

Author's Foreword

The present work concerns the beginning of the capitalist system and of modern bourgeois society in Central Europe, primarily in the German-speaking region and is presented as a contribution to the solution of an essential part of the question of periodization in human history. Yet, this book is not offered as a history text. The various subjects and scholarly disciplines of political economy, sociology, ethnology, history, political science, philosophy and Marxism in the past have taken up the theme of this work and rendered significant contributions to it. Without these foundations and research activities our work would be unthinkable. The first and preeminent guide, which provided the orientation to our attempt at periodization, stems from Albrecht Dürer, the illustrator, painter, mathematician and world genius, who indeed grasped with precision the relationship of the modern rediscovery of the arts and sciences to antiquity. Agricola had also said something about this. The views, writings, assertions, activities and data of Dürer, of Agricola, Jakob Fugger, Hans Sachs, Jost Amman, Lazarus Ercker, Vannoccio Biringuccio, Ciriacus Schreittmann among others who were active in the 15th and 16th centuries in central Europe, constitute the materials of our work. The relations of the capitalist period to those of the preceding feudalism and antiquity as well as to other parts of the world will not in and for themselves be treated here; they will only then be included when they, as remnants of feudalism, form a component

of the relationships within capitalist society. We mainly explore the conceptions of contemporaries such as Dürer, those of the rebellious peasants among others, in relation to their own experiences, as well as the views and ideas of researchers in this field in the 19th and 20th century. Karl Marx frequently returned to the problems of the beginnings of the capitalist system and the capitalist mode of production, and Max Weber concerned himself with an aspect of the same. Ernst Troeltsch asserted that both were materialists. Even though this was a fateful assessment, it is in this context neither final nor decisive. We shall see to what extent it is serviceable. In the post-war period, Schumpeter critically considered the views of Marx and Weber; in part his critique is on the mark, in part it is not. Our task is to present a unified system out of the differing practices, views, words and theories in the 15th, 16th, and 17th century and out of the conceptions of them in the 19th and 20th century.

The book published here is the product of our seminar in Berlin which, since 1972 has dealt with the thematic question of periodization in world history; the seminar has continued to the present day. Since 1977 we have also conducted the same seminar in the Centro de Investigaciones Superiores in Mexico, as well as in universities in Uppsala, Turin, Amsterdam, Leiden, Budapest, Utrecht, Milan, Leipzig, London, Delhi, Jalapa (Vera Cruz) and Morelia (Michoacan) in the form of lectures given there. For the interest, the intellectual support and the participation of the audience, of the students and the organizers who invited me, and for the collegiality on all sides, I am most deeply thankful. I acknowledge the contributions to our common theme of my late friends, Karl Korsch and Angel Palerm.

In immediate relation to the present work, I recognize the exchange of ideas with Dr. Brígida von Mentz and Dr. Rainer Winkelmann. Hildegard Dierks significantly contributed to the production of this work. I must especially express my thanks to Heinz-Peter Seidel for what he did in the elaboration of the book.

Author's Introduction

Modern bourgeois society is the most developed and most diverse organization of the process of production in world history. This appraisal of the capitalist system of production and of bourgeois society applies not only to its situation in the 19th century when Karl Marx composed it but to its contemporary situation as well. Success in the development of production and the diversity of its products contains opposing moments. It is social in its organization of labour as well as in the increase of its product, antisocial in the unequal distribution of its goods and in the exploitation of the labourers. The opponents of bourgeois society and their

supporters proclaimed the demise of the capitalist system. Regarding the accuracy of such a forecast, we will remain silent; our primary task is to present the origin of this society in Central Europe. Some authors have questioned whether the origination process is a model for contemporary developing countries, so that they, if they were to follow the same path, might reproduce the diversity of current American, German or Japanese production. We shall return to this idea. The origin of modern bourgeois society presents itself as one of the most important problems of our era. It is notably important in content because we are better able to understand our society if we grasp and comprehend its origin. It is furthermore methodologically interesting since various thinkers have made the effort to solve the problem of origination. In a certain sense, there is a unified conception concerning the source and origin of our contemporary society. This conception, however, appears to be solely abstract, and, furthermore, it is a well-known platitude. If we were to conclude our investigation with it, it would thus be a pure simplification of the origination process. Nevertheless, we will begin with this agreed upon conception.

