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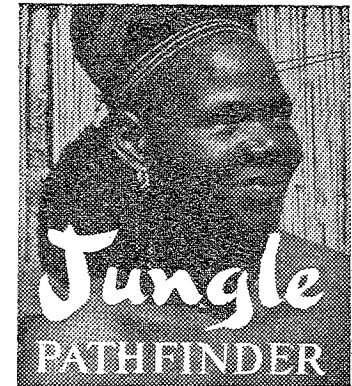
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The Peaceful Co-existence of Capitalism and Socialism

BY JAMES KLUGMANN

THE Great October Socialist Revolution of 1917 ended the rule of capitalism over one-sixth of the world's surface. Capitalism was no longer the single all-embracing system of world economy. Side by side with the capitalist system arose a socialist system which, as Stalin explained in his political Report to the Sixteenth Congress of the C.P.S.U.(B.), "is growing, which is flourishing, which is resisting the capitalist system and which, by the very fact of its existence, is demonstrating the rottenness of capitalism and shaking its foundations." With the October Revolution and the birth of the socialist system the general crisis of capitalism began.

After October 1917 all the contradictions within the capitalist world were deepened. The struggle between capital and labour became harder. The struggle between the great imperialist powers on the one hand, and the millions of colonial and dependent peoples on the other, grew more violent. The rivalries and conflicts between the great financial groupings and between the imperialist powers themselves grew more bitter. World imperialism was restricted, its internal contradictions grew.

But, to the three deep contradictions within the capitalist system, the victory of October added a fourth new contradiction—the contradiction between the old dying capitalist system as a whole and the new rising socialist world embodied in the U.S.S.R.

From this moment an issue of overwhelming importance was posed before humanity. Could these two systems, the capitalist system and the socialist system, co-exist, live side by side, in peace, or must they clash in world war?

To this question a different answer was given by the big capitalists and financiers on the one hand and by the spokesmen of the socialist world on the other.

The big financiers and industrialists of the capitalist world, from the very outset, dreamed of and prepared for war against the socialist system. They hated and feared the Soviet Union because it cut off a whole vast sector of the world from imperialist exploitation. Gone from their clutches was a whole great sphere of cheap labour and super-profits from invested capital, a whole vast

market for unequal capitalist trade. They hated and feared the Soviet Union because it was a living proof that capitalism was no longer necessary, that it had become an anomaly, that the *theories* of socialism could be turned into *practice*, that the working people could not only govern without the capitalist class, but rule their country more effectively, without slumps and with growing prosperity. They hated and feared the Soviet Union because it acted as an ever more powerful moral example to the working people and the colonial and dependent peoples in the rear of imperialism—an example which would encourage them to follow in the footsteps of the Soviet peoples, overthrow the capitalist system, end imperialist domination, take power into their own hands and move forward, each in their own way, towards socialism.

But they hated and feared the Soviet Union and prepared war against it not only because of its example, but because they hoped to “solve” the ever growing contradictions within the restricted capitalist world *at the expense of* the Soviet Union and the Soviet peoples. From October 1917 onwards arose—

“the permanent tendency of the imperialist countries to ‘solve’ their contradictions by organising intervention against the U.S.S.R.” (Togliatti at 7th Congress of Communist International, 1935.)

Their earliest attempt at such a “solution,” the first war of intervention against the U.S.S.R., ended in fiasco. But the great capitalists had not learned their lesson.

Still they dreamed of “solving” all their problems through war against the socialist system. Stalin explained in his Report to the 16th Congress of the C.P.S.U.(B.) in June 1930:

“... every time the capitalist contradictions begin to grow acute, the bourgeoisie turns its gaze towards the U.S.S.R., as if to say: ‘cannot we settle this or that contradiction of capitalism, or all the contradictions taken together, at the expense of the U.S.S.R. . . . which by its very existence is revolutionizing the working class and the colonies. . . .’

