells goes onto make the distinction between mode of production and mode of development. This category of mode of development is the one which is the means to generate a given level of production and our case this is the informational mode based on the IT revolution. This mode is therefore the mean to change or work upon the given mode of production which is definitely capitalist in our case, so following Castells argument it stands as that this mode of development

with its relative autonomous development due to individual efforts, entrepreneurialism has now worked upon the capitalist mode of production to start the process of restructuring. This argument in effect, questions validity of 'mode of production' for providing an overarching framework to understand the process of production. This assertion of 'autonomy' of informational mode of development, does not take into consideration the dialectical relationship between emergence and development of technology or for that matter any force of production within an already given socio-economic structure. In fact, in case of information technology, it is rather the capitalist principle and practices which shape the direction of the change including the technological realm as it is the need of the system itself to bring the new in order to perpetuate it or to be more specific to come out of the contradiction that it generates for itself. Thus though Castells might think technological determinism as a false problem but he himself falls for it as the motor of history does not move as if, history is nothing but the conglomeration of individual incidences or accidents. Thus though Castells can understand the complex nature of the current society and the vulnerable positions of the working class (as labor is disaggregated in the network society) today but he fails to provide the explanation for it by giving the autonomous agency to technology to bring change forgetting the fact that the visible changes are very much part of the capitalist mode of production itself and feeds its logic only. This fact becomes clearer with David Harvey's analysis which I will discuss now.

d) David Harvey's Regime of Flexible Accumulation

Harvey starts with the fact that what we are witnessing is a historical transformation but it is yet to be completed. Therefore it is possible to go through the theoretical dilemma and even for a Marxist it is a challenge to theorize the current reality grasping the dynamics of capitalism and looking at the fact of restructuring at the level of productive forces and relations of production. Harvey follows the broader argument made by the regulation school and analyzed the transition period as the transition from rigidity to flexibility which I have already discussed in the first section of this chapter. He calls it the transition from *Fordism to Flexible Accumulation*. But the question is how to theorize this transition as Harvey takes into account the fact

that ‘something significant has changed in the way capitalism has been working since about 1970.’[73]

Harvey before going into his own argument sites three formulations regarding the transition, first by Halal (1986) which can be called a celebratory account of new capitalism pointing at the liberating potential of the new entrepreneurialism. This can be equated with the PIS of Bell. The second formulation is by Lash and Urry (1987) which emphasizes on power relations and politics in relation to economy and culture and it symbolizes the new era as the era of disorganized capitalism. Third Swyngedouw (1986) emphasizes on the transformation in technology and the labor process at the same time keeping the focus on what happens to the regime of accumulation. Exploring in the language of the regulation school and the classical Marxist political economy Harvey seems to be interested in finding a theoretical ground for this transition more specifically theorizing the transition within a Marxist framework.

Therefore first and foremost he takes us back to the basics of capitalism to understand its underlying logic to see ‘to what degree they are omnipresent beneath all the surface froth and evanescence, fragmentations and disruptions so characteristic of present political economy.’[74] Harvey starts with the hypotheses that flexible accumulation is still part of the capitalism to test the case whether its basic propositions hold true today or not. According to him there are three basic features of a capitalist mode of production.

First, *capitalism is growth oriented*. Growth and maintenance of a steady growth is necessary for capitalist system as it will inevitably lead to the making of profits and accumulation of capital. So thus no matter whatever is the political, economical situation capitalism in order to survive it as to prepare a ground for its expansion. Thus the capitalist ideology makes growth the inevitable and good and thus crisis is the lack of growth.

Second, *growth in real values rests on the exploitation of living labor in production.* This is not to say that the labor gets nothing but the growth is predicted on the gap

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[73]David Harvey. *The Conditions of Postmodernity: An Enquiry into the Origin of Cultural Change.* (New York:Blackwell Publishers,1995) p.173.
[74] Ibid.p.179.

between what the labor get and what it creates? And thus labor control becomes essential to perpetuate the system. Therefore what becomes essential to note here that capitalism is the system based on the class relation between capital and labor. And thus class struggle is fundamental to the capitalist mode of production.

Third, *capitalism is necessarily technologically and organizationally dynamic*. It is the law of competition that drives the capitalists as Harvey says, to leapfrog the innovations to make profit and maintain it. This leads to innovation in the field of technology and organizational structures too. And that definitely has an impact in modifying class struggle. Since labor control is fundamental in the process of production for profit maximization it becomes a broader issue for the mode of regulation and thus Harvey says that technological and organizational innovation in the regulatory system such as state apparatus, political system of incorporation and representation becomes crucial to the perpetuation of capitalism.

Now if we turn to Marx we can see that he was able to explain to us the fact that these three essential features of capitalism in the end are inconsistent and contradictory and makes this system crisis prone. Thus the combination of these three eventually makes the system unsteady and growth cannot be unproblematic. Harvey points out that this crisis tendency produces periodic phases of overaccumulation where idle productive capacity, a glut of commodities, and an excess of inventories, surplus money capital and high unemployment and thus the conditions of 1930s and 1973 can be termed as the period of overaccumulation. The Marxist argument is that this tendency of overaccumulation (or underconsumption from other side) can never be eliminated from the capitalist system as it is the eternal problem of the capitalist mode of production. But then how to overcome this problem or rather how to manage this problem? Here Harvey points out the heroic role of bourgeois life and politics. So what are the strategies adopted?

1) One of the first strategies is to *devaluate the commodities, productive capacity, of money value.* It generally means writing down or writing off the value of capital equipment (plant and machinery in particular) along with the disposal of surplus stocks of goods at lower prices. Labor power can similarly be destroyed by various means such as by falling rates of income, more exploitation, and increasing unemployment etc. Harvey says that this sort of

devaluation measure has been taken at the time of great depression, then after World War II and definitely after 1973. However this measure definitely hurts both the capitalist class and the workers.

2) *Macroeconomic control*: this generally being achieved through institutionalization of some sort of system of regulation which can contain the problem of overaccumulation for a considerable period of time. It took the major crisis of overaccumulation to connect Fordism with Keynesianism to achieve some kind of macro economic growth for an extended period.

3) *Absorption of overaccumulation*: Harvey says that this is done through the temporal and spatial displacement. This is in his opinion a more long lasting solution to tackle the overaccumulation problem but at the same time more problematic also. Temporal displacement means 'switching of resources from meeting current needs to exploring future uses or acceleration in turnover time.'[75] This acceleration in turnover time is a very strong feature of the recent time. Spatial displacement means absorption of excess capital and labor in geographical expansion. This is linked with the production of new spaces within which capitalist production can proceed, with the growth of trade and direct investment and at the same time with the new possibility of the exploitation of the laborer. Therefore the time and place displacement have the double power to absorb the problem of overaccumulation and at the same time it is strategy of both time and space that matters. Harvey explains it with the example that lending money to Latin America to build long term infrastructure or to purchase capital equipment which will help to generate output for many years to come is a typical form of absorption of overaccumulation.

Harvey goes onto make the point that Fordism could ultimately come out of it after the Second World War because before that, it lacked the appropriate mechanism to apply the temporal and spatial displacement strategy. But by 1972 saw that US economy was hit hard with the debt and the Fordist- Keynesian strategy was no longer useful. Therefore the crisis of Fordism can be interpreted as 'running out of those options to handle the problem of overaccumulation.' Temporal displacement

[75] Ibid.p.182.

according to Harvey was piling debt upon debt to the point where only viable government option was to monetize it away. This was done by printing money which triggered the inflationary surge. This actually brought down the value of the past debts. Turnover time on the other hand also could not be accelerated without destroying the value of fixed capital assets. Spatial competition also intensified after 1973 as the capacity to resolve overaccumulation problem through geographical displacement ran out. Thus for Harvey the crisis of Fordism was as much a geographical problem as it was a crisis of indebtedness, class struggle, corporate stagnation within a particular nation state. In his words 'it was simply that the mechanisms evolved for controlling crisis tendencies were finally overwhelmed by the power of the underlying contradictions of capitalism.'[76]

Here the solution came as the flexible accumulation which was nothing but the 'recombination of two basic strategies which Marx defined for procuring profit.' First was the absolute surplus value where the working hours generally become longer in relation to the wage. Now here in this case this was achieved either by the erosion of the real wage or by the shift of corporate capital from high wage to the low wage regions which is one feature of flexible accumulation. This is actually happened in the form of outsourcing. The second is the relative surplus value under which organizational and technological change was set in motion to gain temporary profits for the innovative firms and generalized profits as the cost of the goods that used to define the standard of living were reduced. With this strategy the cut of employment and cost of labor is linked and this actually brought in forth the significance of the high skilled labor who can understand manage and implement the new and flexible technologies. Therefore to some degree empowered a privileged section of labor emerges as the need of the hour. Thus it is the combination of the absolute and the relative strategy which cull out the new course of actions. Thus if one look closely what is happening today one can find a lot of similarity among the difference regarding what Marx had said about the process of capital accumulation in capital. In the industrial factory system we know how the industrial reserve army used to be created to counter the working class with respect to labor control and the wage rate. It is exactly in the same manner the intellectual power and the new technologies are

[76] Ibid.p:186.

deployed to disrupt the organized power of the working class, where in the name of flexibility ultimately the capitalists tries to foster the spirit of competition, where in the name of opportunities more and more vulnerability is being created for the working class. Thus though the contemporary situation is very different than before but the elements of capitalist mode of production being functional still now can be seen through. Harvey clearly puts his argument that 'there has been a sea change in the surface appearance of capitalism since 1973 even though the under lying logic of capitalist accumulation and its crisis tendencies remain the same.'[77] Now he puts the question that this surface appearance can it be called as a solid transformation or just a temporary fix? Well if anything has changed substantially since 1972 it is the extraordinary transformation of the financial markets. In the current phase the financial system with the sophisticated technology has a truly global reach. It is this system through which Harvey believes that much of the geographical and temporal flexibility of capital accumulation has been achieved and thus he sees this 'flexibility of production, labor markets and consumption as an outcome of the search for financial solutions to the crisis tendencies of capitalism rather the other way round.'[78] Therefore for Harvey if anything needs our attention fully in the current phase of capitalism it is the role of finance and credit in particular. Thus he makes the comment that all of this is a prelude to a financial crash that would make the crisis of 1929 looks like footnote in history which eventually took place in 2008 with the fall of Lehman Brothers.

It becomes amply clear from the discussion above that David Harvey does not subscribe to the view that the post crisis period of 1970, represent a radical break from the past. The argument of emergence of new society on the basis of information and knowledge does not hold ground for him. However that does not mean he is not ready to take into account the changes. For him, to call the current phase, just a jazzed up version of the past will be a too simplistic understanding. Capitalism itself being a dynamic mode of production it boils down to the fact that it changes from time to time. Thus on one hand neither the denial of the change in order to argue that it is old

[77] Ibid.p.189.
[78] Ibid.p.194.

wine in a new bottle will help nor the abolition of the system itself with the underlying logic of accumulation and crisis prone nature of it.[79]

Conclusion

Two major points come out of the discussion on this theorization of the contemporary society. First, there is an agreement that we are living through an era of transition and transformation and as I have quoted Calhoun in the beginning that any transition creates sort of confusion and fanaticism and forecasting about how the future will look like. Clearly in this case two camps emerge- one will go to the extent of saying that there is definite break from the past with the emergence of information society and this camp will support calling the current economy informational or 'Knowledge Economy'. This is the side whose theorization will go on to put a question mark on the prevailing capitalist mode of production. Then come the other side where it is accepted that times have changed and it is not any more the Fordist line of production process & at the same time capitalism has also changed but its underlying logic of profit and accumulation with the crisis nature have not.

Thus the debate regarding restructuring of the capitalist mode of production highlights the fact yes we are living in a period of transition and transformation but that should not blind us to think that a new era all together has dawned upon us with its new rules. It does not signify the change in the mode of production as such, since the system itself is a dynamic one but definitely things are much more complex today to comprehend.

Second, point that emerges is the fact those who are in favor of calling it a break one way or the other; treat capitalist development and technological advancement as two mutually interacting but at the same time as autonomous realm thus they inevitably conferred agency to the technology for bringing the change. This in a more specific way is nothing but form of technological determinism.

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[79] On the nature of the current economic crisis that hit the advanced capitalist countries in 2008 and still ongoing, one can take a look into Harvey's new book *Enigma of Capital.* (2011). Discussion of the current crisis in detail is beyond the scope of this chapter.

Technology in no case can be given autonomous agency to bring the change. It is a part of forces of production. otherwise what justifies the current global economic crisis that we are witnessing and thus terms like ‘Knowledge Economy’ and ‘information society’ needs to be taken into account as the ideological formulations of the current phase of capitalism and the need is to demystify the aura around it to see what exactly lies beneath them. That can be done by undertaking an analysis of the actual work process and the workers under this economy, which is my aim in the second chapter.

CHAPTER II

Work Process in Knowledge Economy

'The secret is the prevailing social orders systematic tendency to create unsatisfying work'

John Bellamy Foster[1]

Introduction: The debate on the restructuring of capitalism clearly shows that the post crisis period (1970s economic crisis) is an era of massive transition and transformation. This transitory period whether one calls it the 'Post- Fordist Era' or simply goes by the name which characterizes the economy of this era, that is 'Knowledge Economy', has its own impact on the work process and on the workers. In order to trace that impact my aim in this chapter is to go to a detail analysis of the Work process of this era by posing the question what does it mean to 'Work' in the era of 'Knowledge Economy'? How is it different from the previous era of Industrial or Fordist economy? And the most important is the characterization of the 'class' which is the dominant workforce in it (the Knowledge Workers), keeping in mind the dominance of the 'blue collar industrial male work force' in the era of Fordism.

The question of 'what does it mean to work in the Knowledge Economy' first and foremost needs to take into account the question of what does it mean to 'Work'? Or to put it more simply what is 'Work'? 'The word 'work' is rooted in the in the ancient Indo-European word '*werg*' meaning 'to do' and is therefore etymologically related to *energy* (in or at work), *lethargy* (without work), *allergy* (oppositional work), *synergy* (working together), and *organ* (a tool as in working with something). The Oxford English dictionary further lists twenty one definitions of 'Work' as a noun and forty one as verb.'[2] These linguistic features of work reflect clearly the complexity and realities of human work. And therefore writing about work becomes not just a difficult task but at the same time it requires a comprehensive approach all together.

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[1] John Bellamy Foster in the introduction of Harry Braverman's *Labour and Monoploy Capital: Degradation of Work in the twentieth Century.* (New York:Monthly Review Press, 2006)
[2] John.W.Budd. *Thought of Work* (New York Cornell University Press, 2011). p.1.

Some may equate work with only paid employment but then the question will arise about the work that has been done in the household by women i.e. the domestic work or the work of child care by mother. At the same time there are many types of work which do not conform the notion of paid employment like the work done in the informal economy is not recorded in a direct sense with the statics of the official employment. [3] 'Work' has a cultural side too. In China 'Work' means Paid employment. In Turkey women are often engaged in knitting and other handicraft activities on a paid and piece work basis but they are not being seen as the workers. John.W.Budd in his book '*Thought of Work*' has outlined ten key conceptualization of 'Work' in the backdrop of fundamental importance of work and diverse nature of work across time and space. First, *Work as a Curse,* coming from the Western Theology, Ancient Greek-Roman philosophy, where it is seen as 'an unquestioned burden necessary for human survival or maintenance of the social order. Second, *Work as Freedom*, coming from western liberal individualism, where it is 'a way to achieve independence from nature or other humans and to express human creativity'. Third, *Work as a commodity*, coming from classical economics, particularly Marxism, where it is seen as 'an abstract quantity of productive effort that has tradable economic value'. Fourth, *Work as occupational citizenship* coming from the western citizenship ideals, theology, industrial relations etc where it work has been 'an activity pursued by human members of a community entitled to certain rights'. Fifth, *Work as disutility* coming from the utilitarian philosophy, where work is 'a lousy activity tolerated to obtain goods and services that provide pleasure'. Sixth, *Work as personal fulfillment* coming from western liberal individualism and later on adapted by the management studies where it is 'physical and psychological functioning that ideally satisfies individual needs'. Seventh, *Work as a social relation* coming from industrial sociology, anthropology where it is 'human interaction embedded in social norms, institutions and power structures'. Eighth, *Work as caring for others* which are manly put forwarded by feminist philosophy where it is the 'physical, cognitive, emotional effort required to attend to and maintain others'. Ninth, *Work as identity* being discussed by psychologists, sociologists where 'it is a method to understand who you

[3] The term 'Informal Economy' signifies the ' transactions outside the sphere of regular employment, sometimes involving exchange of cash for service provided but also involving the direct exchange of goods or services. Anthony Giddens. Work and Economic Life in *Sociology.* (New York:Simon Griffith Polity,2006).p.741.

are and where you stand in the social structure. And finally tenth, *Work as service* coming from republicanism, Confucianism and also humanitarian philosophy where 'it is the devotion of effort to others such as God, Household, community, country' etc.[4]

In terms of academic disciplines the concept of 'Work' has been used in the discipline of sociology and economics to understand the dynamics of the society. In the discipline of sociology there is a subfield called 'sociology of work' where this concept has been dealt in an elaborate fashion. 'In general most sociological accounts of work actually concern themselves with paid employment; hence most sociology of work has been industrial sociology or sociology of employment or sociology of occupations'.[5] And at the same time in the discipline of economics the question of labour and labour process, has dealt with the realm of work particularly the genre of labor economics.