The epoch of modern bourgeois society coincides with the rise of the capitalist system. The unity of the two systems of economy and society is not based on a coincidence but rather on their inner connection. Thinkers in the past and present were conscious of the fact that there is a succession of historical periods, that our epoch configures a particular system in social history, that previously there had been another system of this kind and then its revolutionary transition to a new system had occurred. Concerning the general periodization and the ordering of historical events in the process of origination of the new epoch, there is unanimous agreement; concerning the presentation of dates and causes in relation to these events, there is, on the contrary, no such agreement. The disputes and conflicts are first related to the question regarding when and where the radical change of the old and the rise of modern society had taken place. Some researchers assume that its beginnings are to be found in Italy in the 13th and 14th century. Other researchers have discovered the same transition in the 16th century namely in Central Europe. There is a certain school of research that considers the appearance of modern bourgeois society and that of the capitalist system as a European exceptionality. Another school assumes that the historical categories and their laws are universally applicable and ought to be applied worldwide.

The lawfulness of the historical process is hereby presumed. There is a connection between European feudalism in the Middle Ages and the feudal system not only in one country but rather in several countries. We will not, however, inquire into world history, but rather only the history of Central Europe and, in particular, the history of Germany. We proceed on the basis that modern bourgeois society and the capitalist system follow the medieval system of feudalism

and arose in Europe. The origination process quickly prevailed first in the region of the Mediterranean and then in Central and Western Europe. The feudal and the capitalist system are European historical phenomena. The representatives of both of those conceptions concerning the beginnings of modernity, whether the latter had developed in the 13th or alternatively in the 16th century, have made their contribution to the problem of origination. Through their investigations it can be ascertained that there is a capitalist system which dominates modern European life. Europeans early and late have always demarcated their era from the previous one; sometimes they did this with regret, in other cases with scorn. Such a poetic conception of history is not ours. Society in Europe is to be grasped in various ways. The Germans in Central Europe structure society in the following way. They have a common language and at times political unity. In another sense, Europeans frame a society now not on language but rather through the economy, art, science, politics and the system of law. We shall see that some occurrences in the history of modernity began in the region of the Mediterranean and then moved northward, that is towards Central Europe; others, on the other hand, begin in the north and subsequently move towards the south, into the region of the Mediterranean. In the second half of the 20th century a European community originated out of economic and social moments not *ex nihilo* but rather presented as resting on a historical foundation. Brisk traffic in the 14th, 15th and 16th centuries between the Italian cities of Venice, Genoa, Pisa, on the one hand, and Constantinople, and the cities of North Africa and of the Far East on the other, led to the development of trade practices, of the arts, of the sciences of geometry, arithmetic and of medicine in Europe. Conversely, economic practices in mining, in metallurgy, in assaying, and in scientific developments in Copernican astronomy and in chemistry arose in Central Europe and were exchanged with the countries of the Mediterranean.

These historical events are not superficial, but rather profound and they revolutionized the life of many European peoples. The movements, the displacement and massive changes, occur in a specific epoch. And yet, cultural events do not happen by themselves. They are disseminated and propagated by the emigration of people, by inner and outer exchange and imitation. Once there was a peculiar idea that culture is carried on the shoulders of men, who left on voyages, and their culture would settle in with them at an appropriate opportunity. We do not share this idea. Culture shapes an internal component of man and is inseparable from him. It is not carried on the shoulders of men like an eternal burden.

Capitalism and bourgeois society, neither separately nor taken together, constitute a European exceptionality. Japan, Singapore, Taiwan and South Korea have completely mastered the processes of the capitalist system. Thus, the fully developed capitalist system is not a particularly European phenomenon. The Europeans

had only propagated it further in America, and it was developed further there. Yet, in its origin, the capitalist system is a particularly European occurrence. Those who are of the opinion that the capitalist system is a model for underdeveloped countries today, confound two different matters. Evidently it is not only possible but rather current and actual, that the capitalist system was and will be propagated beyond the European continent as has already occurred in America and Asia. But we are not talking about this. The question rather is whether the original conditions in the capitalist and modern bourgeois process of origination are repeated, or whether they are capable of being repeated. We take a stand against this notion. The conditions of the original capitalist system belong to the past. We will mention only one matter in relation to it. Modern civil society and the capitalist system were formed in Germany, England, northern Italy, the Netherlands and France. In the 15th and 16th century there was no country that stood higher in the development of the economy and society than they did. These countries in Western, Central and Southern Europe conquered and exploited other continents and by these means insured their further economic development and political superiority at the cost of others. Now their former colonies, which are called the Third World, are attempting to trail behind on the same path. However, it is difficult for the Third World to reproduce this process in development, for the possibility to exploit other countries and for treating them as colonies, is precluded. Hence, one of the fundamental conditions for the origin of capitalism as an internal process is lacking. The developing countries in the present have borrowed the processes of capitalism and of modern society in a purely external manner.