“But intervention is a two-edged weapon. The bourgeoisie knows this perfectly well. It will be a good thing, they think, if intervention passes off smoothly and finishes up in the defeat of the U.S.S.R. But supposing it finishes in the defeat of the capitalists? There has already been one intervention and that

ended in defeat. If the first intervention, when the Bolsheviks were weak, ended in defeat, what guarantee is there that the second world war will not end in defeat? Everyone sees that the Bolsheviks are far stronger to-day. . . . Hence the tendency to maintain peaceful relations with the U.S.S.R.”

The second World War also ended in fiasco for those who had dreamed of “solving” their problems at the expense of the Soviet peoples. At the end of World War II, and in the years that immediately followed it, capitalism was still further restricted. To the U.S.S.R. was added an immense sector of the world where the working people, led by the working class, exercised their rule. For a hundred million people in Eastern Europe, in the whole of Eastern Germany, in China (with a quarter of the population of the world) capitalist rule was ended. Hundreds of millions of men and women could no longer be used by imperialism as cheap labour and a source of super-profits; *unequal imperialist trade* could no longer penetrate into a whole vast new area. The balance of class forces in the world was radically changed. The Soviet Union, far from being destroyed, emerged physically and morally strengthened despite its great losses and its great sacrifices. The general crisis of capitalism was profoundly deepened.

But the great financiers and industrialists of the capitalist world had still not learned their lesson. More desperately than ever before they set themselves the task of destroying the system of socialism and people’s democracy. The contradictions within their own weakened and restricted capitalist system made them the more desperately seek to “solve” their difficulties at the expense of the countries where the working people ruled.

The contradiction between labour and capital was intensified. In the rear of capitalism the labour movement emerged from World War II immensely strengthened. The big capitalists dreamed of “solving” this contradiction by war—war against the Soviet Union and the People’s Democracies. They sought to divert the working peoples from their struggles against capitalism by every device of lying propaganda, orientating their peoples towards such a war of aggression. And in the footsteps of the now dominant capitalist power, the U.S.A., they set out to “prepare their rear” for aggressive war by turning more and more openly towards open dictatorial rule—towards fascism. They set out to “solve” the dangers of slump by developing the economy of war.

The contradictions between the great imperialist powers and the millions of the colonial and dependent peoples was intensified. The Chinese victory heartened the colonial and dependent peoples in their struggle for national liberation. And as the big bourgeoisie of the colonial countries turned to compromise with imperialism, the working class in the colonial and dependent countries, won ever more decisive leadership of the broad front of the national liberation movements. The imperialists, led by the dominant imperialists of the U.S.A., could see "solution" only in war—war to regain the colonial and dependent territories that they had lost (China, Korea, Viet Nam); war to maintain and increase the exploitation of those colonies whose people demanded freedom (Malaya, Egypt); war in which they could hope to set one section of the colonial people against another, to divert them from their struggle for independence.

The contradictions between the great imperialist Powers themselves were intensified. The uneven development of capitalism, which Lenin had always so brilliantly explained as a law of development of capitalism, had brought, by the end of World War II, the United States to the position of domination inside the capitalist world, accounting for more than 60 per cent of its productive capacity and more than three-quarters of its capacity for investment. Behind the façade of unity, built up under the leadership of the dominant American imperialism, behind its Atlantic Pacts and Middle East blocs and blocs in the Far East and the Pacific, was the growing rivalry of the imperialist States, each desperately seeking to find new areas of exploitation, new areas of investment of capital, new markets, the one at the expense of the other, in the ever restricted area of capitalism.

Years before, Lenin had explained the two contradictory tendencies driving imperialism to unite and to disunite that were brought into the world with the October revolution:

"Two tendencies exist; one which renders the alliance of all imperialists unavoidable; a second which divides one group of imperialists against the other; two tendencies neither of which rests on a firm basis." (*Address on Soviet Foreign Policy to the All Russian Central Executive Committee and the Moscow Soviet*, May 14th, 1918.)