Hannah Ardent in her book *The Human Condition* has made an important intervention with the notion of work by distinguishing between 'work' and 'labor'. For Ardent labor is the bodily activity designed to ensure survival in which the results are consumed almost immediately; whereas 'work' is the activity undertaken by our hands which gives objectivity to the world. So work is the self directed craft work for her. It appears that the category of work is not just ambiguous in nature but also it is almost impossible to provide an objective definition of it taking all the different aspects into account. Thus taking all these factors into consideration it is important to mention in the beginning that in this chapter when I am using the term 'work' I am restricting its use in the domain of the paid employment and interchangeably using the term with labor as my aim is to build up the picture of work process or the labor process in the 'Knowledge Economy'. At the same time I will not be writing separately about the categories of gender, race, ethnic identity or caste (in the specific case of India) as that is beyond the scope of this dissertation. Therefore the analysis of the work and work process in the era of 'Knowledge Economy' will be a broader one rather than being focused on any one aspect.

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[4] For more detailed discussion on the different aspect of work see John.W.Budd. *Thought of Work* (New York: Cornell University Press, 2011).

[5] Keith Grint. *Sociology of Work: an Introduction*. (UK, Polity Press. 1991).p.10.

The chapter will be divided into the following sections. In the first section I will briefly discuss the theorization on 'Work' made in the classical tradition by Marx, Weber and Durkheim. The second section will focus on the debate about the labor process of the Fordist era looking mainly through the work of Harry Braverman and his deskilling theses. Moving from that debate the third section will be on the current scenario of work and analyzing the change in the labor process since the time of Braverman in the current era of 'Knowledge Economy'. This section on the contemporary work process will highlight the change from two dimension one on the organizational basis and the other from the work force basis. Here I will mainly talk about the scenario in the advanced capitalist country and from here in the last section of this chapter the analysis will be on the change in the work process and the workforces in the developing country like India due to the rise of pattern of outsourcing.

The concept of 'Work' in the classical tradition: Marx, Weber, Durkheim

In the classical tradition work has been the key sociological category to bring about the social changes. The analysis of the concept has to start with Marx as not because he considerably influenced Weber and Durkheim but also his analysis of work or labor is at the heart of his understanding of economics and society. Building on the contribution of Adam Smith and classical economists as well as Hegel's philosophy, Marx's understanding of the dynamism of the labor process makes the concept of work as the key foundation of his theory. Work becomes the encompassing framework for Marx to analyze capitalism. In his early writings such as EPM OF 1844 Marx develops the concept of work through the concept of alienation. For him 'work is the need-directed activity that drives social action and the key means through which economic value is created in the capitalist system'[6]. Marx argues that we work to meet the need that arises out of our interaction with natural and social world. He declares the act of production as the 'first historical act'. So as the human needs develop so does the productive capability of the society and in this work provides the engine for progress. When in his later writings Marx turns to explain the process of capitalist mode of production in details in his later writings 'Work provides the bridge

[6] Shaun Wilson. *The Struggle over Work: the end of work and employment alternatives for the Post-industrial Societies*. (London and New York: Routledge, 2004.) p.15.

between his overall theory of society and his rigorous attempt to uncover the laws of capitalism'.[7] So what happens is that though work is a need directed activity but the capitalist system organizes the labor for its own purposes and extracts the value from the productive labor of the working class and which it is able to organize technically and more rationally. It is the struggle over profit by the capitalists that transforms the labor process and in this struggle the economy moves forward, at the same time it increases the technological sophistication. Marx at the same time was able to show us that this system is one of profound contradiction manifesting periodic crisis and providing the dynamics of further changes. Technology here plays a critical role in the contradiction. 'While profits are boosted by new technologies that lowers labor costs and by rational organizations, fierce competitions eventually reduce profit margins. While the mass of profit tends to grow in the expanding system they do so at a declining rate as the 'organic compositions' of the capital rises displacing labor, which is the source of economic value. And the periodic crisis of capitalist development an inherently unstable process produces economic and social tension.'[8] Thus the fundamental weakness of the system lies that it not only creates wealth but at the same time it undermines the condition and the status of the very workers who creates the wealth. He assumes that the labor is continuously and increasingly getting transformed by the technological change and thus work in the capitalist factories becomes more and more simple units of abstract labor. Marx says that 'the labor no longer appears so much to be included in the production process; rather the human beings comes to relate more as watchman and regulator to the production process itself.'[9] Therefore Marx could capture the growing marginality of the labor in this dynamic mode of production called capitalism. So we get two broad ideas form Marx as far as the problematic of work is concerned- first, technological change reduces the complexity and skill of work and at the same time secondly, capital always displaces labor in its search for profit and efficiency. However I would like to add one qualification to this broader understanding that Marx's view on technology has to be treated as consistently dialectical as on one hand he was very enthusiastic about science as the tool of explanation or understanding and also of technology, at the

[7] Ibid.p.16.
[8] Ibid.p.17.
[9]Karl Marx. *Grundrisse* .p 705.

same time he was unsparing in his critique when it came down to the impact of machinery on the lives of working class under capitalism.

Moving forward from Marx to Weber we see that his views on 'Work' are subject to forces of rationalization. Weber was more concerned about the future of a technically controlled society as he believes that work would be rationalized by advances in the organization and technology. As he subjects work to the rational forces thus for Weber there was little prospect for democratization of work and thus he was opposed to the union demands and emergence of socialist politics. He believed 'rational organizations could not be democratized from within'.[10] Shaun Wilson argues that Weber's thought about 'Work' give us the impression that he gives 'technical rationalization in all its guises the status of an independent force.'[11] In *Protestant Ethic and Spirit of Capitalism* Weber seeks to challenge Marxist understanding which attributes economic forces as the driver of the social change by highlighting the role played by cultural, religious and social practices. 'The rise of capitalism depended on a complex specific developments including democratic change, the emerging capacity of bureaucracy and technological innovation as well as the peculiar ascent of acquisitive ethic. But over the time Weber increasingly gives the impression that he sees technical rationalization as an independent force breaking free of specific cultural motivations.'[12] In *Economy and Society* Weber develops the formal definition of rational economy thus he talks about a technical order where mangers, bureaucrats and technicians forces out substantive values from the sphere of economic life. Thus he describes the modern workplace in formalistic terms. He holds up Taylorism as evidence of encroaching formal rationality. Though he was not apologetic for the problems of capitalism but he does convey the sense that due to the emergence of the technical rational order 'workplace would become the iron cages.'[13] So for him technical and managerial organization will rationalize the 'Work' so much that any challenge to formal rationality was irrational for him leading him to criticize the demand for 'workers control' and legislative changes that will favor the interest of the workers.

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[10] Shaun Wilson. *The Struggle over Work: the end of work and employment alternatives for the Post-industrial Societies*. (London and New York: Roultedge, 2004.) P.23.
[11] Ibid.p.23.
[12] Ibid.p.24.
[13] Ibid.p.28.

Now if we look at Durkheim we get to see that for him division of labor is the point of reference to describe changes in the work and industry. However this was for him not the site of contestation on the other hand he argues that 'modern division of labor generates a new form of solidarity'[14]. He distinguishes the modern societies from the pre modern one on the basis of the division of labor by locating the 'mechanical solidarity' for the pre modern and the 'organic solidarity' for the modern societies. He considers the modern division of labor a normal development except where it is 'anomic' or forced. The concept of anomic division of labor led him to see personal or social alienation resulting out of the breakdown in the moral capacities of the social order. Therefore where as for Marx alienation, routinisation of work was the feature of capitalist society Durkheim looked at it as the special case as the forced division of labor for him was a special case in the overall capitalist development and thus he could downplay the tension that occur between capital and labor while talking about 'Work'. By stressing on the 'normality' of the industrial society he 'marginalizes the problems that are endemic to capitalism.'[15] Therefore for him work or division of labor generates the solidarity that will support social integration but 'solidarity in the form of collective action in the workplace is not satisfactorily integrated into his overall studies of the division of labor.'[16]

So if for Marx the struggle between capital and labor in the process of production is the key to understand the dynamics of Work, then it is the rationalization which explains it for Weber. Durkheim like Marx starts with the division of labor to understand 'Work' but for him it is rather a source of solidarity than a struggle. These different theorizations become inevitable to consider when we start talking about the actual work or labor process in Industrial economy in the era of Fordist assembly line of production. To understand the change that has happened in the process of Work today it is important to look at the work process of the Fordist era which is the content of the next section.

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[14] K. Thompson. *Emile Durkheim*. (New York: Tavistock, 1982).p.82.
[15] Shaun Wilson. *The Struggle over Work: the end of work and employment alternatives for the Post-industrial Societies*. (London and New York: Roultedge, 2004.) p.31.
[16] Ibid.p.34.

The Work process in the Fordist era: Harry Braverman and the Labor Process Debate

As we have seen in the last chapter the Fordist era was characterized by the establishment of a durable balance between mass production of standardized goods on one hand and consumption of such goods on the other. And as we know this balance was required to offset the inherent tendency of capitalism towards crisis of overproduction and underconsumption. Bowles and Gintis pointed out that the apparent elimination of such crisis in the post 1945 period was achieved by 'a particular reconfiguration of class relationship what has sometimes be called as capital-labor accord'.[17] In this section the focus is on the analysis of the work process or labor process of the Fordist Era where assembly line factory production was the norm to achieve the 'capital-labor accord.' In this context the writing of Harry Braverman in his book '*Labor and Monopoly Capital: The Degradation of work in the Twentieth Century*' becomes pioneering as he was one of the first to give us a clear picture of the labor process of this period to understand what 'Work' means in the context of capitalism. Braverman's writing not only influenced historians, economists, sociologists to think in a radically new perspective in the context of the labor process, in Britain social scientists spoke about 'Bravermania'. In sociology an entire body of literature arose, known as 'labor process debate'. Therefore Braverman becomes an important link to understand the Work process in the context of Fordist production and at the same time to situate the study of the changes that has happened in it since the decline of Fordism.

Braverman was not merely interested in the study of the occupational shifts but to the question of the structure of the working class, here which means the population employed in the manufacturing and associated industries, which by the time he undertook this study already started shrinking if not in the absolute numbers but in relative terms. And the formal and informal literature of the of occupations at that time marked one contradiction; 'on one hand it emphasized that modern work as a result of the scientific–technical revolution and automation requires ever higher levels

[17] S. Bowles and H. Gintis. The Crisis of Liberal Democratic Capitalism: The Case of the United States, *Politics and Society*, Vol. 11. No.1, pp.51-93.

of education, training, the greater exercise of the intelligence and mental effort in general. At the same time, a mounting dissatisfaction with the conditions of industrial and office labor appears to contradict this view. For it is also said – sometimes even by the same people who at other times support the first view –that work has become increasingly subdivided into petty operations that fail to sustain the interest or engage the capacities of humans with current level of education; that these petty operations demand less skill and training; and that modern trend of work by its "mindlessness" and "bureaucratization" is "alienating" ever larger sections of the working population.'[18] This contradiction made him to enquire about the evolution of the labor process and the shifts of labor among occupations which also led him to investigate into the evolution of management, technology, Modern Corporation etc. In short his piece gives us detailed account of the development of the process of production and of labor processes in general, in the capitalist society. However questions have been raised to Braverman about how to put soviet model of industrialization in order to understand the process of production there. For Braverman the organization of the labor in the Soviet Union differs very little from elsewhere and 'this mode of production was created by capitalism, not by Sovietism, where it is only reflexive, imitative, and one hopes transitional form, thus it is with capitalism that the study of the labor process must begin.'[19]

At the very onset of the discussion Braverman defined, 'Work' has to be understood as 'the purposive action guided by intelligence, is the special product of humankind.' And the human capacity to do work which Marx termed as 'labor power' must not be confused with any other nonhuman agency. This capacity of labor power is a special category and it is separate and not exchangeable with any other. Only they who are the master of the labor of the others will confuse it with any other agency as to them it is just another factor of production. Thus what makes capitalism very specific as a mode of production is that it is not just the exchange relation, commodities and money but the '*differentia specifica* is the purchase and sale of labor power.'[20] Labor itself being an inalienable property of the human individual, in the process of

[18] Harry Braverman. *Labor and Monopoly Capital: Degradation of Work in the Twentieth Century.* (New York: Monthly Review Press, 1974).p.3.
[19] Ibid.p.16.
[20] Ibid.p.35.

production what the worker sells and the capitalist buys is not '*an agreed amount of labor but the power to labor over an agreed period of time*.'[21]

This clear and crucial Marxist understanding made Braverman to understand that 'the earliest innovative principle of capitalist mode of production was the manufacturing division of labor.'[22] It is the systematic subdivision of the work into each productive specialty into limited operations. Therefore when the question of skill of the worker arises Braverman points out to the fact that capitalist mode of production 'systematically destroys all around skills where they exist and brings into being skills and occupations that correspond to its needs.' And thus as far as technical capacities are concerned they are henceforth distributed as the 'need to know' basis. Thus it boils down to the fact that labor power is distributed on the basis of the needs of the purchaser means the employers 'who are seeking to increase the value of their capital.' And it made the labor process to be devoid of special knowledge and training and it is reduced to as Braverman suggests to 'simple labor'.

This led him to extend the enquiry of the labour process into the realm of the theory of scientific management given by Taylor. For Braverman the classical economists were the first theorists who addressees the issue of problems of organization of the labour within the capitalist relations of productions and thus they are told to be the first 'management experts', and logically Taylorism is also part of the chain of development that has taken place in order to 'apply science to the increasing complex problems of the control of labor in a rapidly growing capitalist enterprise'[23]. Now if we take a look at the fundamental assumptions of Taylorism we will find that overall, Taylorism is all about 'fundamentals of the organizations of the labor process and of control over it.' The basic principles are: first, *dissociation of labor process from the skills of the workers*. It means the labor process will be divorced from the craft, tradition and the workers knowledge and thus here the ability of the worker does not matter much but it is the practices of the management. Second is *separation of conception from the execution*. It broadly means separation of mental and manual labor where all possible brain work has to be separated from the shop and to be

[21] Ibid.p.37.
[22] Ibid.p.49.
[23] Ibid.p.59.

concentrated in the few hands in the planning and management department. Third is *use of this monopoly over knowledge to control each step of the labor process and its mode of execution*. Thus the modern management which arose based on these basic principles transformed the labor process based on skills into the labor process based on the science to achieve most profit rapidly and in the entire process the worker is reduced into a general undifferentiated labor power, adaptable to the range of simple tasks. And this process of transforming the working class into the mass of 'labor force', a 'factor of production' is an unending continuous process in the capitalist mode of production. As capitalism expands itself into the newer areas of work including the new advancement in the area of technology, creation of new industries etc it gets refined and perfected so that 'its pressure upon the workers remain unceasing. And at the same time the habituation of the worker to the capitalist mode of production must be renewed.'[24] In this story of labor process and its control by the capitalists, Braverman locates the role of the machinery. For him, machinery helps in the concretization of human control over the labor process which in turn is in the hand of the capitalist management. It is the management who ultimately holds the monopoly over the machinery. And this Braverman explained with the example from the Fordist era where the worker was habituated with the assembly line production process, something which was depicted beautifully in the famous Chaplin movie called 'Modern Times'.

Now with the increasing machinery and modern technology, there is the reduction in the demand for labor; however the potential loss of employment is negated i.e. at least for some period, through scaling up of production which is made possible by technology itself. And in this entire process the crucial role (in terms of increasing the scale of production) is played by the market. The search for universal market is the criteria for Monopoly capital to flourish as it takes over the totality of individual, family, social needs etc. Thus the understanding of how the market functions become crucial to understand the modus operandi capitalist mode of production.