We shall only concern ourselves with the internal processes in the emergence of the capitalist system. We confirm that the exploitation of Mexico and Peru, Africa and Asia, by the Spanish among others, constitutes an essential part in the development of Europe. However, regarding this process of exploitation in relation to Germany and to the other parts of Central Europe, colonialism was mediated and not immediate. Fugger and other capitalists in Central Europe exploited the Spanish in turn; thereafter bankers in other countries of Europe did the same. There was a *bellum omnium contra omnes*, a war of all against all.

The systematic development of the economic processes arose through the stratification, differentiation, and interconnection of the means of production, of the increasing qualification of the labour force and the increasing interweaving of commercial relations. This development overcame the local confines of economic relationships. In this regard, war signifies an obstacle in part, but in part it brings about an advantage for further economic development. The peoples of Central Europe in the 15th and 16th century proceeded on the assumption that Italy—mainly the North Italian cities there—formed the centre of the merchant class, of

art and science, which then radiated out over Europe. In this sense of the economic and intellectual [*geistigen*] movements Europe is to be regarded a social unity.

The break with the past was never completely and absolutely carried out. In the transformation period from the 15th to the 17th century, the German and the other Central European peoples had taken over and modified their principles of structuring and hierarchical organization from the Middle Ages. The members of this society, or some of the astute among them, considered themselves leaders of a process of transformation. They were conscious of the fact that they introduced a new epoch, but they did not consider themselves world-shattering revolutionaries. The rebelling peasants did not want to destroy authority, nor to threaten it. They appeared devout and obedient. They did not want to be as their fathers were; they wanted to be free. Like their contemporaries they wanted to free themselves from feudal domination. Neither did the path-breaking artists want to disrupt the political system; they only wanted to become wealthier in the sense of the new market economy and merchant class.

The social hierarchy was shaped by the estates and guild system, but this system had no explicit constitution. In one context, the word estate meant a calling (*Beruf*), in another, status, in a third, social class. The estates asserted themselves officially, hierarchically as a component [*Gliederung*] in the legal system and in the system of domination and servitude, whereby they both fought against the secular and clerical-political orders as well as supported them.

The hierarchical subdivisions of society and of the guild system reciprocally influenced one another, and through this, the organization of labour was hierarchically determined. Not everything in the organization of labour, its structuration and division is determined by the system of guilds, but in broad outline social labour of that time was organized hierarchically and in line with the guilds. We shall present and analyse the general characteristics of the organization of labour in mining, its structuration and division as well as some aspects of techniques and their arrangements found outside the guild system. Some estates—secular and clerical—asserted their privileges; the majority of estates and the population, on the other hand, were poor and without privileges. Noble families ruled in the countryside, at the royal court and in the Church; and in the cities, the patrician families dominated. Their provenience was not from Roman history although the rich and influential families in the cities called themselves Patricians. They were not aristocrats, but it was the custom at that time under humanistic auspices to be qualified with a title from antiquity. The periodization in the history of a society, of a people or an alliance of peoples, poses the question of the demarcation of the historical trajectory of a society from other societies and from other periods in history. We conceive the relations between the periods as an interruption or discontinuity

and at the same time as an extension or continuity in relation to the past. The beginning of modern society is based on the transformation of the systems in the preceding epochs, of which something still survives, in a new context.

The upheaval in this connection is to be understood with nuance. In some respects, it proceeds very quickly, yet some historical moments from the past are drawn out and continue into the 20th century, such as monarchies which sprout from millennial roots. To be sure, the kings and queens of our century are only monarchs pro forma, yet the autocrats, the aristocrats and the clerics in the Middle Ages and at the beginning of the capitalist era formed an actual ruling class in substance.