While the leading American imperialists called on the whole of world imperialism to line up for the war crusade against the Soviet

Union and the People's Democracies, American imperialism at the same time attempted to solve its own contradictions at the expense of its "friends and allies" and above all of its chief ally and main capitalist rival, Great Britain. Under the banner of war for democracy and civilisation (i.e. against socialism and people's democracy) it reduced its capitalist "allies" to the status of semi-colonial states. The inter-imperialist rivalries grew in intensity and, more and more, the big monopoly capitalists, and in the first place Anglo-American capital, could see only one "solution"—a third world war directed against the countries where the working people rule. The whole capitalist world, driven on by U.S. monopoly, was directed into the preparation of an aggressive third world war.

The answer of the great monopoly capitalists to the question of peaceful co-existence of the systems of capitalism and socialism, was the preparation for war against the system of socialism. With the deepened general crisis of capitalism following World War II, the drive to such a world war grew ever stronger.

And yet, that same deep general crisis of capitalism which led to that desperate drive to a third world war, let loose the forces which made it possible to stem the drive to war, the forces that made possible the *peaceful co-existence* of the capitalist and socialist systems.

To this major question facing all humanity, the possibility of the peaceful co-existence of the two systems, the leaders of the socialist world, from the very outset, gave a very different answer from the spokesmen of monopoly capitalism. From the very outset they proclaimed the need for and the possibility of the peaceful co-existence of the two systems.

To a correspondent of the *New York Evening Journal* Lenin gave the following answer on February 18th, 1920:

"Our plans in Asia? The same as in Europe: peaceful co-existence with the peoples, with the workers and peasants of all nations."

Asked what obstacle stood in the way of the peaceful relations of the Soviet Union and the capitalist countries, he replied that from the Soviet side there was *none*: the obstacle consisted of "imperialism, from the side of the American (as of any other) capitalists."

Discussing the same problem with the first American workers' delegation to visit the U.S.S.R. in 1927, Stalin declared:

"I think the existence of two opposite systems, the capitalist system and the socialist system, does not exclude the possibility of such agreements. I think that such agreements are possible and expedient. . . . Exports and imports are the most suitable ground for such agreements. . . . The same thing may be said in regard to the diplomatic field. We are pursuing a policy of peace and are prepared to sign pacts of non-aggression with bourgeois states. . . ."

Again and again in the following years Stalin himself, as the leader of the Soviet Government and of the Communist party of the Soviet Union, repeated their firm belief in the need and possibility of peaceful co-existence.

To the question of the London *Sunday Times* correspondent on September 24th, 1946, "Do you believe that with the further progress of the Soviet Union towards communism, the possibilities of the peaceful co-operation with the outside world will not decrease as far as the Soviet Union is concerned?" Stalin replied:

"I do not doubt that the possibilities of peaceful co-operation, far from decreasing, will grow."

In an interview with Harold Stassen on April 9th, 1947, Stalin declared:

"It's not possible that I said that the two economic systems could not co-operate. Co-operation ideas were expressed by Lenin. I might have said that one system was reluctant to co-operate, but that concerned only one side. But as to the possibility of co-operation, I adhere to Lenin who expressed both the possibility and the desire of co-operation."

On May 17th, 1948, replying to an open letter of Mr. Henry Wallace, Stalin wrote:

"The Government of the U.S.S.R. believes that, despite the differences in economic systems and ideologies, the co-existence of these systems and the peaceful settlement of differences between the U.S.S.R. and the U.S.A. are not only possible but absolutely necessary in the interests of universal peace."

The whole Soviet *practice* since October 1917 has been, in accordance with its theory, to try and live in peace with the capitalist states of the world, to develop friendly trade and friendly

diplomatic relations with them, and to settle all differences through peaceful negotiation.

That the two systems in the world can exist side by side in peace is not, therefore, something new in communist theory. It has been proclaimed and worked for ever since such a question arose in practice in October 1917. What is new is that, despite the unceasing drive of monopoly capitalism towards a clash between the two systems, the great advance in the socialist peace forces throughout the world has made the achievement of peaceful co-existence all the more possible, *provided that the mass of the people in the capitalist world unite to fight for it, and do not allow themselves to be misled by the propagandists of imperialist aggression.*

But, proclaim the defeatists and the doubters, even if it is true that the people and the government of the countries of socialism and people's democracy want peace, how can it be possible to secure it in view of the desperate capitalist drive to war led by Anglo-American capitalism? What is the answer to those who doubt?