After pointing out these basic facts about the labor process under the Monopoly capital in the era of Fordist Assembly line production Braverman turns to the crucial

[24] Ibid.p. 96.

question of the 'working class' and what are the changes that were happening at that time. He was able to point out the changes that were taking place in the occupational compositions. As the Taylorist principle suggested the dissociation of conception from the execution which resulted into the removal of all possible conceptual work from the shop floor to the office and along with it the need to keep the replica of the production process in the paper form gave rise to the large number of the technical and clerical office staffs in the industry. And since management needs to tighten its control more and more as the capitalist system expands itself further this technical and clerical, data processing army increases in each industry. At the same time it is crucial to remember that the strata of clerical workers have existed from the time of the industrial revolution but the evolution of this stratum in the time of Fordism should not be taken as the 'continuous evolution of single strata.' Moreover the clerical stratum of the time of industrial revolution should be taken as the ancestors of the modern professional managerial class rather than the ancestors of the modern clerks. Implicit in this assumption of Braverman is the argument that though in the early times of Taylorism the office floor could have been distinguished from the shop floor, as a the site of conception but as soon as the office floor gets rationalized this distinction starts getting blurred and the conceptual work ultimately becomes the monopoly of very few in the highest echelons of the industry. And the mechanization of the office work becomes possible with the help of the machines such as type writer, calculator, and finally the computer. 'The computer may be to the middle management what the assembly line is to the hourly worker.'[25] With this analysis Braverman gave us the full picture of the labor process during the time of Fordist era by taking into account not just the shop floor but also the office work in the industry. The thesis that emerged out is famously known as the *deskilling thesis* though Braverman himself never used the term deskilling. However he does subscribe to the view of proletarization of all kinds of work not just in the industry site but also the office work. This analysis led Braverman to define the working class as the '*animate part of capital, the part which will set in motion the process that yields to the total capital its increment of surplus value. As such the working class is first of all raw material for exploitation.*' And thus formal definition of working class is the 'class which, possessing nothing but the power to labor, sells that power to capital in return

[25] Ibid.p. 234.

for its subsistence.'[26] Thus the idea that the changing condition of the industrial and office work increasingly require better educated, better trained, higher skilled, upgraded population is rejected by Braverman. As he argues that 'the more science is incorporated into the labor process the less the worker understands of the process; the more sophisticated, intellectual product the machine becomes the less control and comprehension of the machine worker has. In other words the more the worker needs to know……..the less he or she know.'[27] Therefore the capitalist mode of production needs the workers to become the 'hand' without knowledge or capacity by which the capital does it work, means it is the mere extension of the machine.

Therefore the salient points that emerge out from this discussion of Braverman on the labor process debate can be summarized as follows:

- Braverman argued that the labor process (process of production whereby labor power is applied to raw materials and machinery to produce commodities) are determined by capitalist social relations and not by technical or organizational factors.
- It is the labor that creates all values.
- The social relations not technical relations that determine the conditions of work.
- The labor process is based on the antagonistic relationship between labor and capital inherent in the capitalist societies.
- In maximization of the capitalist control and weakening the autonomy of the worker is based upon the principle of the scientific management of Taylor's as it is involved with the primary responsibility of subdivision of the work in the industry.
- Taylorist Principle is based on division of Conception from Execution.
- Thus both manual and office work tends to get routinized in this process leading to the deskilling of the subsequent workforce in the advanced

[26] It is worth mentioning that the middle class mass according to Braverman also corresponds to this formal definition of the working class.Ibid.pp.261, 279.
[27] Ibid.p.295.

capitalist countries. And this ultimately leads to proletarization of the work forces.

This analysis of the labor process by Braverman is definitely one of the most important intellectual events of the 1970s. It started and renewed the study of the workplace and inspired a whole generation of social scientists to look into the question of what is work, conditions of work and workers in advanced capitalist societies. The very fact that it started the labor process debate points to us that in spite of its influence on the social science academia this analysis was criticized from various corners too. Peter Meiksins in an article in Monthly Review summarizes the criticisms that this study received.

First, *Definition of Skill*: the central theme of this entire debate is on the question of skill at work. Some authors (Robin Leidner, Arlie Russell Hoshchild, Carol Axtel Ray, Vickey Smith etc) have pointed out to the fact that the analysis of skill made by Braverman is closer to the study of manual labor and that makes the understanding of skill restricted as it cannot be accounted for the middle management jobs which are particularly prevalent in the service economy today. At the same time feminists (Veronica Beechey, Jackie West, Cynthia Cockburn etc) have pointed out that the notion of skill presented here is a male notion as the female skills are neglected. One consequence of this is 'that the socially constructed character of the skill has been neglected.'[28] And at the same time it also ignores the fact that skill, gender and power intersect each other.

Second, *Romanticizing Craftwork*: Braverman has been criticized for romanticizing the craftwork by posing a mythical nineteenth century workplace where workers were more autonomous with skilled craftwork to a twentieth century workplace filled with deskilled workers. For critiques it was not reality of the nineteenth century work and at the same time feminists' points out to the fact that it ignores the relationship between male crafts workers and the unwaged domestic labor performed by their wives.

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[28] Peter Meiksins. Labor and Monopoly Capital for the 1990s: A Review and Critique of the Labour Process Debate in *Monthly Review*.(New York: Monthly Review Press , November,1994).p.47.

Third, *Degradation of Work*: the most widely contested point in the debate was about the degradation of work in capitalism. The claim of Braverman that capitalism produced homogenization and deskilling of labor is called into question by the critics who think there are emergences of new skill jobs in highly technological arena, service work, and white collar jobs etc. New technology for them actually brings reskilling. This trend is more prevalent in the macroeconomic circle in US who are studying the change in the occupational structure.

Forth, *scientific management as the logic of capitalism*: it is a well known fact that after Braverman the important writing in the labor process debate was pioneered by three writers; Andrew Friedman (1977), Richard Edward (1979) and Michael Burawoy (1979). Regarding the issue of scientific management as part of the capitalist project Andrew Friedman argues that there are two major types of controlling strategies in the current phase of capitalism one is "direct control" and the other one is "responsible autonomy". And he does not believe that in future the former will replace the later and thus both will continue to exist contrary to the belief of Braverman for whom Taylorism is equated with capitalism. Edwards has a more historicized view of the entire scenario where he showed us series of control mechanism that capitalism have developed to suit the new production needs and to respond to new ways of worker's resistance. Simple control which was associated with small workshops gave way to technical control in the assembly line which in turn gave way for bureaucratic control in the contemporary corporations and in all of this scientific management for him was a transitory model which the employers needed to solve the problems of simple control. Those who favor the argument of flexible specialization and Japanese management techniques called Toyotism they argue that contemporary forms of work organization and new technologies are actually reversing the old trends by empowering the worker to an extent. Though some authors like Piore, Sabel etc have argued that downsizing corporate and subcontracting is the new form of capitalist control based on market.

Fifth, *the question of subjectivity*: the role of subjectivity shaping the labor process has been the most consistent theme in critiquing his work as it argues that Braverman presented a case for the 'class in itself' rather than 'class for itself' and thus the separating subjectivity from the labor process. Andrew Zimbalist has argued that

Braverman neglected the entire question of working class resistance to the capitalist effort to control the workforce. Michael Burawoy argued that a central element 'in shaping work relations is "manufacturing consent" i.e. gaining workers' agreement to the conditions of productions.'[29] He argues that the labor process is shaped by the dialectic of capitalist efforts to direct workers and the workers' desire to resist. The result is the uneasy truce that exists in reality.

Sixth, *Narrow focus on the shop floor*: several critics have argues that Braverman's focus is too much on the condition of the shop floor itself. Understanding the dynamics of the class struggle and capitalist economy has to be made by taking into account wider political, economical, ideological accounts. For John Kelly this exclusive attention to shop floor makes Braverman overestimate the control of the capitalists in the factories. For Kelly capitalism is not all about contest between capital and labor but also contest between capitalists themselves. Michael Burawoy in his *Politics of Production* argues with the notion of 'factory regime' that labor process needs to be understood as the part of the larger whole where competition among firms, reproduction of the labor power and state intervention in the economy all plays it part. Thus work relations in the factory alone cannot account for the conflict and class relation of capitalist economy.

It is undoubtedly true that some of the criticisms leveled against Braverman as discussed above helped in bringing significant modification and sharpened the labor process debate. It is true Braverman's analysis is not the ultimate word on the nature of skill and role of technology and mechanization, perhaps he has exaggerated the importance of scientific management also but that should not blind us to see the fact that deskilling to a large extent is the reality of capitalist mode of production. As Paul Thompson has argued that even if Braverman has exaggerated the effect of deskilling and homogenization that does not negate the fact that 'deskilling remains the major tendential presence within the development of the capitalist labor process.'[30] It will be case of a rare worker who has not experienced this at any level or at any economy sector. At the same time one needs to assess the importance of this debate from the

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[29] Ibid.p.51.
[30] Paul Thompson. *Nature of Work.* (London: Macmillan Education Ltd, 1983).pp.118-119.

context which it arose and what it stands for. The book got published in 1974 when already the advanced capitalist countries were hit by the crisis and much of the literature in social science sector was arguing about Marxist political economy being outdated as the industrial proletariat has already started shrinking. It was the same time when on the other side of the academic spectrum two sets of ideas emerged (1960s). One is the Frankfurt School with the writing of Herbert Marcuse who in his *One Dimensional Man* has argued that the affluence generated by the advanced capitalism had produced mass-consumer culture that has incorporated the working class into such societies. Accordingly it is not the working class which is now the revolutionary one but the central focus of radical transformation lies with the groups marginalized by the capitalist process like the Blacks, Hispanics, students and peasants of the developing world. For Marcuse the economic contradiction of capitalism which was central for Marx was not any more the relevant formula of analysis.[31]

On the other hand there emerged theories of 'Human Capital' in the Chicago school with Shultz and Becker and at the same time Post Industrial Society in Daniel Bell's theory which I have discussed in the first chapter. The crux for these theories was that technical changes are eradicating manual work and thus the traditional working force is disappearing. It is happening as a result of the technical enhancement which is increasing the need for the enhanced level of training and specialist expertise which in turn causing the need for the technologically sophisticated work force which Robert Blauner has thought as the end of alienation and Andre Gorz has called as the emergence of new working class. These formulations paved the way for the later theorizations such as knowledge work, 'Knowledge Economy' etc. These ideas were closely intertwined with the notions of "embourgeoisement", "end of ideology", "growth of middle class society."

Thus it can be seen that Braverman was writing against these tendencies to counter the argument of Marxism being outdated for the understanding of the current reality. If one takes a look closely he was at the same time paying attention to the changes

[31] For further details on the debate on skill refer to Roger Penn's PPT presentation in University of Bologna, 2009, available on Google scholar.

that were taking place like jobs in the new service, non industrial sectors arguing in favor of counting the workforces there as the working class itself, which he himself refuses to view as a continuously evolving single stratum. Its central aim was to put the question of class, class conflict, exploitation in order to understand the reality of the work under capitalism. Again on the question of organizational reform it is one thing to acknowledge that modern management system is not the exact replica of Taylorism but it another thing to say that flexibility, lean model of Japanese production are the less exploitative one, often seen as empowering the worker, leading to a total transformation of capitalist mode of production where the structural demand for profit maximization and increased labor productivity is not any more valid. This is the point which following David Harvey's argument about the restructuring of capitalism I have already made in the last chapter.

This inevitably leads us to the question then what does this debate teach us in terms of the current era? Keeping in mind some of its restrictions how does one move forward to assess the labor process today? If we are agreeing with the basic fact of the continuation of the capitalist mode of production today then it becomes more important to analyze the fragility of the current system which curiously tries to hide the centrality of the capital-labor exploitative relationship. Here I think one need to start the analysis taking into account Braverman as he was able to make the point as early as 1970 that the contemporary workplace reform which is predicted as the workers participation is nothing but the new changing style of management rather than 'the actual change in the position of the worker within the capitalist order'[32].

The Work Process in the Contemporary Era of 'Knowledge Economy'

Moving from the labor process debate now in this section, I will try to assess the scenario of 'Work', today in the era of 'Knowledge Economy' (keeping the question that has been raised in the beginning of this chapter that what it means to 'Work' in the era of 'Knowledge Economy'?). It seems that the labor process debate has set the trend in terms of highlighting the question of 'skill', 'service jobs', 'middle management employees', 'changes in the organization or management pattern' and

[32] Peter Meiksins. Labor and Monopoly Capital for the 1990s: A Review and Critique of the Labour Process Debate in *Monthly Review*.(New York: Monthly Review Press , November,1994).p.56.

‘the role played by technology’ in this overall process. Here I would like to move forward the labor process debate in the context of contemporary era of the twenty first century where ‘Knowledge Society’(Peter Drucker), ‘Information Society’ has become the buzz words and the economy of today is characterized as the ‘Knowledge Economy’. It all started after the economic crisis of 1970s with the theorizations of ‘Post-Fordism’ or ‘Post- Industrialism’ and the restructuring debate on capitalism which we have already dealt in details in the previous chapter. Now it is to be seen what exactly happens in terms of the actual work and what are the major changes that has happened to ‘Work’. And from this how can we think about the dominant workforce engaged in Work in this economy. Here I would like to make one qualification that under the term ‘Knowledge Economy’ different kinds of works are being performed from research and innovation to the services of customer care. Therefore one needs to remember that the driving force or the enabling factor of this economy is generally taken as the revolution in the information and communication technology and therefore I will primarily analyze the work process in this information technology (IT) sector. The technologies which are required for acquiring, storing, processing and transmitting information are collectively referred to as “IT” and include both hardware and software components. In this software is the general term which is used for instructions controlling the operation of IT hardware. So it becomes the most inevitable part of the IT revolution. The software business is mainly consists of three major categories: solutions, products and services. However in terms of work it is mainly divided into two categories: Projects (software services) and Products (development of a package for sale).

Generally the term ‘Knowledge Economy’ portrays and promises a picture of a ‘world of smart people, in smart jobs, doing smart things, in smart ways for smart money, increasingly open to all, rather than a few. Glossy corporate brochures present a future in challenging, exciting and financially rewarding jobs for the winners in the competition for the fast track management appointments, offering training, self development and rapid career progression. They also convey an image of enlightened employers actively seeking to diversify the talent pool, reflected in their approach of

identifying, hiring and retaining outstanding talent.'[33] If the challenge for the governments across the states is to provide job opportunities to its citizens then it seems 'Knowledge Economy' provides the historic solution to the problems of wealth creation 'on the basis of brains rather than the brawn of the workforce.'[34] Therefore it signals the transition from the industrial era to a knowledge based era where the problem is no longer the struggle for limited supply of managerial jobs but rather than making sure that the workforce has the employability skills so that they can take advantage of the high skilled high wage jobs generated within the global economy. The promise that knowledge Economy has made also speaks of a 'world of human creativity, initiative and energy.'[35] It also suggests that since the modern management rely more on the managerial and professional talent they have developed 'competency based recruitment techniques' which helped them to identify objectively the best person suited for the job irrespective of the social background, identity issues etc. Thus this economy gives a sort of level playing field to the workforce. This sort of a picture is the classic extension of the argument put forward by the theorists of Post Industrialism and others who support the restructuring debate as the ushering of a new era beyond the class based, maximization of profit based capitalist mode of production. (Management gurus like Peter Drucker has gone to the extent of calling it the ushering of a Post-Capitalist era).

However coming back to the central question of this chapter regarding the change in the work process two core points emerge out which are: one, about the *skill of the workforce* today with the increasing professional knowledge based employment and second, about the *flexibility of the workforce*. Chris Brenner identifies three interrelated process which lies at the core of this transformation: one, the spatial boundaries of the economic activity is changing, associated with the increasing globalization of economy; second, forms of economic organizations are shifting with a decline in the vertically integrated firms and growth in the complex network production systems, and third, forms of competitions are being modified with the

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[33] Phillip Brown and Anthony Hesketh with Sarah Williams: *The Mismanagement of Talent: Employability and Jobs in the Knowledge Economy*. (New York:OUP, 2004).p.1.
[34] Ibid.p.1.
[35] Ibid.p.10.

increasing importance of the of innovation to the long term economic success.[36] And for Brenner this was mainly possible because of the fact of tremendous developments in the IT in the past three decades. As we have discussed in the earlier section that it is the analysis of the work or the labor process which lies at the core of the understanding of the social reality, thus it is through the changes in the labor process, we can identify the implications of the transformation that has happened. 'The technological and managerial transformation of work and employment along with the related transformation of labor markets is the central means through which most people experience and are affected by broader economic changes.'[37] This however does not imply the negation of peoples experience as consumers and their political, cultural and social interactions, all of which are affected but since the majority of the population still thrive on the different modes of paid employment it is the change in this arena which remains the primary site of the research to understand how these changes actually affecting the contemporary society in its totality. The study of this transformation of work has to begin from the study of the changes that has occurred in the Silicon Valley of USA which is the center of the innovation and diffusion of the IT sector keeping in mind the points regarding flexibility and skill.