In the question posed here the matter concerns the continuation and revolution in the course of history in the period of modern bourgeois society of the peoples of Central Europe in tandem with the same processes in other parts of Europe, mainly in the Mediterranean region, but also on the Atlantic coast—above all among the Italians, the Germans, Dutch, English and French. Periodization as a question was treated by several representatives of the social sciences, by historians, sociologists, economists, political scientists, ethnologists as well as by philosophers of history and social philosophers. Those who have hitherto conceived this problematic not only argued about the chronological development of the system but presented the meaning of the words in this schema in different ways as well, even though they were in agreement about the general outlines. In the main, the key words capitalism and bourgeois society were understood differently.

Capitalism as a system is based on the two processes of the expansion of wage labour and of capital in the modern era. The medieval natural economy is driven back under these circumstances and on that account the circulation of money is required. Freedom and equality in society are propagated and intensified as forms of the bourgeois system of law. In this way, the moments of wage labour, the money economy, capital, formal freedom and equality of burgesses are closely tied to one another, as we shall see.

On the grounds presented in this work, we share the view that capitalism as a system only exists in modern times and not, by contrast, in antiquity or in the Middle Ages. Some people who can already be designated correctly as wage labourers and capitalists existed in antiquity; wage labour and capital appear sporadically, here and there, but they were not systematically propagated before the modern era. We shall extensively discuss the difference between sporadic and systematic historical phenomena.

We confine ourselves to categories and periods of European and not world history. It has been asserted that the system of fiefdom and feudalism are to be found worldwide as historical categories and periods. This view can only be taken

up concretely in relation to the particular history of India, China, Africa, etc. and for that reason they are excluded from this current work. To apply the categories of European history to those of peoples in other parts of the world, would be a case of ethnocentrism by means of which the world is looked at through falsely polarised glasses.

We will not struggle everywhere against ethnocentrism. Those who call the current epoch “modern times” speak ethnocentrically in this context. Only from our standpoint does our time appear to be modern. Modern times as a concept was invented by Heinrich Heine and Ferdinand Freiligrath in the 19th century. In another sense, we can in fact only think, feel and speak ethnocentrically. We fashion our world out of pre-existing, given, and traditional means. It is not newly invented in each generation. To be sure, we can critically treat the given and traditional means of our life, the practices, concepts and words and we do that and endeavour to vary and to transform the old ways of treating them. The old guilds, on the contrary, endeavoured to hold fast to and enshrine the old ways and modes.

Our main theme is related to the formation of the capitalist system in the period of modern bourgeois society, which we submit as a contribution to the question of periodization in human history. This problematic on the world stage or the *theatrum mundi*, was emphasized by economists, historians and philosophers of the Enlightenment in the 18th century and later by Hegel and the Hegelians and by Marx and the Marxists in the 19th and 20th century. Those who considered this question in the 19th century, such as Lewis Henry Morgan, Friedrich Engels and Lord Avebury (John Lubbock—trans.), treated it at the level of world history. However, we do not accentuate the problematic of the world history of humanity nor the perspective for Europe as a whole.

Capitalism originated in Europe, after which it was disseminated worldwide through colonialism, colonization, trade and conquest. Capitalism in its origin as a system is an internal matter of modern European history, an external matter in relation to other parts of the world. Social research implicitly and explicitly concerned itself with classes and class oppositions. Werner Sombart, Lujo Brentano, Max Weber, Josef Kulischer, Jakob Strieder, Joseph Schumpeter among others ascribe the origin of the capitalist economic and social system to the practices and the ethic of entrepreneurship and begin with the establishment of modern society through the activity of the economically wealthy class. Otto Johannsen and F. M. Feldhaus put the class struggle into the foreground of their historical writings on technology. Karl Marx and Friedrich Engels had in 1848 presented all hitherto existing history as the history of class struggles. Johannsen and Feldhaus represented the view that the history of class struggles begins with the modern period; the history of the Middle Ages was supposed to have been peaceful as it were;

this view is found in J. Janssen, Vilfredo Pareto and O. Brunner, who look at the Middle Ages through rose coloured glasses, as we shall see. We will assess these views and introduce an ordered picture of the transition to the modern period.

The writings of Georg Agricola, Vannoccio Biringuccio, Lazarus Ercker, Johannes Kunckel, Adam Ries, Hans Sachs, Ciriacus Schreittman, Hartmann Schopper as well as those of Albrecht Dürer and the twelve articles of the rebellious peasants, and further, the drawings, wood cuts and copper etchings of Dürer and the images of Jost Amman, B. Weffringer among others, which accompanied the writings of Sachs and Agricola, serve as our main sources. Archival research is important, and we are dependent on its results. Yet, it is a science in and for itself, which we will not use further beyond our purpose.