In the *first* place no one can pretend that peace will come just for the asking. If you want peace you have to fight for it. The achievement of peaceful co-existence depends on a broad, popular, united movement for peace in *all* countries. Winning peace means *imposing* peace, through the movement of the people, on those who reckon to profit by war, on that very small section of monopolists in the capitalist countries and their representatives, and above all on the monopolists of the U.S.A. and Great Britain.

In the *second* place, however desperate the imperialists' drive towards a third world war, they cannot *by themselves* prepare or carry out such a war. No imperialists can wage war without people—working people. They need working people to manufacture their weapons. They need working people to transport their weapons. Above all they need working people as cannon fodder, to use their weapons. Nor do the imperialists of the United States hide the fact that the cannon fodder is to be provided above all outside the United States, from the victims of U.S. domination, including, amongst the first, Great Britain. The imperialists are not the knights of old who go themselves into battle. Without the working people, no imperialist aggressive war can possibly be waged and therefore, in the last analysis, the people, led by the working class, can determine whether such a war will or will not be waged. The

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working people can impose peace. As Togliatti declared in his report to the 7th Congress of the Communist International:

“We know that war is an inevitable accompaniment of the capitalist régime. Capitalist society, which is based on the exploitation of man by man and the hunt for profit, cannot avoid giving rise to war. But we know equally well that all the questions of the development of human society, are in the last analysis, decided by struggle—by the struggle of the masses.”

In the *third* place, the strength and powers of the working people in 1952 represent a completely new balance of class forces. More than one-third of the population of the world have freed themselves from the domination of capitalism. Behind the front of imperialism the strength and unity and organisation of the working class, of the allies of the working class in the metropolitan countries, and of the colonial and dependent peoples; have reached a new height. The very deepening of the general crisis of capitalism, that drives the monopolists so desperately towards a third world war, has let loose new and ever strengthening forces of the people for peace. As the capitalists turn against their own capitalist democracy, the working class emerges as the defenders of capitalist democracy, unite the masses of people around them and carry the fight forward for a people's democracy and towards socialist democracy. As the capitalists turn against the conception of national sovereignty, that first arose with capitalism, and as they sell out the national independence of their countries, the broad front of defence of national independence, embracing the overwhelming majority of the people, is being forged in the rear of capitalism under the leadership of the working class. As, with the uneven development of capitalism, U.S. imperialism strives to colonise its “allies” amongst the capitalist states, profound divisions arise between the capitalist states and within the bourgeoisie of the capitalist states. These divisions indirectly assist the fight for peace, detaching from the camp of war whole capitalist states and sections of the capitalist class in every capitalist state. Even the American imperialists become divided on the practicability of a third world war. Human history, which at each epoch puts before progressive humanity some outstanding task which towers above all others, today puts before humanity the task of preventing a third world war and brings forward at the same time the forces that are

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strong enough to accomplish this—today's central task of humanity.

In the *fourth* place, the movement for peace has not arisen in the countries of socialism and people's democracy alone, nor alone in the rear of imperialism. A world front of peace is being forged under the leadership of the World Peace Council. The strength of the world front of peace has already been shewn in the world-wide petitions for the prohibition of atomic warfare and for a Five-Power Peace Pact. This world front has already been strong enough to hold back the warmongers from using the atomic bomb in Korea and China.

In the *fifth* place, it is true that peaceful co-existence, though possible, is not inevitable. If imperialism is strong enough to enmesh the people whom it dominates in a net of lies and slanders, to turn truth upside down, presenting the aggressors as defenders of peace and the defenders of peace as aggressors, to breed a feeling of fatalism and dejection amongst the peoples, peaceful co-existence will *not* be achieved. But the forces exist to counteract the propaganda of imperialism, to wage successfully the *ideological* battle for peace, provided that those who are most responsible for ideological struggle accept that responsibility and draw the necessary lessons.