First we will deal with the notion of ***flexibility***. The shift to flexible labor is the primary characteristic of work today. The restructuring debate cannot be fully understood without referring to this term. In the contemporary times this concept has gained importance with the publication of Piore and Sabel regarding the argument of *flexible specialization* replacing mass production in the post 1970s crisis in their work *The Second Industrial Divide*. Since then whether it is the debate regarding economic organization, regional development, new forms of economic competition or the issue of capital accumulation as well as the restructuring of the labor markets the notion of flexibility has occupied a central place. The debate regarding the labor market is the most important out of all these. Brenner defines the term 'as the ability to change or react to change with little penalty in time, effort, cost or performance.'[38] However this can mean benefits of flexibility to one and can cause in the economy the loss for

[36] Chris Brenner. *Work in the New Economy: Flexible Labour Market in the Silicon Valley*. (UK: Blackwell Publishing, 2002).p. 1.
[37] Ibid.p.2.
[38] Ibid.p.14.

other. If for the sake of the market this is an important factor then at the same time it is also true that corporations drive for the flexibility is often for the desire for 'decreased regulations and the ability to hire and fire employees at will.'[39] And all of these are definitely having an impact on the work conditions.

The most common way of understanding the issue of flexibility in labor market and the production process is to start with the firms as the unit of analysis. Firms actually can pursue both internal and external flexibility. In terms of internal flexibility it mainly means the workers inside the firms to adjust to the changing demands. It includes the aspects such as 'polyvalent skills, broad job categories, redeployability, team work etc.'[40] thus the internal flexibility is often termed as "functional flexibility" and the external flexibility is called the "numerical flexibility" that allows the firms to take advantage of the external relations such as access to the specialized skills or expertise or to adjust to the fluctuating labor demands. It means high levels of employee turnover, more and more subcontracting, use of home based workers, temporary or part time workers etc. In the case of wage rate particularly incentives and other compensation packages can be seen as the practices of flexibility.

Brenner explains the issue of labor flexibility by saying that basically means 'logic of tailoring labor inputs in production to shifting levels and qualities of outputs.'[41] He identifies three major domains where this practice can be seen: a) the ways in which wage rates or the so called salary packages are made downwardly adjustable and the bargain takes place on individualized worker to worker basis rather than a occupational group as a whole and this has serious repercussion as far as the political apathy is concerned among the workforce. b) They may seek advantage of the internal flexibility i.e. intra-firm flexibility through strategies that enhance the redeployability of the workforce across the shop floor. c) They may seek external flexibility by strategies of promoting quantitative adjustments of their labor intake. However there is a trend to situate the analysis of labor market flexibility beyond the firms in the literature of the industrial organizations which believes the worker now not only interacts in a firm specific manner but also with the customers, suppliers, colleagues

[39] Ibid.p.14.
[40] Ibid.p.21.
[41] Ibid.p.21.

in other firms etc. As sometime single work sites might be having workers from various firms all together. Therefore the entire supply chain should be the unit of analysis for some of the authors like Sunil Chopra, Peter Meindl. As the worker now moves from one firm to the other as the part of the job hopping or attrition process it is believed that the worker builds up his or her skills across multiple organizations and thus greater attention should be given to the workers career paths. Whether it is the question of the worker interacting with the customers or suppliers or single worksites being the employment site of various firms or it is the trend of attrition one has to treat these changes as the symptoms or the superficial one as it is part if the process of regime of flexible accumulation (David Harvey) under the capitalist mode of production where it is the profit making need of the giant corporate or multinationals brings these patterns of changes.

Now if we take a look at the work process in the Silicon Valley we get to see that there are three trends as identified by Brenner- *First,* rapid growth in the various forms of nonstandard employment including temporary and independent contracting and outsourcing etc., *second,* high level of turnover and mobility, including the full time employees and *third*, rapidly changing technology and market conditions are leading to high level of skill obsolescence.

These trends in the flexibility of the labor or work process have to be analyzed by undertaking the second element of the transformation process that is the question of ***skill*** of the worker. Now the term skill in the context of knowledge work has to be understood not as the physical ability of a craftsman or a manual labor but as the wide varieties of communication, office based activities which includes handling of computer, telephones etc. These are sometimes referred as ‘soft skills’. And the debate regarding the skill in this sector hinges upon the relationship between technological changes and the skill. If we follow Braverman it will seem that the capitalist imperative of control, combined with the separation of conception from execution in the management style will lead to an ultimate degradation of the skill and the Work. But the exact opposite is often being claimed by the proponents of knowledge Economy as we have seen before, due to the fact that Work here is driven by the machine called computer with the help of IT where the arduous physical content of the labor is missing and it is mostly not a factory site but an office site.

Thus arguments are given that with the new management techniques in place which values the workers and workers participation along with the advancement in new technology, it is actually upgrading the skills of the workers. However Brenner goes with the argument that 'the entire debate on deskilling vs. skill upgrading however misses one of the critical issues: *the pace of change in skill requirements*. The term skill in the terrain of 'Knowledge Economy' has to be understood as the worker needs to be effective in their work adapting to the changes happening all the time inside and outside the organization. Skills, which were learnt in the past, are becoming quickly obsolete today. Brenner gives the example of engineers and programmers by saying that today what is expected in a job from the engineer and programmer were not even taught in degree programs five to ten years ago. Thus the environment of work in any organization today mainly tells the worker to be in the process of continuous upgradation of their working knowledge and skills. Thus all of these make the Work more volatile. Silicon Valley provides the best example of this where the worker needs to learn and stay always on top of the new technology as without this new knowledge the companies will fall behind in the market competition. Michael Curran, the director of NOVA Private Industry Council, an award winning training center and workforce development resource in the Valley said in n interview in 1999 that 'the nature of industry in Valley is constantly changing and employers just can't tell you what skills they're going to need two years from now…In the past the skills that the employees had lasted longer, may be 8-10 years. Now a current skill set might be valuable for only 18 months now.' Thus the rapid changes in the work demands, skill requirements show the dynamics of the competition in the market today. With the rapidly changing product markets, short product life cycles, and intense competition among the firms to gain profit, flexibility and skill factors become crucial for 'Work'.

Castells characterizes these debates in terms of issues of not just deskilling vs. reskilling but also workers displacement, productivity vs. alienation, management control vs. labor autonomy.[42] For him several factors in the 1990s like computer technology, internet and its applications, networking technologies, progressing by quantum leaps started becoming increasingly cheaper and better which turned into being affordable and manageable in a bigger and larger scale globally and thus it

[42] Manuel Castells. *The Rise of the Network Society.* (Oxford; UK: Blackwell Publishers, 2000).p.256.

triggered a technology /management race between companies all over the world. Thus the massive diffusion of these new technologies triggered changes not just in factories but also in the offices, service organization etc.[43] For Castells as we have seen earlier in the last chapter that information technology becomes the most critical ingredient of the process of work and he argues that it 'introduces a new division of labor that characterizes the emerging informational paradigm'[44]. And this new division of labor can be understood with the typology concerning three dimensions such as- value making dimension where actual tasks are performed in a given work process. Castells divides the workers here as commanders, researchers, designers, integrators, operators etc. The second dimension is relation making where the relationship between a given organization and other organizations are maintained. Here the division is the networkers, the networked and the switched off workers. And the last dimension is the decision making which is more about the relationship between managers and employees in a given organization. Here the division is deciders, participants and executers. Castells makes it clear that these three do not coincide. He put forward the main argument that these tendencies and the restructuring of the firms and organizations ushering a fundamental transformation of work: 'the individualization of the labor in the labor process.'[45] The entire transformation following Martin Conroy, Castells depicts with four elements of work:

- *Working time*: flexible work means which is not constrained by traditional pattern of 35-40 hours a week in a full time job.
- *Job stability*: it is task oriented job without any commitment to future employment.
- *Location*: though most workers are still located in the main office location but increasingly there are people who can work outside the workplace, at any time, from home or in some other workplace with which the company has subcontracting agreement.
- *The social contract between the employer and the employee*: the traditional contract with workers' well defined rights, social benefits, job security is phasing out.

[43] Ibid.p.257.
[44] Ibid.p.259.
[45] Ibid.p.282.

These broader changes are mainly based on the study in US however these are more and more getting reflected elsewhere as the economies are more and more getting integrated with the specific dimension in the sense depending upon various countries labor legislations, social security, tax systems. Castells is of the opinion that the logic of the dynamic labor market model interacts with specificity of labor institutions in each country. However moving ahead now we will look at the prime question of capital-labor relationship in this transitory period. The first thing that becomes most noticeable is the way from the 1980s onwards the labor unions which throughout the Fordist era thought to be the main mantle of representation of workers' rights and the prime institutions through which the capital-labor accord could be maintained, were progressively weakened. At the same time as the economies became integrated more and more, first the manufacturing jobs started getting relocated from the advanced capitalist countries to the developing world and later with the same hand of subcontracting the service based jobs, software jobs also started getting outsourced and it is the new industries of the 'Knowledge Economy' where any form of unionism is not tolerated by the management. As the work process itself became more and more individualized the collective bargaining capacity also got affected and since now one corporation has its wings all over the globe with diverse workforce thus any sort of organized move on behalf of the workforce is simply not possible[46]. Castells would argue that, this presents the case of *disaggregation of labor in the network society.* Thus as the economies gets more and more integrated with the more penetration of the networks of production it presents wide range of opportunities for the companies of the advanced capitalist countries to adopt the following strategies for the labor both skilled and unskilled:

- Downsizing the firm, keeping the highly skilled indispensable labor in the North and importing inputs from the low cost areas.
- Subcontract part of the work to their transnational establishments and to the auxiliary networks or,
- Use of temporary labor, part time workers.

[46] It is to be mentioned that efforts of unionization in the Silicon Valley have been made in the past but not much came out of it. Big industries like Microsoft, Amazon yet do not allow any sort of unions.

- Automate or relocate tasks for which the standard labor market prices are considered to high vis-à-vis alternative formulae.[47]

It seems that with the expansion of the IT the question of skill in the work process has gained a different dimension in the sense IT chiefly deals with 'bits' (information) as opposed to 'atom' (material) and thus strengthening the argument of reskilling as the handling of these works requires more knowledge and competence than the typical blue collar industrial worker. However it is equally important to understand what it has done the work process itself? It is true that the new skill with reduced physical demands on the body seems to empower the worker. If industrialization had dethrone the worker from the center stage of the process of production by establishing the rules of the machine then IT and developments surrounding it seems to be doing the exact opposite as if before man was just the mere appendage of the machine here, today the machine seems to be back as the extension of the man as sitting at a desk the worker is giving command the process to solve or perform the task with the unprecedented ease. For the adherents of the information age or 'Knowledge Economy' even 'at a clerical level, customers service an worker can attend to all aspects of a client's transactions from taking orders, entering data, making adjustments thus the routine, monotony time consuming physical aspect of labor is gone.'[48] It seems that now the worker can dive deeply into the content of the work and perform it with a relative ease. 'A hardware engineer can develop and test a chip without having to deal with the real hard medium of wires and transistors likewise an electrical engineer can control and design electrical equipment without having to deal with heavy electrical machines.'[49] The simulation techniques have enhanced the power of the engineering manifold and work becomes simulation of work. Thus it portrays the picture of work becoming easy. At the same time the contrary is also true where the work equally becomes intense. Information or knowledge work leads to 'intensification of the intellective work' where morbid attention to every detail has to be given whether it is a banker job or a telecaller or a software engineer. At the same time in Fordist line of production if the object of work flowed from one place to another and the worker was stationary, 'IT has frozen the individual in the place of work while the work moves

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[47] Manuel Castells. *The Rise of the Network Society.* (Oxford, UK: Blackwell Publishers, 2000).p.254.
[48] For more on this see A. Aneesh's article on *Skill saturation: Rationalization and Post-Industrial Work* in Theory and Society.(3),30. Pp.363-396.
[49] Ibid.p.380.

with the speed of light'[50]. This definitely save the money and time spent on the physical movement and travel and at the same time shows the extension of the organizational reach. 'This reduced mobility of workers coupled with the high mobility of information happens due to what Harvey calls 'time and space compression' in the new regime of flexible accumulation.'[51] A. Aneesh points out another factor in the skill transformation that there is a growing conversion of different skills into computer skills as well as there is a relative lack of differentiation among new skills. As IT exists on the basis of coding everything into binary digits, the capacity of universal coding makes it able to develop software not just for the so called white collar office jobs but also for controlling the heavy machinery in the industrial plants. Thus as more and more different types of work are being brought into the realm of computers it makes a sort of convergence of the skills also leading to a homogenization of work. Therefore in terms of labor in the gamut of IT sector a large section is seen being employed in various types of data entry and data manipulation Work where there is a little room for creativity or imagination or serious thinking contrary to what has being portrayed as the rule in the era of 'Knowledge Economy'. As far as the designing and producing a software program is concerned we can actually see that very few big corporations have the monopoly in the market. For example Microsoft has the monopoly to make all the Windows Operating Systems by systematically eliminating DOS, Linux etc.

Thus the picture of 'Work' that emerges out of the above discussion is that, **flexibility** and **skill** the two key components of 'Work' today along with the role of technological innovation do not always stand for the more learning, initiative, creativity, innovations ultimately empowering the worker where the organizations or firms unlike the previous bureaucratic, coercive industries of Fordist era are done away with. Now it is the time for new debureaucratic, human-centered, management. Flexibility as we saw can be of flexibility of the firms, of the employees, of the time and space of the work and similarly as far as the skills are concerned it is true that IT based work not necessarily will lead to a path of deskilling as Braverman thought in 1974 but along with the requirement of the new skills or skill upgradation it can also

[50] Ibid.pp.383-384.
[51] Ibid.p.384.

make the worker in a constant drive to upgrade himself as the pace of the skill upgradation has taken enormous speed along with the skill saturation (argument made by A. Aneesh) where the jobs are on one hand have become easy in terms of its execution and on the other intense, homogeneous etc. Thus particularly the low end jobs in the IT industry cannot be looked as the typical story of empowerment but should be taken as the case of monotonous regular work with the difference in the kind of monotony than the typical industrial jobs. From here we will now move onto the last section of the chapter to analyze another crucial factor about the flexibility and skill and that is the trend of outsourcing jobs from the advanced capitalist countries to the developing world like India. It not just presents the case of spatial and temporal flexibility but also gives the argument of empowering the developing world and its work forces to upgrade itself into the world of Knowledge Economy. Thus picture of 'working in Knowledge Economy' will not be complete without taking this part into consideration.

Outsourcing: the case of IT in India

For last two decades after the liberalization of the economy, 'India has become a major outpost of the global economy, as the recipient of outsourced technology based and mediated work mainly from post –industrial economies of the West.'[52] On one hand this emergent IT and IT enabled service sector has made the news of India's integration with the global economy, its potential to become a leading partner in the era of 'Knowledge Economy', then on the other hand country like India has become part of the controversy regarding outsourcing as jobs are getting outsourced from the advanced capitalist countries like US (particularly from Silicon valley), UK causing loss of jobs there and unemployment etc. It had become a major issue in the last presidential election in USA. Carol Upadhaya and A.R.Vasavi argue that this emergence of the high tech 'offshore' industry in India is one manifestation of the latest phase in the development of the global capitalism. And it can be seen and as argued earlier that the IT revolution has played big part in facilitating this outsourcing business.

[52] Carol Upadhaya & A.R.Vasavi. *In the Outpost of the Global Economy: Work and Workers in India's Information Technology Industry*. (New Delhi: Routledge, 2008) p.9

Although this sector still continues to be a small part of India's economy as agriculture and manufacturing is still the dominant component but it has enhanced India's 'visibility and reputation worldwide. And the Indian state, media, big IT firms like Wipro, Infosys, and TCS etc. hailed this sector to be the motor of the economic growth in the country. It is interesting to see the impact of this sector as far as work is concerned. As we have seen IT generally is made of both hardware and software services but in India it is the software service that is prevalent.

At the same time under the purview of IT, it is not just the software jobs which come exclusively but also ITES i.e. IT enabled services like call centers/ BPOs, back office jobs are there. Employees of this sector if often called as the knowledge workers and mostly they and their work being characterized with the privileged one due to the higher salary as comparable to the public sector, comfortable working environment, the range of so called employee friendly HR policies and amenities that they enjoy and for some the opportunity to go abroad also. Because of the presence of cheap English speaking labor it is also true that India has considerable amount of workforce to provide in this sector and is being hailed as the 'back office'[53] of the world. However the extensive research in this sector done by NIAS Bangalore reveals that there are three major characteristics of work and employment in the IT sector in India.

- *Mobility*: software engineers are found as highly mobile, circulating between India and onsite as well as between jobs within India and outside 'geographical mobility'. The phenomenon of the 'virtual migration' can be seen as the part of the 'immobile mobility' where the labor moves without the body of the worker.
- *Flexibility*: it can be seen in terms of new forms of employment that has emerged like temporary, contract labor, job hopping, and within the company it is maintained through the resource management, 'the bench'. At the same time it has been found that this flexible forms of employment have eroded 'job security', often creating longer job hours, and double shifts.'[54] In the context of India this flexibalization has been accomplished in several ways: Indian

[53] Carol Upadhaya. 'Taking the High Road? Labour in the Indian Software Outsourcing Industry' in Anna Posthuma & Dev Nathan eds., *Labour in Global Production Networks in India.* (New Delhi: OUP, 2010).p.301.
[54] Ibid.p.305.

companies mainly prefer to hire and train generic programmers who are flexible being able to work in multiple platforms and languages. Then in terms of the contract services that they provide.