The most recent research has investigated the transition from feudalism to capitalism and the beginnings of the modern bourgeois world. Some researchers in this field have selected a single determining cause as a *causa efficiens* in the establishment of the capitalist system. The overwhelming majority of these studies, for example, by Max Weber and Ernst Troeltsch, Henri Pirenne and Paul Sweezy, Werner Sombart and Josef Kulischer, Jakob Strieder and Joseph Schumpeter, gave prominence to the activities of entrepreneurs in the establishment of the capitalist system. Their suggestions appear to be reasonable and well-founded. They are not complete, but they complement one another. However, they appear insufficient and not balanced, even when taken together. They all assume that the beginning of modern bourgeois society and of capitalism is the matter of a social class. However, this class analysis is one-sided. It is not about one single social class, which caused the upheaval of the feudal system and the establishment of modern bourgeois society, but rather has to do with a number of social classes.

The concepts are artful [*listig*], and the corresponding words for capital, capitalism, capitalists, for the capitalist system and the capitalist mode of production, which are presented as *characteristica specifica* of the modern period in Europe, are not balanced, for they draw our attention from the start to entrepreneurship and the class of the wealthy. Other historical moments are thereby excluded from determining the process of transition. Wage labour and money wages for labour of this kind, the contract between the entrepreneurs and the labourers for recompense, the freedom and equality in the formal sense of both sides in the contract relation, become on the side of capital into determining moments in the transition from the feudal to the capitalist system. We will show that the people of the 15th and 16th century were conscious of these processes and relations.

The entrepreneurs provided a great contribution to the transformation of the old society and made money from it. If the answer to the question about the transition to capitalism were simple, then we could advise many countries of the Third

World of today to reproduce asceticism, or to buy up stocks, to set up stock markets, and to introduce double-entry bookkeeping.

Of course, the majority of the European population were bound by feudal bonds in the Middle Ages; nevertheless, the peasants in the 15th and 16th century in Italy, England, Germany, Bohemia, Moravia, France, Hungary and Austria tried to free themselves from these bonds and, in the end, they did free themselves from feudal domination. What some authors intend with the assertion that there was feudalism in non-European countries like India or China, is incomprehensible. Perhaps they mean these peoples are unfree, non-capitalistic, not primitive and not slaves—but feudalism is based on serfdom, which does not exist in a definitive way in Asia or Africa.

The movement of liberation of the peasants as a cause for the establishment of the modern period is just as important, fateful and significant as the activities of the class of entrepreneurs. The working class in the city and in mining had conducted their struggles in the Middle Ages and in modern times and became thereby class conscious and numerous. They developed their skill and their training differently, quickly in some branches of industry, slowly in others.

The importation of new weaving and ribbon looms not only led to the increasing skill of the labourers, since most workers in weaving and cloth production were unskilled children under those conditions in the 18th and 19th century. But in other branches of industry, such as in the metal industry, in steam machinery and in chemistry, later in the electrical power industry, there came into being a well-founded and expanded education and training of the working class, and that meant practically and concretely, that reading, writing and arithmetic were learned.

Our task is to present the origin of the capitalist system in Central Europe, that is, in Germany and its bordering countries. This question was already treated by Karl Marx, Max Weber, Joseph Schumpeter, Jakob Strieder, Fernand Braudel, Josef Kulischer, and other researchers whom we will mention. Without their labours this present work would be unthinkable. Nevertheless, our methodology is other than those of our predecessors. We begin with mining and other industries or industrial branches, such as the metal industry, the system of coinage, the art of clock-making, and the printing industry, which are closely related to mining, as they are to mines and smelting works. Expanded circulation of money, the banking system, credit institutes and monetary transactions presuppose the development of industries pertaining to mining and metal. This quantitative expansion of the process of production and commerce in the 15th and 16th century in southern, central and western Europe are related to the simultaneous concentration of the labour force and of the means of production. The liberation of the peasants led to a showdown with the landowners at the same time and in the same social context.