- *Individualization*: the individualized nature of the work has emerged in terms of the absence of collective identity among the IT workers, again the management does not prefer Unions in this sector so as the workers to a large extent. This is seen as when they talk about attrition or job hopping as a career building strategy. Their salary structures are not transparent as it is most of the time being decided by negotiation among the employee and the employer and thus it tries to portray the picture of the bargaining power of the worker in the job market. They identify with the notion of 'entrepreneurial employee' who must constantly upgrade his or her skills in order to remain marketable.[55]

In a sense the picture here is not very different from the advanced capitalist country and the workforce that is engage in India in this sector is often portrayed as heterogeneous but studies have shown that the contrary is the case as often they come from middle class, urban, English speaking backgrounds and mostly upper caste. At the same time IT companies at the time for recruitment look for right kind of 'cultural capital' that more often at par with the standard of the advanced capitalist countries which in the context of India automatically excludes the socially and economically weaker section to enter into the profession. However there are hierarchies among the workforce itself as the software engineers are way more privileged than a call center and BPO employee[56]. The BPO employees are though mostly urban educated middle class but they are engaged in the low key routine and at time working in highly stressful conditions and in very much odd hours of the day as most of the international BPOs functions in the nights. Here the workforce is also very different from the core software jobs as they are mostly from the less than 25 years of age group and the companies in order to cope with the stress of call centers jobs tries to provide 'fun' atmosphere for its employees which has created a 'call center subcultures'. Therefore

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[55] Carol Upadhaya and A.R.Vasavi in *Work, culture, sociality in the Indian IT Industry: A Sociological Study:* Report for Indo-Dutch Programme for Alternative Development by NIAS, 2006.p.i.

[56] BPO employees are some times called as "cyber coolies" for more see: Ramesh P Babu. Cyber Coolies in BPO: Insecurities & Vulnerabilities of Non Standard Work, *Economic and Political Weekly*, 2004.39: 492-497

this section of the IT workforce is at more vulnerable position than the upper echelons of the software engineers.

The emergence of IT industry in India has given rise to a work culture which is different from the traditional public sector work culture. Here the main agenda is to promote the employee standard to the international or global work level as the economy is more integrated now. Thus both employer and the employees promote 'flat flexible organization structure, informal relationship in the office'. However study shows that though there is a difference in the way of functioning of the management but it also leads to job insecurity, long working hours, and work pressure. And since the traditional unionization to handle any dispute between management and employee is not there the picture emerges as of a more transparent, control free system but often that is also not the case. Conflicts are there but not in a overt sense and since this particular workforce refuse to acknowledge itself as the working class or labor and aspires to be in the management the conflicts generally do not come open as they used to be in the factories and this mainly has happened due to the individualization of the work process. More over with the employee friendly new management principles at place on the surface it looks that there is little need for the labor regulation in IT sector as with the demand for highly skilled labor and higher rate of employee attrition puts the companies in competition to hire the best talent. This ideally should have given the employee bargaining power in the job market. This is the 'consensus view created due to the ideological power that the software industry and its leaders have garnered in the post-liberalization period.'[57] In the grab of the international standard here actually the labor issues are set and decided by the market forces and thus all the IT leaders argue for less government intervention. And on the question of the longer working hours they argue the case by showing higher salary structures. Thus in the absence of the unions and labor regulation 'Indian IT workers are highly vulnerable to the fluctuations of the global economy and have little voice and power in their workplace.'[58]

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[57] Carol Upadhaya. 'Taking the High Road? Labour in the Indian Software Outsourcing Industry' in Anna Posthuma & Dev Nathan eds., *Labour in Global Production Networks in India.* (New Delhi: OUP, 2010).p.313.

[58] Ibid.p.316.

Thus the picture that emerges out of the above discussion of the IT industry in India as the part of the global outsourcing process in the era of knowledge work and 'Knowledge Economy' seems to as NIAS report argues that reinforcing the existing social inequalities rather than creating an equal level playing field as it tries to portray. It not just reinforces the existing class, caste structures but also urban rural divide and more often gender stereotypes.[59] At the same time it has an impact on the other side of the work process as far as the 'workers as consumers' are concerned. This phenomenon is well captured as the rise of new middle class in India a detailed discussion of which is beyond the scope of this chapter.[60]

Conclusion

In terms of concluding the chapter I would like to highlight certain points as far as the 'working in the Knowledge Economy' is concerned that it definitely comes out from the above discussion that the promise of reskilling, workers participation in the process of production, the question of autonomy of the worker are to a large extent capitalist propaganda. At the same time if we go back to the labor process debate initiated by Braverman to judge the current system as deskilling only by way of saying that ultimately the workforce engaged in this sector is going towards proletarization would be too reductionist understanding of the current phase of this dynamic mode of production called capitalism. At the same time it will not let us understand the nature of the 'class' of this particular workforce. As the kind of 'Work' happening definitely needs more and more educated workforce on one hand but at the same time routinisation process is also present in this kind of work. Moreover this transformation should not be located as the outcome of the IT revolution. IT revolution like any other technological advancement has facilitated the global reach of the capital and I think the point here is to understand the unprecedented reach along with the speed it has given to the capital flow with the flexibility.

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[59] For more elaborate discussion on this refer to Carol Upadhaya and A.R.Vasavi in *Work, culture, sociality in the Indian IT Industry: A Sociological Study:* Report for Indo-Dutch Programme for Alternative Development by NIAS, Bangalore, 2006.

[60] For more on this see India's New Middle Class: Democratic politics in the Era of Economic Reform by Leela Fernandes.(2006).

Thus as far the question of skill is concerned one has to take a dialectic view that technology both enables and disables, so both deskilling and reskilling remain present in the context of the work today. At the same time it falsifies or negates the notion that with the spread of technology and disaggregation of labor process capitalism has itself become dispersed, decentralized. I think through this global reach, the so called dispersion and decentralization capitalism has definitely made the system more complicated but at the same time has become more and more centralized in terms of its reach and control by subjecting each part of the world, every part of our lives under the dictate of the market.

CHAPTER III

Understanding Alienation in The Context of Knowledge Economy

> "*Political economy starts from labour as the real soul of production; yet to labour it gives nothing, and to private property everything.*"
>
> Karl Marx[1]

Introduction: We have seen how there have been attempts to cognize and theorize the changes in work process from Fordist times to contemporary era of 'Knowledge Economy'. The shift is often dealt in terms of 'skills', 'flexibility' and 'changes in functioning of capitalist mode of production'. While talking about the capitalist mode of production and how capitalist societies produce the conditions of their own reproduction, it will be worthwhile to revisit the concept 'alienation' and understand a bit about labor theory of value[2], as it remains quite controversial yet critical part of Marxist theory to understand the process of work.

The entire debate mentioned above about 'Knowledge Economy' can be summarized as 'whether technology, particularly IT, has brought about a radical change in the mode of production- i.e. specifically speaking, has it restored the control over production in the hands of the labor which is prime indicator of 'autonomy' and ended the relevance of orthodox notions of 'class' and 'class struggle'? And most of the times even if theorists (like Castells) are in favour of calling the era still as capitalist, the same is no longer the capitalism of smoke-stack factories of Fordist times. Thus with the line of the conservatives (Drucker, Bell etc.), some of the Left thinkers are also of the opinion of granting innovation and expansion of technology some sort of an autonomy or like Hardt and Negri who would like to characterize the post-industrial forms of work today in terms of 'immaterial labour' and 'bio-political production'. Others (like Zuboff, Upadhaya) have equated the changes again as the persistence of capitalism's overarching control in terms of Michel Foucault's analysis of 'panopticon'.

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[1] Karl Marx in Economic and Philosophical Manuscript in the section on 'Estranged Labour'.(Moscow: Progress Publisher, 1977.)

[2] For further readings on labor theory of value, refer to Marx's *Capital vol. I* and *Theories of surplus value*.

Now if we look at the arguments made by the proponents of 'Knowledge Economy' it becomes clear that here as the production and service is based on the knowledge and information it seems to be more and more empowering for the workforce than any other previous economic era. And as far as the point about technological advancement is concerned it seems that computer and the related invention in the IT sector have created a level playing field for all. Management Guru Peter Drucker argues that 'the real controlling resource and the absolutely decisive factor of production is neither capital nor land or labor. It is knowledge. And instead of capitalists and proletarians, the classes of the post-capitalist society are knowledge workers and service workers.'[3] And thus here labor will not be an important factor to tackle and the role of the capital will be not dominating the management but serving it by performing the task of 'make knowledge *effective in performance*.'[4]In this scenario 'work' becomes another name of empowerment and therefore alienation becomes an obsolete concept to deal with in the first place.

While we dealt with this debate briefly in previous chapters, it was mainly an exercise to chart out the historical contours and understand the key aspects of the debate. Here we would try to discuss in brief with a strictly Marxist framework, about how classical concepts like 'alienation' remain relevant to understand and engage with this debate in a meaningful manner and to understand the reality of capitalist mode of production in the era of 'Knowledge Economy'.

Proceeding with Harry Braverman's labor process characterization in the last chapter, we have seen 'alienation' has been debated in order to understand the nature of the work process and the state of the workers in the era of 1960s and 70s. However as John Bellemy Foster points out that in the study of occupational reality sociologists have often made the mistake of looking at the signs of alienation rather than giving any importance to the objective reality of the fact how working life is 'organized around the division of labor and profitability.'[5] It is often tempting to understand alienation by carefully constructing questionnaires for a scientifically selected sample. However, such collation of responses of the 'subject' fails to provide any meaningful

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[3] Peter Drucker. *Post-Capitalist Society*. (New York:Harper Business, 1994).p. 6.
[4] Ibid.p. 82.
[5] John Bellemy Foster in Introduction of Harry Braverman's *Labour and Monopoly capital: Degradation of Work in the Twentieth Century* . (New York: Monthly Review Press, 2006).p.ix.

insight into what is actually happening in the process of production. Thus, sociologists like Robert Blauner in his book *Alienation and Freedom* (1964) have reached the conclusion that the signs of alienation are diminishing as technological change in the process of production is socially neutral. Blauner argues that 'technological change is shaped by three factors: the state of scientific and mechanical process, the nature of the product, and the engineering and economic resources specific to particular firms'[6]. Class and other forms of social conflict were either overlooked or excluded as factors. Job dissatisfaction was not totally ignored but it was seen as diminishing and not 'contradicting the view of increasing skills, more humanistic management, and the diffusion of power and more responsibility.'[7] Thus alienation according to Blauner has "traveled a course that could be charted on a graph by mean of an inverted '**U**' curve. He further suggests that it had peaked during the period of assembly line production in the early twentieth century but has started diminishing with the increasing automation. However alienation became a much debated issue to be discussed in the social science academia in 1960s and 70s but it was mostly based on the view of job dissatisfaction. The result for the bourgeoisie social scientists, as Braverman eloquently points out, was 'class does not really exist outside its subjective manifestation'. Thus along with class, status, stratification they have borrowed the term alienation from Marx 'without the least understanding of its significance.'[8] And from this point of view it is not the work process but the reaction of the worker became more important to study for mainstream sociology. This does precious little more than reiterating the claims of bourgeoisie ideology operative through both- the social enquiry as well as *object* of the enquiry. Contrary to this, my attempt is to adopt '*abstract to concrete*' method- employing abstract scientific categories[9] of labor theory of value, wage labor, surplus value to grasp the concrete reality of labor and gain insights into functioning of the mode of production.

Alienation has been one of the most important terms of the Marxist philosophy and at the same time it has been the most controversial one. 'It is one of the few theoretical

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[6] Ibid.p. xii
[7] Ibid.p.xii.
[8] Ibid.p.19.
[9] Althusser states 'Every abstract concept provides knowledge of a reality whose existence it reveals: an 'abstract concept' then means a formula which is apparently abstract but really terribly concrete, because of the object it designates.', Preface to Capital Vol. I, '*Lenin and Philosophy and other essays*',(New York: Monthly Review Press, 1971)

terms from Marxism that has entered into ordinary language and yet it is one of the most misunderstood and misused terms in the whole of Marxism.'[10] In ordinary speech and academic context also as we have seen earlier it has been treated as feeling of meaninglessness, isolation etc particularly with respect to 'Work'. However this concept is, as Althusser describe it 'Marx's discovery of political economy'[11] and therefore has to be treated on the grounds of political economy. At the same time it is the term that Marx inherits from Hegel and it featured in his early writings still carrying the traces of idealist elements. It is true that as Marx went on to discover a 'continent of history'[12] later in texts such as '*Capital'*, he seldom spoke of alienation *as such*. The silence is especially noteworthy in another sense that after manuscripts, Marx remained silent about 'philosophy' throughout his mature texts. [13] Rather, he chose to scientifically assess the categories such as commodity, value, surplus value etc. Thus Althusser came with the notion of 'epistemological break' by saying that writings by Marx before 1845 comes under the Hegelian Marx whereas his later writings culminating in '*Capital'* are more in tune with Later Marx or Scientific Marx and thus in his later writings Marx had abandoned the Hegelian themes and pre-scientific, humanist or at best a hasty materialist tone of his early writings. However the discovery and publication of the 'economic and philosophical manuscripts' and 'Grundrisse' made a huge difference in the concept of epistemological break in Marx, as it became clear that though Marx may not have mentioned the term alienation as such in his later writings but a close look This silence does not mean abandoning the concepts of alienation; rather, the same concept is validated through rigorous analyses of generation of value, surplus value, role of machinery etc. to assess the functioning of labor within the capitalist mode of production.

My intension here is not to go to the detail of the controversy of early Marx or later Marx but to highlight the fact that it was an important conceptual lens for Marx to understand capitalist mode of production and the impact of the machine upon work. And thus in this current scenario when indeed 'Work' is changing and along with the new machinery like computer aided by IT, new kinds of 'work' are developing it

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[10] Sean Sayers. *Marx and Alienation: Essays on Hegelian Themes.* (UK:Palgrave Macmillan, 2011).p.x.
[11] Louis Althusser. *For Marx.* (London:Verso, 1962).
[12] Louis Althusser, '*Lenin and philosophy and other essays*'.(New York:Monthly Review Press, 1971) p.9
[13]Ibid.p.37,

becomes important to see what has happened to the classical relation between 'work' and alienation in the changing scenario (of Knowledge Economy).

The entire chapter will be divided into two main parts. In the first part I will discuss the concept of 'alienation' in detail as developed by Marx. And the second part of the chapter will be the analysis of the present work scenario through the lens of alienation.

Note on the Concept of Alienation

The term 'alienation' is one of the standard translations of both the terms '*Entfermdung*' and '*Entausserung*' and '*Vergegenstandlingchung*' which means 'objectification' being used by Marx in Economic and Philosophic Manuscript of 1844 and later in Grundrisse of 1857-1858. This concept which is a central theme of Marxism and widely used by both Marxists as Non- Marxists 'entered the dictionary of philosophy only in the second half of the twentieth century. However before that it was recognized as an philosophical term but widely used outside philosophy also.'[14] Basically to alienate means to isolate and before it was turned into a meta-philosophical or revolutionary concept in Marx, it was developed as a philosophical concept by Hegel and Feuerbach. And in their elaboration they also have a few precursors. Thus before going into the structure of the Marxist concept it is important to take a look at the genealogy of the concept in brief.

a) The concept of 'alienation' before Marx

As we know that 'Feuerbach, Hegel and English political economy has exerted the most direct influence on the formation of Marx's theory of alienation'[15]. However Meszaros points out to the fact that the concept of alienation belongs to a 'vast and complex problematic' and it has a long 'history of its own'.

The Christian doctrine of original sin and redemption has been regarded by many as one of the first versions of the man's story of alienation. The lament about being

[14] Tom Bottomore (ed). *A Dictionary of Marxist Thought.* (New Delhi, Worldview Publications, 2000).p.11.
[15] Istvan Meszaros. *Marx's Theory of Alienation* (London. Merlin Press, 1970).p.27.

alienated from God or fallen from grace has been taken from the Judeo-Christian Mythology[16] was the regarded as the primary form of alienation given in any theory. Thus the solution of this problem is being offered in terms of 'Messianic coup' to rescue man from this state.