The industries mentioned not only contain the germ of capitalism; they are operated capitalistically. Labourers worked for money wages, enterprises sought after capital, for the accumulation of the same, and for profit. Both classes are distinguished purely quantitatively from the economic process in the 18th and 19th century, on the other hand, quantitatively and qualitatively from the economic practices in the Middle Ages. The housing, clothing and food industries were not transformed in the 15th to the 17th century and only in the period of the Industrial Revolution, were they operated according to later capitalist ways and means. The mining and metal industries had attained this level of development in the earlier period of the capitalist era without the introduction of steam driven machinery and of electrical power. Until the 19th century weaving and house construction were run mainly by the guilds in the German cities. The working class in the mining, metal and clock-making industries, the printing press and system of coinage together with the merchant class had already established the training and organizational forms of industrial capitalism, the necessary skill and productivity in relation to their era. Later inventions extensively expanded the creation processes in mining, in the metal branches and in the merchant class, but not, in contrast, qualitatively. The movement of the liberation of the peasants affiliated itself with the general striving for liberation, equality, wage labour and capital. Events in mining, in the hammer and smelting works, in printing, in the art of clock-making, in the merchant class and in commerce are, in this context, decisive and determinant.

Capitalism is founded not only on the systematic development of a two-fold process of wage labour and capital, but also on the concentration of the labour force and of the means of production. The labourers endeavour to activate themselves as wage labourers and to liberate themselves from compulsory labour [*Fronddienst*] and compulsory collective labour [*Scharwerk*]. These efforts and strivings were sporadically developed in the Middle Ages, systematically in the capitalist period. The capitalists are engaged with the accumulation of profit. Their means to accumulate capital are related to the expansion of the market and money economy. For this reason, they extorted the working class, established the truck system, and saved their gains at first through asceticism. Savings and asceticism, inner-worldly and outer-worldly, were intertwined in the early period of capitalism. The workers attempt to increase their wages and to develop their skill. In this way, their productivity in the labour process is enhanced. The more they earn, the better the preparations and conditions of labour, the more they produce, the more the capitalist class profits.

The historical process in this context, is transformed from sporadic to systematic, a transformation, which is to be understood in two respects; first, from a regional to a widespread historical phenomenon; second, from one branch of

industry to another. Regional can be understood as inter-city, or between countries, thus inter-regional, inter-urban and international. The printing press spread from Mainz, Frankfurt, Strasbourg, Nuremberg to Antwerp and Venice and thereafter across the Atlantic Ocean to Mexico and beyond.

The overcoming of local demarcations manifests a systematic development of the capitalist system in the 15th century in the incunable era [early period of book production—trans.]. The linkage of the various branches of industry indicates a systematic development of capitalism in the 15th and 16th century, in so far as it was regionalized, and in this sense, it is not to be considered sporadic. Neither is it sporadic in a second sense, in that it is not limited to a single industry, industrial branch or field of economic activity in this period. Transportation and communication were developed in various directions.

From this point of view Europe shapes a tradition with several unities fractured by language, by classes, by wars, and by cultural traditions. Thus, the European peninsula appears in modern history as a shaky social unity, which only now and after many scenes of horror is trying to broaden and smooth its path.

Economic development didn't continue at the same pace everywhere. The model of mining and of the metal industry, the amalgamation of pits, the freedom of the miners, the liberation of the peasants, the skill training of the working class, the development of technics, the accumulation of capital, and the expansion of the circulation of money, encountered resistance in several branches of industry. Hard coal and iron were used already in the 15th and 16th century in the process of production of mine, steel, and hammer mills and in the remaining metal workshops; but only in the 18th and 19th century were they industrialized through the invention and employment of steam machinery and the requisite organization of labour.

We have little to do with Church history and less with political-military events. The national states in the German-speaking regions were established towards the end of the early period and were expanded in the second half of the 17th and in the 18th century. The figure of the Grand Elector Frederick William is interesting, because during his reign fundamental changes in the regulation of the guilds, in the liberation of the peasants, in the merchant class and in civil liberty were decreed.

The different social classes are together but not in common, rather in struggle with one another they advanced in the same direction, disunited, antagonistic and opposed. The feudal masters offered resistance, so that the old forms of nobility, of the monarchy, and of the Church were preserved into the 20th century, while the substantial moments of the organization of the workers, peasant and capitalist movements go back to the 15th century in some branches of industry. These

industries, like mining, shipbuilding, metal processing, also trade and commerce, the credit and printing business, served as models for further capitalist development in general. We consider the historical course of this development as complicated and take a position against those who have tried to simplify it.

The peasants and the working class remained separate from one another; only sporadically did they take up contact. However, they did not behave passively to each other, as Karl Marx believes, when he speaks about the expulsion of the peasants from the countryside; they were in no way the mere recipients of the initiatives of others, but rather an active moment in history.

The enhancement of the required skill of the working class through training is closely tied to the accumulation of capital in the first centuries of the modern period. Nevertheless, this linkage was not uniform, but exhibited differences. In the countryside, the methods and techniques of labour were newly configured only in later centuries, that is, in the 18th century new plant species, new instruments of labour, and new agricultural practices were introduced. It was only in the 18th century that weaving looms and ribbon looms, discovered two hundred years earlier, were spread in the production of cloth in Central Europe. In contrast, we shall see how mining was transformed through the new methods of labour and the arts, techniques, discoveries and machines in the 15th and 16th century. Commercial practices in the 15th and 16th century in Central Europe as well as the treatment of instruments of credit and securities were changed through new methods from the Mediterranean region. German salespeople, traders and representatives of credit and money institutes went to Italy, to learn how to master the new practices of entrepreneurship.

A trained and disciplined working class was developed in Germany *pari passu* with the accumulation of capital. The two events should be handled in a balanced fashion, not one side at the expense of the other. The development of agriculture, extensive and intensive, was first carried out in the 18th and 19th century, that is, after the liberation of the peasants in the period of Cameralism-Mercantilism, of the industrial revolution and of high capitalism. The spread of the money economy in connection with the upheaval of society from the 15th to the 19th century determined life on the land as it did in the city. The market, commodity relations, the buying and selling of labour time and its products dominated daily life. The natural economy was pushed back. In the formation of the capitalist system and of modern bourgeois society these processes and events are related to one another and are developed together. It would be a vain attempt to give prominence to and discern a single and particular moment that explains everything, claiming then here the mystery would be revealed. Martin Luther is of interest to us because he

gave objective expression to the consciousness of his time, namely in the context of the measurement of labour time. We proceed from the fact that Albrecht Dürer is a great painter, nevertheless, the presentation of the aesthetic moment in his art is not the main objective of our investigation. Instead, what is important for us are his utterances on mechanics and geometry as well as his astute apprehension of history. Thus, he appears as a draughtsman, painter, educator and scientist, as one of the greatest Renaissance people in history. The spirit of Albrecht Dürer, whose wood cuts, copper etchings, and drawings pointed to the new ways in art and in science, hovers everywhere. His work belongs in the aesthetic sense to the new age, and he gave expression to thoughts which were later developed by Isaac Newton and C. F. Gauss. Our view of the periodization of history is to be found in his prior conception. The activities of individual personalities are in and for themselves not important for us, however, these people worked and recorded their ideas. They serve as our sources, and it is with their activities and writings with which we grapple.

The science of human society is objective, and therewith objective problems can be solved. The provenance of the capitalist mode of production, which dominates our age, presents an important problem of this kind. Many sciences have offered their contribution to the solution of this problem, which we acknowledge, whereas the very last word has not been spoken. We have emphasized the two moments at the centre of the capitalist process of origination, the development of the labour process in mining as well as in the metal industry and, the movement of liberation of the peasants. The development in mining and in the iron, copper and precious metals industry does not stand alone, but is tightly linked with the art of printing, the system of coinage, the circulation of money and of trade. The liberties of the mines were more or less known to the peasantry; the peasants served as transportation workers in the Harz Mountains and elsewhere, and afterwards aspired to become wage labourers. Their aspiration was imprinted by the social, economic, political and religious conditions of the 15th and 16th century. In the 15th century religion was certainly not the opium of the people but rather a way to self-determination, to self-consciousness and to self-control of the peasantry. The practices in the mining and metal systems were broadened, not only to include the peasants but rather to cover various branches of industry, although here resistance was offered. The weavers' guild, for example, on many occasions rejected the acquisition of the new modes of labour into the 18th century.

The mining business is only a centre of movement in the origin of the capitalist system. The metal industry as a whole can also be taken up in this context. For purely practical reasons we've begun with the mining business, because the

writings of Agricola, Biringuccio, Ercker, Schreitmann and Kunkel are so prominent. Their works are not only prominent, but rather above all scientific, factual, strikingly objective and anti-mystical.