From this religious conception of alienation Meszaros makes us to see the secularization of the concept. Luther had challenged the doctrine of the 'fall of man.' And this has proceeded along with the advancement of capitalism from feudalism in Europe which made 'alienation' to be characterized by the 'universal extension of saleability (i.e. conversion of everything into commodity) by the conversion of human beings into "things" so that they could appear as commodities in the market and by the fragmentation of the social body into "isolated individuals."'[17]

Alienation at the same time being a philosophical concept was also adequately historical and before Marx it was Hegel who has approached this problem in a historical manner. For some the source of Hegel's view of nature as a self alienated form of the absolute spirit can be found in Plato's view of the natural world as an imperfect picture of the noble world of ideas. However the problematic of alienation can be specifically found in the social contract theorists but among them the most important is Rousseau. Rousseau made the distinction in between the natural man and the social man which is comparable to the non alienated and self alienated man. However despite all precursors including Rousseau the true philosophical history of 'alienation' begins with Hegel.[18]

In 1807 Hegel used the term 'estrangement' in a work called '*The Phenomenology of Mind*' to outline a framework for the development of human consciousness. Here he basically outlined the process of 'self-actualization' in which human beings face obstacle which he calls 'oppositions'-basically it is the process of realizing yourself. Perhaps Hegel was the first one to understand that human beings can experience their own activity as something external to them. Something that is not the self and he described this moment in human experience as 'alienation.' By alienation he basically refers to a process 'by which the finite spirit the human self, doubles itself,

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[16].ibid.p. 28.
[17] Ibid,p. 35.
[18] For more on the genesis of the concept of alienation refer to Istavan Meszaros: *Marx's Theory of Alienation*. (London: Merlin Press, 1970).

externalizes itself and then confronts it own other being as something separate, distinct and opposed to it. He rejects the atomistic individualism of enlightenment and its view that the self has a nature which is prior to society and which flourishes best when unrestricted by it.'[19]

The second major contribution to the theory of alienation is found in the work of Ludwig Feuerbach. In his '*Contribution to the Critique of Hegel's Philosophy*' (1839), '*The Essence of Christianity*' (1841), he provided stunning criticisms of Hegel's philosophy that Hegel actually believed in a philosophical world which ruled over the real world. Thus he equated his philosophy with religion. And he also established a link between philosophy and theology that represent human alienation and both misinterpreted the reality. Hegel's philosophy with so much emphasis on reality of abstract thinking was tantamount to alienation as it separates man from his material world of experience. For Feuerbach "man is not a self alienated God but God is self alienated man……he is merely man's essence abstracted, absolutized, and estranged from man.''

Moving on from the theorists prior Marx now in the next section we will see the genesis of the concept in Marx and what is the main structure of it in Marx's theorization.

The Concept of 'Alienation' in Marx

Marx had already started tackling some of the problems of alienation in his doctoral thesis where he was analyzing the Epicurean philosophy 'as an expression of historical stage dominated by the "privatization of life".'[20] He was concerned with the isolated individuality which he described with the help of a simile of 'the moth that seeks lamplight of the private realm after the universal sunset.'[21] Along with his doctoral theses another important work for the understanding of the development of the theory of alienation up to autumn 1843 was his 'Critique of the Hegelian Philosophy of Right.' Many element of his theory of alienation was already present

[19] Sean Sayers. *Marx and Alienation: Essays on Hegelian Themes*. (UK:Palgrave Macmillan, 2011).p.3.
[20] Istvan Meszaros. *Marx's Theory of Alienation* (London: Merlin Press, 1970).p.66.
[21] Ibid.p.66.

there. ‘ the present condition of the society displays its difference from the earlier state of civil society in that- in contrast to the past- it does not integrate individual within its community……The real man is the private individual of present day political constitution ……..Not only is the estate found on the division of society as its ruling law, it also divorces man from his universal being; it turns him into an animal that directly coincides with his determination……..the modern age of civilization divorces from man his objective being as something merely external & material.’[22]

A further development of the concept can be found in the essay ‘The Jewish Question’. The starting point of the essay was the principle of ‘*bellum omnium contra omnes*’ (war of all against all) that splits man into public citizen and private individual, separate him from his communal being, from other man, from himself where he stressed the fact of German emancipation-‘ the emancipation of German coincide with the emancipation of man.’[23] ‘It is not radical revolution, universal human emancipation which is a Utopian dream for Germany, but rather a partial, merely political revolution which leaves the pillars of the building standing.’[24] One thing to be noted here that even when Marx was writing this essay he made the point very clear that human emancipation is not possible only by politics as politics is just one sphere of the total social process. Meszaros put the position of Marx by saying that ‘Philosophical generalizations always require some sort of distance of the philosopher from the concrete situation upon which he bases his generalizations.’ As by this time Marx was out of Germany and perhaps his outsider position helped him to crystallize his thoughts.

By the time of December 1843 he came across with the work of Engels ‘Outline of a Critique of Political Economy’ which helped him enormously to develop his theory of alienation. For Engels alienation takes place due to particular mode of production which turns all natural and rational relations upside down-‘unconscious condition of mankind.’ Engels provided the solution with the help of the ‘program of socializing private property.’ Stimulated by this work Marx started the intensive study of the classics of political economy (Adam Smith, Ricardo) and the result of which came out

[22] Ibid.p.69.
[23] Ibid.p.74.
[24] Ibid.p.74.

as, the Economic and Philosophic Manuscript of 1844 which dealt with the concept of 'alienation' in an elaborate manner. This work of Marx clearly put the concept of 'alienation' in the platform of political economy rather than a feeling of estrangement and thus it has to be kept in mind that Marx's use of the term is precise and specific. It gives us the first glimpse of the capitalist mode of production in the sense that it makes us understand the production process in an elaborate manner for the first time, which Marx developed in detail and in scientific rigor in his extensive study of the mode of production in Das Capital.

In the economic and philosophic manuscripts, it is the section on 'estranged labour' where Marx mainly discusses the concept of 'alienation'. In this work the theme actually converges into the notion of labour as productive activity. The problematic of alienation thus deals with the key concepts such as activity, private property, division of labour, exchange. Along with the problematic Marx also talks about the overcoming part of it as 'aufhebung', which Meszaros has interpreted as supersession through the negation of the mediation. Now if we take a look at the concept in detail we find that-

Marx developed the concept of alienation fully in EPM of 1844 to demonstrate the very nature of capitalist mode of production and what it does to an worker but however there is no nostalgia to go back to the fictitious primordial condition but he actually proceeded from an economic fact- "the worker becomes all the poorer the more wealth he produces, the more his production increases in power and size. The worker becomes an ever cheaper commodity the more commodities he creates. The devaluation of the world of men is in direct proportion to the devaluation of the world of things."[25]

Keeping this fundamental fact in mind now if we take a look at the structure of the principle concepts involved in the theory of alienation, we see that the fundamental terms of reference are Man (M), Nature (N), and Industry (I). And M, N, &I are in threefold interaction with each other under normal circumstances. So Meszaros points out this relationship with the following diagram:

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[25] Karl Marx. *Economic and Philosophic Manuscript of 1844.* (Moscow: USSR, Progress Publishers, 1959.).p.68.

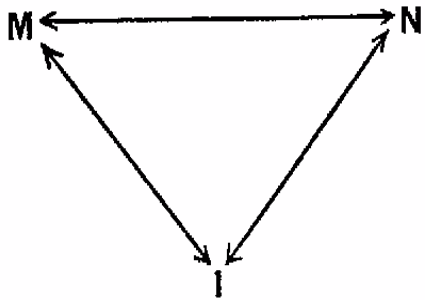

Fig I: First Order Mediation[26]

From this figure it is clear that this threefold interaction between M, N &I takes place according to the rules of dialectical reciprocity. Man is not only the creator of industry but also its product; similarly he is also the product and creature of the nature. This figure represents the genesis of human society where the productive activity mediates between Man and Nature and Meszaros calls this *First Order Mediation.*

In this respect Rousseau's position is fundamentally different from Marx. He believes in the two fold interaction between M &N. his position can be seen in the following figure:

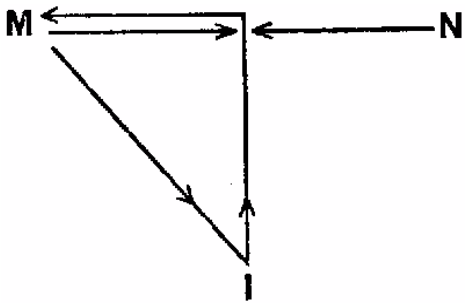

Fig: 2[27]

For Rousseau as the figure depicts there is twofold interaction between M&N as he believed that I (civilization) exercises a disruptive function by putting an end to a natural relationship. Industry (I) is therefore evil for him. Thus Meszaros calls his model a one sided short circuit one which talks only about the alienation of man from the nature.

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[26] Istvan Meszaros. *Marx's Theory of Alienation* (London: Merlin Press, 1970).p.104.
[27] Ibid. 106.

Marx is radically different in this respect as he is not only talking about the man's alienation from nature but from his own nature. Thus for him self-mediation through (I) becomes important. Thus what exactly happen in alienation? Meszaros helps us to understand through the next figure:

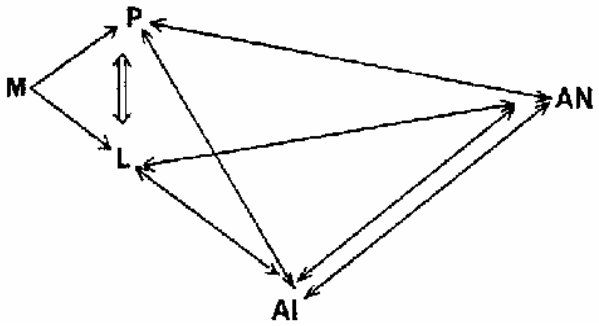

Fig 3: Second Order Mediation[28]

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Here, M= Man, P= Private Property, L= Labour, AN= Alienated Labour, AI= Alienated Industry.

In this case what happens **(1) M splits into P & L**, **(2) P & L is opposite to each other**. Now due to the alienation the first order mediation of **(M) ↔ (I) ↔ (N)** is replaced by (**3) (P ↔ (AI) ↔ (AN)**, and (**4) (L) ↔ (AI) ↔ (AN)**. Again there is basic antagonism between P &L thus, **(5) (P) ↔ (L) ↔ (AI)** and **(6) (P) ↔ (L) ↔ (AN).**

Therefore **(M) ↔ (I) ↔ (N)** is replaced as **(M) ↔ (P) ↔ (L) ↔ (AI) ↔ (AN)**[29]**.**

This entire process of alienation which Meszaros points out to us as the replacement of first order mediation by the second order mediation was depicted by Marx in four fundamental forms:

1. ***Alienation from the product***: in this process basically, the worker become estranged from his product i.e. the thing he produces and it happens due to the process of exchange in the place called market in a capitalist society. His

[28] Ibid.p.110.
[29] Ibid.pp.108-110.

products start confronting him as something alien. In Marx's words 'the relation of the worker to the product of labor as an alien objects exercising power over him.'[30] Thus the worker becomes subservient to what he creates; he loses his control over it. And the product itself becomes a power on its own confronting him. 'Not only can he not use them but he does not recognize them as his.'[31] Between activity and the product also the link is clear here man is alienated from his product as he is alienated from his activity which is the second kind of alienation.

2. Alienation from the productive activity: in this process the worker loses control over the capacity of his labor to affirm their being. Marx says what constitute the alienation of labor? …… 'the fact that labor is external to the worker it does not belong to his essential being, that in his work he does not affirm himself but denies himself……his labor is not voluntary but forced labor.'[32] Productive activity in capitalism is spoken of as 'active alienation, the alienation of activity or the activity of alienation.'[33] This is what leads to the fact of worker mortifying his body and ruining his mind. Thus his work lies outside of him. With the coming of capitalist division of labour and highly repetitive character of work productive activity no longer gives a good example of all man's power and the worker becomes 'mere fragment of his own body, a living appendage of the machine.'[34]

3. Alienation from the species being: Here Marx reconstruct Man's alienation in a capitalist society as the tie between individual and his species. 'In tearing away from man the object of his production estranged labour tears from him his species life, his real objectivity as a member of the species and transforms his advantage over animals into disadvantages.'[35] The connection between social and species alienation is quite clear here. The proposition that man is alienated from the species nature means that

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[30] Bertell Ollman. *Alienation: Marx's Concept of Man In Capitalist Society*. (New York:Cambridge University Press, 1976).p.143.
[31] Ibid.p. 143.
[32] Karl Marx. *Economic and Philosophic Manuscript of 1844.* (Moscow.USSR: Progress Publishers, 1959.).p.71.
[33] Bertell Ollman. *Alienation: Marx's Concept of Man In Capitalist Society*. (New York: Cambridge University Press, 1976).p.136.
[34] Ibid. 138.
[35] Karl Marx. *Economic and Philosophic Manuscript of 1844.* (Moscow: USSR, Progress Publishers, 1959.).p.73.

one man is estranged from the other as each of them from man's essential nature. 'Marx makes several comparisons between animal and man in his attempts to clarify what is lost through species alienation. 'When the capitalist appropriates the product of workers' labour, Marx declares that the latter's advantage over the animal's turned into the disadvantage that his inorganic body, nature is taken from him.'[36] In capitalism 'work has become a means to stay alive rather than life being an opportunity to work. Living, mere existence has always been necessary pre-condition for engaging in productive activity but in capitalism it becomes the operative motive.'[37]

4. Alienation from other men: this happens when the sole aim of the life is competition and all social relations become economic relations. So transition from the collective being into individual being and when it happens then another class which owns the means of production becomes beneficiary of the product. As Marx points out: 'through alienated labour man not only engenders his relationship to the object and to the act of productions as powers that are alien and hostile to him; he also engenders the relationship in which other men stand to his production and to his product, and the relationship in which he stands to these other men.'[38]

Among the later Marxist thinkers it is to be noted that Georg Lukacs in his seminal essay "Reification and Consciousness of the Proletariat" of his book '*History and Class Consciousness'* used the German word 'Verdinglichung' which generally stands for 'thingification' which refer to 'the act of transforming human properties, relations, actions into the properties, relations and actions of man produced things which have become independent of man and governed his life.'[39] This concept has taken to be the closest to understand the concept of alienation among the Marxists later on. Jayati Ghosh notes that 'Such alienation combines with commodity fetishism to create a peculiar kind of unfreedom of workers, within a perceived social and material context in which they are apprarently free.'[40] Meszaros has noted that the so-called individual emancipation that is brought about by the bourgeois revolution is

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[36]Bertell Ollman. *Alienation: Marx's Concept of Man In Capitalist Society.* (New York, CambridgeUniversity Press, 1976).p.151.
[37] Ibid.p.152.
[38] Ibid.p.148.
[39] For more on 'Reification' refer to *History and Class Consciousness* by Lukacs.
[40] Jayati Ghosh, Reading Capital in the Age of Finance, *Marx's Capital- an introductory reader,* Leftword Books, 2011

really nothing more than the creation of 'universal saleability', so that every living creature is effectively transformed into property'. He further puts it: 'Alienation is thereby characterized by the universal extension of 'saleability'; by the conversion of human beings into 'things' so that they could appear as commodities on the market; and by fragmentation of the social body into 'isolated individuals' who pursued their own limited, particularistic aims 'in servitude to egoistic need', making a virtue out of their selfishness in their cult of privacy'. [41]

Alienation as we have discussed till now seems like as if it is fit for the working class only. However Marx makes it very clear that it is not just a working class phenomenon though it is primarily meant for them. The connections he sees between proletarian alienation and that of the rest of the mankind is expressed in his claim that: 'the whole of human servitude is involved in the relations of the worker to production and every relation of servitude is but a modification and consequence of this relation.'[42] Thus what become the characteristics of the alienation of the capitalist or bourgeoisie can be given in three points:

First, 'it has to be noted that everything which appears in the worker as an activity of alienation, of estrangement appears in the non worker as a state of alienation, of estrangement.'[43] Thus as Ollman says that in this process the capitalist's alienation is a passive one compared to the worker.

Second, 'that the worker's real practical attitude in production and to the product, appears in the non worker confronting him as a theoretical attitude'.[44] Ollman explains this by saying that as a producer the capitalists are not dominated by the product in the same way as the worker is. However he is dominated by the social conditions in which the products are produced, exchanged by the competition in the market. The term theoretical attitude means the contrasting mental picture each class has in the production process.

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[41] Istavan Meszaros, *Marx's Theory of Alienation*, Cambridge University Press, 1970

[42] At the same time it is to be noted that Marx also spoke about overcoming of alienation as supercession in terms of 'Aufhebung'via radical revolution. for more on that see:Karl Marx: *Economic and Philosophic Manuscript of 1844.* (Moscow, USSR: Progress Publishers, 1959.).p.82.

[43] Ibid.p.80.

[44] Ibid.p.80.

Third, 'the non-worker does everything against the worker which the worker does against himself; but he does not do against himself what he does against the worker.'[45] It means that capitalist's favored position saves him from the humiliation of actively alienating himself in the factory but he is on the other hand is full with the characteristics of greed, cruelty and hypocrisy which emerges from his dealing in the market with his competitors.

This point about capitalist's alienation becomes important to remember in the sense as we are now going to look at alienation in terms of the 'work' that is happening in the 'Knowledge Economy' where, following Braverman, we can conclude that the dominant workforce of technical-managerial nature is ultimately going for the process of proletarisation or as the other side think that it is the 'prosumer' (producer+ consumer) class or the white collar workers laying in the middle exhibiting their wavering tendencies towards capital. With this in mind let's move into the final section of the chapter to understand the process of 'work' in 'Knowledge Economy' through the lens of alienation.

Analysis of present 'Work' scenario through the lens of 'Alienation'

As we have seen in the last section of the chapter, traditionally, the concept of 'alienation' has always been associated with work. Marx grasped the reality of capitalist mode of production in four ways of alienation namely alienation from the product, from the production process, from fellow human beings and from species being. [46] For assessing the relevance of this concept and assess its validity today, it will be necessary to discuss the labor theory of value and categorization of productive and unproductive labor so as to lay down the theoretical basis for such assessment.

Labor has been given a unique position in entire process of production under Marxist scheme. Marx states in no uncertain terms that 'both instruments and the subject of labor are means of production, and that the labor itself is productive labor'. However this comes with a caveat, 'that this method of determining productive labor is by no means directly applicable to the case of capitalist mode of production'. [47] Why is that

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[45] Ibid.p.80.
[46] Karl Marx, *Economic and Philisophical Manuscripts*of *1844*.(Moscow:Progress Publisher,1977).
[47] Karl Marx, *Capital, Vol. I , production of absolute and relative surplus value.* (New Delhi:Leftword, 2011).

so? 'Because in this mode of production; the laborer does not produce for himself but for capital. He must produce surplus value. That laborer alone is productive who produces surplus value for capitalist and thus works for self-expansion of capital.' How is the surplus value generated?

Absolute and Relative Surplus Value

The value of each commodity is determined by the quantity of labor expended on and materialized in it, by the working-time necessary, under given social conditions, for its production. Hence it is only the time that is socially necessary alone counts in the creation of value. Apart from prolongation of working hours thus tricking labor through unpaid labor hours for surplus production which acts as source of generation of *absolute* surplus value; it is necessary to understand the generation of relative surplus value and its place in production process and implications.

'*Relative* surplus value is produced through reduction of value of labor power by means of improvements in the production of goods in the wage bundle (or, more generally, through the appropriation of productivity gains of capitalist class). Production of relative surplus value depends critically upon all capitalists, since none alone produces a significant proportion of commodities required for reproduction of working class. In particular, it depends upon competition and accumulation including the technical changes that bring down value of labor power.'[48]After familiarizing ourselves with these two distinctive parts of surplus value, it will be worthwhile to understand their implications for process of production as well as for the working class.

It is worth noting that as capitalism advances, the real incentive which is capable of bringing about shift in pace of its functioning and enabling its reproduction on an even larger scale is relative surplus value. Rather than relying upon extension of working hours for extraction of surplus, the gains in productivity achieved through employment of technology seem to offer a decisive benefit to an individual capitalist, only to be wiped away during the course of competition. However, the competition

[48] Ben Fine & Alfredo Saad-Filho, Marx's Capital, (NewDelhi: Viva Books,2007)

means acceptance of the said technology on a wider scale thus furthering the pace of production. IT, as we have seen previously, plays the same role of automation of production, enabling flexible accumulation, with reduction in production, distribution, consumption time. It furthers the growing dominance of finance and credit by interlinking the global economy in unprecedented manner thus facilitating the task of finance capital to break national boundaries, to achieve full mobility for capital to extract surplus from any corner of the world. As automation and technology have been part and result of relentless drive of capital for generation of surplus since historical evolution of this mode of production with IT being the successor to them; what needs to be assessed here is the peculiar character of technology.

The Character of Technology

T. Jayaraman in his essay 'Reading Marx on Technology' [49] states that 'for Marx, Technology is an extension of productive organs of the human body and is in essence, as plain human labor was at an earlier stage, part and parcel of man's mode of dealing with nature.' It is important to stress here that Marx did not hold technological determinist opinion and was consistently dialectical in his approach towards technology as he stressed that 'level of technological development is characteristic of a particular stage of the evolution of human society, not as the cause but as an indicator. Thus, Machinery is itself an outcome of the class struggle between labor and capital and of competition among capitalists.' [50]

The functioning of technology, adoption of particular forms of the same, and the degree of such adoption are firmly rooted in functioning of broader mode of production. Every new method is 'adopted widely by capitalists only when faced with the glooming prospect of having to sell their commodities cheaply when labor time necessary to produce them is more than social average' [51](which has fallen due to new technology). It is important to proceed with this dialectical understanding of technology which recognizes it as a material, realized form of human labor which

[49] T. Jayaraman, 'Reading Marx on Technology', 'Marx's Capital-an introductory reader',(New Delhi: Leftword Books,2011)
[50] Ibid, p.109
[51] Karl Marx, Capital, Vol. III, (New Delhi: Leftword, 2011)p.264

holds potential of furthering the production process at a different and more complex level. Thus, it rejects any fetish for technology or prospect of social change through technology as Schumpeter, who argued that economic change revolves around innovation, entrepreneurial activities, and market power. The dialectical understanding of technology states in no uncertain terms that functioning of technology is under a given socio-economic structure and follows the laws of prevailing mode of production. However, it refuses to go to the other, idealist extreme of rejecting any autonomous, revolutionary role to technology and viewing it as only another tool in the hands of capitalists to exploit the labor. It rightly observes that technology, apart from speeding up production, brings about more and more complexity to production and along with it even further division of labor 'thus making development of material conditions and the combination on a social scale of processes of production, it matures the contradictions and antagonisms of the capitalist mode of production, and thereby provides, along with the elements for formation of a new society'[52].

We had briefly remarked about technology as a material, realized form of human labor. It will be interesting to elaborate further about it to understand the relations of technology, an instrument of production with labor and capital. Technology as a human creation is considered to be an extension of human capacities, an extension of human hand and brain. However, we need to be mindful of the mode of production under which these instruments of production are operative as they do not follow any independent laws; however they definitely bring about a change in functioning of the laws of prevailing mode of production. Every branch of industry, wherever modern technology, machinery is adopted, faces an enormous increase in productivity of labor, thus enabling extraction of relative surplus value and leading to fall in value of labor power. Machinery is, in the final analysis, nothing but embodiment of human labor previously extracted towards its production.

However, such machinery stands as a dead labor, as a tool in the hands of capital, against the living labor, which is replaced on a massive scale due to technology. This replacement need not be in open forms of unemployment, since the gains made by increase in productivity of labor result in increase in surplus value available to capital

[52] Ibid.p.472

for realization as well as relative weakening of laborers as their share in total value falls relatively. This opens up possibility of extraction of absolute surplus value as well. Marx summarizes the same as follows:

'If machinery be the most powerful means for increasing the productiveness of labor – i.e., for shortening the working-time required in the production of a commodity, it becomes in the hands of capital the most powerful means, in those industries first invaded by it, for lengthening the working day beyond all bounds set by human nature. It creates, on the one hand, new conditions by which capital is enabled to give free scope to this its constant tendency, and on the other hand, new motives with which to whet capital's appetite for the labor of others. In the first place, in the form of machinery, the implements of labor become automatic, things moving and working independent of the workman. They are thenceforth an industrial 'perpetuum' mobile, that would go on producing forever, did it not meet with certain natural obstructions in the weak bodies and the strong wills of its human attendants. The automaton, as capital, and because it is capital, is endowed, in the person of the capitalist, with intelligence and will; it is therefore animated by the longing to reduce to a minimum the resistance offered by that repellent yet elastic natural barrier, man. This resistance is moreover lessened by the apparent lightness of machine work and by the more pliant and docile character of the women and children employed on it.'[53]

Thus, technology tampers with the socially necessary labor time- thereby intensifying the exploitation of the labor on dual level, by lengthening the labor period and absolute surplus value extracted from laborer as well as by reducing the value put on such labor- one apparent symptom being 'deskilling'. [54] Thus not just the final product but also the machinery, what was seen as only an extension of human capacities turns into a totally alien form hostile to human labor itself. This is due to possibility provided by the machine to carry out the tasks in an efficient, quick manner; the human capacities of living labor are increasingly subordinated to mental and physical human efforts saved in the 'machine' i.e. dead labor. The living labor is reduced to merely an appendage to machine. The capitalists adopt the machine since

[53] Ibid.p.268
[54] Karl Marx, Capital Vol. I, page 135-'In every process of creating value, the reduction of skilled labor to average social labor, e.g., one day of skilled to six days of unskilled labor, is unavoidable.'

this saves the cost of skilled labor and with increase in overall productivity of labor; average social labor is capable of producing greater quantity of the same. Organizational techniques, principles of management etc. are merely an attempt to articulate this fundamental law.

However, with this explanation, it is not intended to repeat the Luddite arguments about machinery or its justification. [55] Quite the contrary, it is necessary to take into account the technology, apart from speeding up production, brings about more and more complexity to production and along with it even further division of labor. Increasing adoption of technology leads to acquisition of new skills (although increasingly more suitable to and under the diktat of capital itself), with rendering redundant the previous modes of production- these skills under capitalist mode are made available to large sections of workforce which hitherto used to remain confined to a few individuals. However, as capitalism develops, and several complex activities to 'realize' and 'appropriate' the surplus form a critical part of its functioning- as witnessed in the era of finance capital- a large section of workforce is employed not in factories producing commodities but in services to speed up the process of 'realization' of surplus generated by capitalist mode of production.

As more and more activities, occupations assume character of wage labor, the character of production becomes universal. However it will be a mistake to assume all sorts of wage labor as productive (and thus in direct antagonism with capital). It is this mistake which is commited by theorists both on the right and left- those on the right argue that the labor in service sector is a 'prosumer' class which has effectively laid rest to the uneasy notions of 'class' and 'class struggle', has brought about a paradigm shift in the mode of production itself. This is because of the so-called autonomous status of knowledge, technology and their supremacy in Knowledge Economy and thus it would be irrelevant to apply the concept 'alienation' to present times. Those on the left such as Hardt and Negri argue that 'The older industrial forms of labour which produced material goods, are no longer dominant. They are being superseded by new 'immaterial' forms of work.' Industry is being superseded by the 'immaterial' production of the information economy. New 'immaterial' forms of labour are

[55] Luddite movement started in 18th century England as an immature reaction by workers hostile to machinery and industrial revolution which aimed at destroying machines and thus end exploitation in society.

becoming predominant.'[56] All these arguments, including Bravermann, try to indicate an alliance between white-collar and blue-collar workers if not entirely portraying the white collar worker as the real proletariat of post-industrial times.

To settle these questions, it is necessary to ascertain the character of this section of workforce and for this, it will be worthwhile to acquaint with the distinction between ***'productive and unproductive labor'*** in Marxist theory.

Ben Fine and Alfredo Saad- Filho argue that 'For Marx, labor is productive if it is hired in order to produce surplus value directly. This means that productive labor is wage labor performed under control of capital in sphere of production and directly producing commodities for sale. All other types of labor is unproductive- i.e. if not hired by capital (self-employed and government employees), labor not directly engaged in production (managers/ workers in exchange activities, including trade and financial sectors, accountants, salesmen, cashiers even if employed by industrial capital), workers not producing commodities for sale (housewives). [57]

This distinction has become quite critical with authors such as Harry Braverman suggesting that one need not exclude unproductive labor from modern proletariat. Braverman recognizes that 'productive labor which serves as the foundation of capitalist society is labor which produces commodity value. Commodity value is the ultimate foundation upon which all forms of the value- money, credit instruments, insurance policies etc. depend.' [58] however, he goes on to argue that, 'the 'realization' and 'appropriation' of surplus value by capital, engage, an enormous mass of labor' and 'commercial wage-workers, when they were few, were like unproductive workers and having become many, they are like productive labor. although productive labor has tended to decrease in proportion as its productivity has grown, while non-productive labor has grown only as a result of increase in surplus thrown off by productive labor and hence despite their distinctions, they are not otherwise striking in contrast and need not be counter-posed to each other.'[59]

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[56] M. Hardt and A. Negri *Empire* (Cambridge MA: Harvard University Press,2000). *Multitude: War and Democracy in the Age of Empire* (London: Hamish Hamilton,2005).
[57] Ben Fine and Alfredo Saad- Filho, Marx's Capital,(New Delhi: Viva Books,2007) p. 46
[58] Harry Braverman, Labor and Monopoly Capital, (New York:Monthly Review , 1974), p. 286
[59] Ibid.p.292.

While acknowledging the 'technical' distinction between productive and unproductive labor, this argument tries to forge the commercial workforce with industrial proletariat on common grounds of deskilling, subordination to capital and devaluation of labor power applicable to both forms. However, despite these claims of portraying the commercial service class as modern proletariat on one hand, and claims of 'end of class struggle itself on account of emergence of this class'; the behavior of this class as well as realities of production under the aegis of finance capital narrate a different story. We have dealt with propositions of 'end of class struggle', 'transformation in mode of production' etc. before in chapter I & II. Here we would like to deal with claims of terming this service class as modern proletariat and understand the character of this class.

Though it may be difficult to trace any similarity between accountants and clerks of earlier times in 19th century capitalism with present day workforce, it will be extremely adventurous to juxtapose them in opposition to each other, let us see why.

The service class, with its emphasis on 'white-collar' jobs, presents itself specifically distinct from 'blue-collar' proletariat. The emphasis on acquisition of skills, be it soft or technical skills, is uncritical submission towards capital to participate in processes which are useful in quickening, deepening, intensifying the generation of surplus value and gain some share of it. Its relation to capital as an assistant for 'realization', 'appropriation' of surplus, as well as its genesis as result of appearance of surplus means that it can never be equivalent of proletariat.

Sean Sayers maintains that 'Economically speaking, symbolic work is not primarily concerned with creating a material product as such, but rather with the realization of value through distribution, exchange, marketing, etc.' while maintaining that 'Their work does not directly create a material product, nevertheless it has material effects which produce and reproduce social and economic relations and alter consciousness'.[60] However 'All labour has an immaterial as well as a material aspect. For all labour takes place in a context of social relations. In altering the material world, labour at the same time sustains and alters these social relations. It is not peculiar to a special sort of 'immaterial' labour or 'biopolitical' activity alone.' Thus

[60] Sean Sayers, *Marx and Alienation- Essays on Hegelian Themes, (*New York:Palgrave Macmillan, 2011).

it will be a mistake to assume that with ushering in of post-industrial society, the mode of production has undergone a change or a new proletariat class is emerging.

The reproduction of capital in present times when the complexities of finance, information technology have assumed unimaginable scales, industrial production has been restructured weakening organized labor; it seems plausible to assign the service class with a role of 'modern proletariat' by proving their deskilling, their relative importance in process of capitalist production, their alienation from products as well as processes of production in form of intellectual property, patents and other confidentiality, private property laws thereby highlighting the nature of ownership over individual knowledge as private property of capitalists.

However, though the contradictions between universal character of science and private ownership of its discoveries is true, it needs to be kept in mind that science, technology have an agnostic character in terms of class. The distinction between physical and mental skills and often their contradiction historically assumes new degrees under capitalist mode of production- often through ideological state apparatus as technical skills necessary in a factory as well as the compensation paid for them is not necessarily inferior to skills or pay in a new age entity say 'information technology', however the prior is often looked in a positive light vis-à-vis the latter. The high social status conferred upon mental skill is thanks to the historical developments of division of labor in production which assumes greater scales during capitalist mode of production. The capitalist, who was earlier supposed to regulate the work processes, employ new techniques to extract more productivity out of labor; now delegates duly even these tasks to a clerical- managerial- analytical labor and disappears into temples of his finance through which his rule is most direct and gruesome.

Managerial-technical class engaged in facilitation- automation functions for capitalist production increasingly tend to view itself as autonomous controller of production itself, as it is endowed with responsibility of handling the pace and growth of productive capital itself. However, the more complex the functions grow, the farther removed are the classes involved in ancillary functions from facing the reality of contradictory nature of commodity production under capitalism. What actually happens despite the mediating tools of bourgeois ideology rooting for 'freedom of

harnessing skills, mobility of labor, and even full realization of one's potential mental skills'; we witness the said class continuing to remain under the sway of capital; development of skills, functioning of research in science as well as other 'skilled' occupations increasingly operating under same laws of commodity production where division of labor is apparent with all customary deskilling as well as products of mental labor increasingly turning beyond one's comprehension and full control. All these are symptomatic of same estrangement.

However it is the location of each class involved in the process of production which is critical to ascertain the degree of estrangement felt by it towards production. Also the nature of this estrangement varies for each class. Though wage labor and commodity production becomes the dominant character under the capitalist mode of production, the distinction made regards productive and unproductive labor remains valid as the same is strictly with regard process of 'generation' and 'realisation' of surplus thus leaving the technical-managerial labor in a non-antagonistic class position.