Equally important is the print industry, which is likewise to be considered a centre of movement like mining in the origin of the capitalist system. The printing press which came into being and was disseminated in the 15th century, stands in close relation with the development of the metal industry and of the publishing system, and the current book industry is in fact determined by the further progress of this system. The printing plant, in its early origin and development, had exerted an impact on industrialization, on the liberation of the peasants, on political consciousness and on the qualification of the working class. Merchants learned new trading practices and the art of calculation [*Rechenkunst*] from the new books. Science mastered the mathematics of Euclid and Archimedes from printed books. The peasants spread their calls to action, articles and reports through printed leaflets. The religious denominations printed not only indulgences, but articles, disputations and instructions as well. Books of antiquity and of modern times were printed and disseminated. The education of humanism and of the workers, writing and arithmetic were prepared through books. The new school system in its origin and development as well as the university system were bound up with the art of printing.

New navigation, shipbuilding and long-distance trade associations formed a specific centre in the process of capitalist origination and development. The new shipping industry from the Mediterranean region shaped the overseas trade of the neighbouring states of Spain and Portugal, England, Holland, Germany and France. The voyages of discovery to America and Asia were determined by developments in the art of shipbuilding and in the shipping industry in general and presupposed them. The armament and war industries were closely related to the new metal and shipping arts.

We begin with the business of mining on the above-mentioned foundation. The miners initially secured their liberties and propagated them to the greatest degree and were the earliest to do so. The freedoms of bourgeois life were abstracted from the model of the liberties of the towns of the early capitalist system. The freedoms we enjoy today are based on the old liberties of the past. They form the contrast to agrarian practices and feudalism. The liberties of modern bourgeois society are not abstract, but rather are to be understood concretely in the free movement of the labourers, in the freedom of contract, and in the liberation of the peasants from compulsory labour. We sing no songs of glory to the capitalist system, which is based on the exploitation of the indigenous peasants and labourers and on their oppression, later on the exploitation and oppression of the world outside Europe,

of Africa, Asia and Latin America. The freedom of modern bourgeois society and of the capitalist system is a formal and not substantial freedom.

It is not about a single historical moment that led to the transformation of the feudal system and the establishment of the capitalist system. Some thinkers in the 19th and 20th century who investigated the problem of transformation and establishment came to the conclusion that there was a specific factor in the transition from the old to the new social and economic system. Now they have given emphasis to different factors and historical moments, such as the new ethic, new securities, new capitalist forms of organization, new bookkeeping practices, the discovery of America, etc. The search for such a single *causa efficiens* has its advantages and disadvantages. And important economic and social processes were explained by this quest for a singular and predominating historical moment. However, it appears to be the same quest as with the alchemists of old for the philosophers' stone, which transforms everything into gold. There is no simple way to understand the processes of history. Euclid said 2300 years ago there is no royal road to geometry; we stand on the side of Euclid, Agricola, Biringuccio and Ercker. The entire society in the 15th, 16th, and 17th century participated in the process of transition from the Middle Ages to the modern era. Some classes and interest groups were set in opposition to the new social order and wanted to maintain the good old times. Other classes and groups fought for the new social order. We treat the social and economic systems as totalities, which are linked and formed by the struggle between the opposed parts.

The historians of technique have made great achievements, and, in this way, they have earned our thanks for their researches. They have listed the sequence of inventions and discoveries. But, as a result, we only hold the parts in our hand, and the social bond is, alas, missing. To usefully apply the new inventions and discoveries, the workers employed the new methods in economic practice. Without their practical application, the discoveries and inventions remain like ghostly things in the air. The qualitative training and the quantitative expansion of the working class, the manipulation of the earth, of the air and water, and the formation of the entrepreneurial class, of technics and of science together prepare the foundation of the capitalist era. Traditionally, the past is investigated on three grounds: first as an object in and for itself, which we love, hate, marvel at or attack; second, in order to come to grips with historical process of the past down to yesterday or today; third, and what is most significant, to better understand the world today and, if possible, to master it. The first reason was represented by the neo-Kantians of the Wilhelmine period, to showcase history ideographically. Everything in human

history is presented according to this method as a coincidental matter occurring by accident without lawfulness. Treating history pictorially as a beautiful or hateful form would require the spirit [*Geist*] and pen of Lessing, Schiller or Goethe, not ours. We take up the last two reasons, which are closely bound up with the question of periodization and of the lawfulness of history.