Does this mean that this class remains ignorant of the manner in which his mental labor becomes the property of private ownership? Does this mean that the class continues to carry blindly its illusions towards itself engendered by capital? Certainly not. However, it is the fact of their location in production process that stunts the possibility of any clear view of secrets of exploitation under this process and hinders any meaningful class action on their part against increasing tyranny of capital thanks to the simple fact that their existence is *'result'* of the surplus value generated and not the *'cause'*. Although the capital exploits and estranges this class of its mental labor, it must dutifully obey its orders, to maintain its existence, in the final analysis. Thus we reach an interesting turn- vacillating character of this class during class struggle. Let us dwelve a bit more about this.

When we talk of alienation as a meaningful category to understand the functioning of capitalist mode of production; it is not merely *'economic'* side of the concept that is highlighted, but '*political*' side as well. Although in the last instance, the consciousness, actions and class struggle in general are determined by 'economic' causes; the lonely 'instance' is never unmasked as such due to interdependent and

dialectical functioning of economic 'base' and ideological 'superstructures'[61]. Thus, it will be unwise to overlook the crucial '*political*' side of alienation and its relevance.

What do we mean by 'political' side of alienation? Some key aspects of the same involve organization of class actions, the nature of various demands made by a class both in economic and social sphere, the manner in which these demands are articulated, what is its exact relation to the state and how does this class perceive the same; in short, how the 'forces of production' articulate their connection with existing 'relations of production' which is always complex and fraught with tension?

Let us take up these issues point by point. The technical-managerial class whose possession of 'skills' and 'flexibility' is portrayed as 'ultimate freedom' and 'coming of class-less society'- how does it view the material reality of no control over which skills to be acquired, intellectual property of the work done lying ultimately in the hands of capitalist through patents and such other laws marking the real sway of *private property of means of production,* lengthening of working hours with general tendency of automation and deskilling intact, as well as ultimately earning only a share of surplus realized by capitalist? Apart from making few petitions and negotiations on individual basis, it doesn't want to be seen on opposing side of the capital.

The same is true of relations of this class with state, and by which we mean a 'class state'.[62] This class does indulge into certain radical actions at times, especially during a downturn where the parasitic character of the class is revealed and the same is responsible for pushing this class over to forge a temporary alliance with working class. But, the location in structure of mode of production has an uncanny bearing on language of demands put forward by technical-managerial class. It tries to shun from any 'violent' means, it tries to make a distinction between 'good' capitalist and 'bad'

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[61] Althusser argues 'Marx conceived the structure of every society as constituted by 'levels' or 'instances' articulated by a specific determination: the infrastructure, or economic base (the 'unity' of the productive forces and the relations of production) and the superstructure, which itself contains two 'levels' or 'instances': the politico-legal (law and the State) and ideology (the different ideologies, religious, ethical, legal, political, etc.).'- 'Ideology and Ideological State Apparatuses', *"Lenin and Philosophy" and Other Essays,* (New York:Monthly Review Press, 1971)

[62] Althusser, Ideology and Ideological State Apparatuses, *"Lenin and Philosophy" and Other Essays,* Monthly Review Press, 1971.

capitalist[63], it seeks a quick compromise and is reluctant for state intervention except for nationalization of its 'speculation' losses in the name of saving livelihoods. There is a recent example of 'Occupy Wall Street' movement, which started as a protest against social and economic inequality, corporate sway over the state in the wake of global economic crisis; and describes itself as 'a leaderless resistance movement with people of many colors, genders and political persuasions. The one thing we all have in common is that We Are The 99% that will no longer tolerate the greed and corruption of the 1%'. It is noteworthy that despite the seemingly radical slogans, the protestors do not want radical policy changes, they seek curb on 'corruption', 'greed' and restoration of basic capitalist principles like 'accountability'.[64]

Relation of technical-managerial class with the state is a case in point since it lays bare all features arising out of its location in production process. As much as it wishes to rid itself any state intervention and wants a free hand for capital, it cannot but acknowledge the associated uncertainty as well as exploitation which may reach unprecedented levels. Affordable access to public goods like health, education, and housing is a common link between this class and working class. It secretly recognizes that left to private hands, everything turns into a commodity under capitalism thus inviting crisis and threatening very existence of the class itself. But as an appendage of the capital, it cannot remain aloof from the common feature of greed, for having more surplus; and hence is involved in severe competition to get a bigger pie for itself.

We have seen how to distinguish between locations of each class in process of production i.e. productive- unproductive labor. Equally important is to recognize the distinct character of recognition and articulation of this differing degree of economic exploitation by each class. While the technical-managerial class grows in criticality for economy in terms of productivity gains with increasing pace and volume of accumulation; it carries a blind spot towards process of production, generation of surplus value, its modalities, state of the labor involved etc. as a result of increasing degree of division of labor, splitting of Fordist large factories into thousands of small sweatshops around the globe and thus accepting a given set of bourgeois ideological

[63] It was seen during global economic crisis of 2008 as well as Satyam scam. Lehman Brothers, Satyam, Enron etc. are always seen as few 'ill-intentioned' people while ignoring the systemic causes.
[64] www.occupywallstreet.org

version of ‘Knowledge Economy’ uncritically- as very stature of this class is that of an appendage of the capitalists.

So far, we have sought an enquiry through economic ‘bases’ of capitalist mode of production. It will be helpful to take stock of its expression in cultural terms. We assess and relate the ‘modern’ with western industrial capitalism with mass production and ‘mass’ culture. In the era of the post-industrial society, or ‘late capitalism’ as described by Fredric Jameson, ‘has now yielded, not standardization, but a proliferation of difference, of otherness. This is difference after massification, rather than the old style of 19th-century individualism and difference which strikes people here about postmodernism as its collectivization, anonymity, and systemic quality.’[65] This difference, as much in work, as in art, is celebrated as ‘ultimate liberation’; it is now possible to regard the anxiety and parody of the ‘modern’ times- both associated with work and art, as equally redundant and find virtues in pastiche, a blank parody[66]. Appropriately enough, the culture of the simulacrum (simulacrum as conceived by Plato- the identical copy for which no original has ever existed) comes to life in a society where exchange value has been Generalized to the point at which the very memory of use value is effaced, a society of which Guy Debord has observed, in an extraordinary phrase, that in it "the image has become the final form of commodity reification". ‘All that was once directly lived has become mere representation.’ (The Society of the Spectacle). We have seen how the same notion of ‘representation’ has come to dominate work scenario in Knowledge Economy- symbols, images, codes dominate the process of production; and the same finds its expression in art as well. As with art, so with other aspects of culture. When we talk about material conditions of reproduction of labor, when we talk about ideological state apparatuses, about production of art and culture a material production under prevailing mode of production, what we need to appreciate is that the ‘harsh’ economic realities of the day find their logic in, as well as altered by practices of cultural apparatuses. Once this fact is appreciated, it becomes possible to understand the genesis and causes of several cultural phenomenon built around and against the

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[65] Fredric Jameson, "Clinging to the Wreckage: A Conversation with Stuart Hall", *Marxism Today*, September 1990, p. 30.

[66] For further reading on distinction between parody and pastiche, refer to Fredric Jameson’s essay, ‘post-modernism and consumer society’, *The Cultural Turn, Selected Writings on the Postmodern, 1983-1998*, (New York:Verso, 1998)

themes of 'exploitation'- ideological interventions which find their way through art forms, organization of political 'resistance', the way workers come to perceive and relate to workplace, to the process of production. With acknowledgement of these mediations, we can better understand and appreciate the theoretical concepts like alienation and their practical implications for work and reproduction of labor force.

Conclusion

In terms of concluding the chapter, the above discussion points out to the fact that though 'traditionally regarded as a theme of Marx's early work alienation remained a theme throughout his life, giving shape and form to his insights even when Marx does not name alienation as such. In Marx's later texts alienation's operation must be discerned by the careful reader. As capitalism develops, so does alienation.'[67] In his later works the theme of alienation becomes bound by his understanding of technology. And thus 'Capital' becomes the most mature expression of the theme of alienation. It is critical to bear in mind the theoretical apparatus of value theory of Marx to use the concepts like 'alienation', which when used in isolation, produce idealist, humanist results of no real theoretical consequence. The dialectical approach to state of things as well as technology is the key to appreciate the development of the mode of production and its functioning. We have seen the criticality of the distinction between productive and unproductive labor and the grave errors committed on account of passing over the same. Only when such theoretical labor is employed upon an abstract notion of alienation, can we be in a position to appreciate the material reality of the present mode of production.[68] Once we are able to adopt this rigorous

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[67] Amy.E. Weilding. *Karl Marx on Technology and Alienation. (*London: Palgrave Macmillan, 2009).p. 1.

[68] Althusser argued in his essay- 'the 1844 manuscripts' of Karl Marx, that 'economic-philosophical manuscripts have nourished a whole ethical/ anthropological interpretation of Marx- making *Capital*, with its sense of perspective and apparent 'objectivity', merely the development of a youthful intuition which finds its major philosophical expression in this text and in its concepts: above all in the concepts of *'alienation'*, of *'humanism'*. However, rather than focusing on *alienated labor* alone, which is 'close to all the temptations both of idealism and hasty materialism', Althusser goes on to argue that 'it is a profoundly 'ideological' text: so it cannot, theoretically, be identified with the later texts like *Capital* which were to define historical materialism'.

method of production of theoretical knowledge[69], we are able to discover the secrets of work and several ideological ploys surrounding it as it is happening today.

[69] For further reading about 'production of theoretical knowledge', refer to Louis Althusser, 'contradiction and overdetermination', '*For Marx*', Verso.

CONCLUSION

"Theoretical concepts are not like a pair of old shoes that you can discard when you like; they come back to haunt you."

Louis Althusser[1]

The emergence of contemporary knowledge based economy post-1970's crisis, with increasing automation and the shift towards service sector jobs promising realization of the full potential of abilities of workforce coincided with similar tendencies finding expression through cultural spheres. These tendencies marked a concerted effort to bury the concepts of 'alienation', 'class' and 'class struggles' along with 'capitalism' itself. And the painful anxieties associated with antagonisms at work and at every social platform are resolved via conciliation which happens through recognition of 'identity' and celebration of 'difference'. However, in the autumn of 2008, as the financial systems across the world crashed and world economies tumbled into an economic crisis of an unprecedented scale, the ghosts of above mentioned concepts came back to haunt us again. I have tried to employ the very same 'ghosts' in this study to assess the labor process or 'Work' scenario and demarcate the fissures apparent in this seemingly 'emancipatory' 'Knowledge Economy.'

In the first chapter, I have tried to locate the genesis of this concept of Knowledge Economy by looking at various debates and theorization regarding the post 1970s crisis era. I have argued that although contemporary period is a period of transition and transformation but the same does not signify the change in the mode of production as such, on account of dynamism of the present mode of production itself which remains a critical feature. At the same time it is necessary to view technology as a product as well as instrument of capitalist process of production itself- like every other force of production. Any attempt to render an autonomous agency to technology leads into mystifications about real labor process and operative laws of mode of production.

[1] Althusser made this remark in the context of the French Communist Party's abandonment of the concept of 'dictatorship of the proletariat'.

Keeping in mind the role of technology within capitalist mode of production, I have made an attempt to understand the nature of work process under 'Knowledge Economy' in the second chapter. Rather than analyzing the responses of workforce, I have tried to use theoretical concepts like 'alienation', 'deskilling' to assess the changing work scenario. This effort is inspired by Harry Braverman's *'Labor and Monopoly Capital',* which is one of the most important intellectual events of the 1970s. His book started and renewed the study of the workplace and inspired a whole generation of social scientists to look into the question of what is work, conditions of work and workers in advanced capitalist societies. After making a study of scenario of 'Work' in 'Knowledge Economy' in general through the claims of 'Flexibility' and 'Skill' I have gone to the feature of outsourcing by looking at India in particular. I have argued that the picture that emerges is far too complex and cannot be reduced to either deskilling and displaying tendencies of increasing proletarisation of 'Knowledge Workers' or on the other hand, that of reskilling and thus blanketly endorsing the claims of capital- that of true realization of labor's potential. The effort has been to understand the Workforce from their class angle to locate them in the process of production and to delineate the salient features of capitalism such as private property, automation as a strategy for generation of surplus value, and weakening of organized labor indicating growing sway of capital, primarily assisted by technical-managerial systems to realize the surplus. Thus it helps us clear the ground for a full view of a system very much following the rules of capitalist mode of production.

Proceeding with such understanding, in the Third chapter, it becomes possible to analyze the process of surplus generation and its realization. The drive of capital for surplus leads to increasing automation and development of technology. This results in coming into being of a workforce which, in the last instance, is 'unproductive' in overall scheme of production. The location of this middle technical managerial class in the process of production is important not only for facilitation of realization of surplus, from the point of labor but also consumption as well. Understanding this dual nature is the key to properly contextualize the new forms of work, art, ideology and appreciate classical Marxist concepts like 'alienation' to unmask the hidden economic and political realities of 'Knowledge Economy'.

While the specific nature of labor extended by technical-managerial class and character of this class has become clear through this study; it is only a part of the scheme which also involves assessment of all the factors contributing to 'being' of this class. Apart from location in the process of production, it involves the operative ideological, cultural mediations. The process is never one-sided and is always dialectical with prevailing mode of production. While employing a classical concept like 'alienation' which is both political and economic concept and shares an organic relationship with concept of 'freedom'; it becomes necessary to lend these abstract concepts the material concrete bases. What are these bases? These bases are only to be found in social reality of classes and class struggle, in every spheres of life. There can never be full realization of all physical-mental potential of human beings under capitalist mode of production (as it always fails to realize the surplus value generated leading to general crises of overproduction) which, through harsh competition and wage labor, it turns everything into a commodity, including relations between human beings. Thus full employment, in formal sense of occupation as well as realization of one's potential of creative powers is only possible through a mode which is radically different from capitalist mode, perhaps, 'association of free producers' as described by Marx.

Once we appreciate this reality, the claims of 'emancipation' under 'Knowledge Economy' start unfolding as another expression of capitalist drive to exploit all meaningless 'freedoms' it has to offer- not just in order to continue the 'propaganda' but rather to perpetuate a cycle of consumption- of everything, from commodities to images and realize the surplus as much as possible. This systemic tendency of capitalism is well put by Jameson- 'Among other things, it has become evident that commodity reification has become the central phenomenon in the enlargement and spread of capitalism around the world, taking the social form of what has come to be identified as 'consumerism'.'[2]

Finance capital, which itself becomes independent of its root of generation through general capitalist accumulation of industrial phase; is described as 'an epidemic of epidemics' by Jameson. 'Capital itself becomes free-floating. It separates from the 'concrete context' of its productive geography. Money becomes in a second sense and

[2] Fredric Jameson, *Valences of the Dialectic*, (New York:Verso, 2009), p.266

to a second degree abstract.' Thus it is not capitalist, nor the labor but the capital itself which achieves the total freedom. The uneasiness with such turn of events seems to take similar shape of reassertion of 'identity' of some sort of other all over the world. Hence, while we try to cognize the material realities of a particular class (in our case, the technical-managerial middle layer class) we need to adopt a two pronged approach, one that involves a systemic understanding of functioning of mode of production itself as well as its expression in superstructural forms, or 'cultural logic' as Jameson puts it, of this mode of production itself.

These are few areas which have prospects of offering significant interventions from a Marxist perspective. However, I have stuck to the task of locating the material bases of changes in work, workforce and class character of such workforce in the theoretical realm of theory of alienation and labor theory of value. Assessing the cultural logic of unfolding events is another exciting project which requires a separate full-fledged study which I propose to take in future.

Thus the broader conclusions that emerge out from this research are:

- The 'Work' scenario in the contemporary era of 'Knowledge Economy' shows us that the transition, which characterize by Harvey as flexible regime of accumulation, does not represent a decisive break in the capitalist mode of production.
- It makes the claim to view technological advancement in a dialectical nature and to understand technology as the forces of production facilitating or shaping the relations of productions in the 'Knowledge Economy'.
- Once we agree that we are under the sway of capitalist mode of production, 'alienation' is inevitable result and precondition of this mode of production, which is shared by all classes engaged in it i.e. proletariat, capitalist and middle technical-managerial class.
- This class comes out as the part of unproductive labor taking part in the process of surplus realization on behalf of the capitalists.

- And thus the nature and degree of alienation experienced by this class varies materially from proletariat and capitalists both, shaping its response through class actions or their absence[3].

To sum up, I will quote Fredric Jameson-

> *'Marx's fundamental analysis of commodities in the first chapter of Capital Vol. I will then serve, not only as the basis for the indispensable notion of the commodification of labor power, but also of the demonstration of the structural and unavoidable embedding of exploitation and alienation within capital production as such: a central contradiction of that mode of production which cannot be eliminated by reform or by the ameliorations of social democratic regimes.*'

[3] Karl Marx, Economic and Philosophical Manuscripts 1844, where he clearly states 'everything which appears in the worker as an activity of alienation, of estrangement, appears in the non-worker as a state of alienation, of estrangement'.

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