Despite the growing desperate efforts of dying capitalism to seek a way out of its contradictions in world war, the peoples of the world have the strength, if they recognise it and use it, to prevent that war and to impose peace on those who seek it.

But, say the doubters and defeatists, by proclaiming peaceful co-existence, you are calling for the maintenance of capitalism, you are trying to stabilise the capitalist world and to stem the world advance of socialism. What is the answer?

In the *first* place, it is the propagandists of capitalism who try to pretend that the Soviet Union and the communists of the People's Democracies wish to export communism and to impose it by war on the countries of capitalism. No slander could be more opposite to truth. Communists have always taught that socialism cannot be imposed from above or from outside, but must be established by the working people led by the proletariat in each individual country. Socialism cannot be exported, least of all by force. Any attempt to enforce socialism on a country from outside can only lead to the strengthening of capitalism. In 1936 Stalin, in an interview with the American journalist, Roy Howard, explained in a masterly fashion the Marxist approach to this question:

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“... We Marxists believe that a revolution will take place in other countries. But it will take place only when the revolutionaries in those countries think it possible or necessary. The export of revolution is nonsense. Every country will make its own revolution if it wants to, and if it does not want to there will be no revolution. For example, our country wanted to make a revolution and made it. And now we are building a new, classless society. But to assert that we want to make a revolution in other countries, to interfere in their lives, means saying what is untrue, and what we have never advocated.”

Marxism teaches that revolution is not for export, that the people in each country must achieve socialism in their own country. But this does not mean that the flourishing existence of socialism and people's democracy in a large part of the world today will not have an enormous influence on the development of people's democracy and socialism in the rest of the world. Every day of existence of the countries of socialism and people's democracy, each one of the brilliant achievements in building socialism and, in the U.S.S.R., of advancing to communism, sharpens the *contrast* between the life and perspectives of the working people in the two sectors of the world. Expanding social services contrast with cuts, wage rises with wage freezes, rising with falling prices, abundance with shortages, security with fear of unemployment, construction for peace with preparation for war, love of life with fear of death, confidence in man's capacity to transform nature in his own service with gloom, defeatism and belief in the limitations of man's knowledge and in his incapacity to control his own destiny. People's rule contrasts with capitalist rule. The achievements of the U.S.S.R. and the People's Democracies spur on men and women in the rear of imperialism to take power into their own hands and build, in their own way, socialism.

In the *second* place, communists have always stood, not for the export of socialism, but for *peaceful competition* between the capitalist and socialist systems. But this does not mean that they are not confident that peaceful competition will reveal to the people still living under capitalist rule the superiority of the socialist system. Manuilsky explained at the 7th Congress of the Communist International in 1935:

“The U.S.S.R. needs no foreign wars for the purpose of transforming the world. The peoples themselves will rise against

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their oppressors and do that. The U.S.S.R. needs no wars, because in the competition between the two world systems it is the system of socialism that is winning every day, for it shows the world its superiority over the capitalist system.”

Communists believe, not in the export of socialism, but in peaceful co-existence and peaceful competition between the socialist and capitalist systems. But this does not mean that they believe in the perpetuation of capitalism. They never hide the fact that they are fighting everywhere against capitalism and to end the capitalist system, and that they are confident in the victory of socialism in all countries in the not distant future. They do not hide the fact that, should Anglo-American imperialism be successful in dragging the world into a third world war, this might well mean the end of the capitalist system. But Marxists do not seek to win socialism through the death of tens of millions of their fellows in the agonies of world atomic war. They seek to establish socialism through world peace, devote all their energies to the battle for peace, and put before all the peoples of the world the perspective of achieving socialism throughout the world, *without* the outbreak of a third world war. Marxists are confident that in peaceful competition socialism emerges as the superior system. Those who sincerely believe in the superiority of the capitalist system must accept the challenge of peaceful competition. But those who wish to impose capitalism on the world through violent aggressive war must be restrained like wild animals.

In the *third* place, the monopoly capitalists, however much they dream of and prepare for world war, are confronted at any given moment with the question—yes, they want war, but can they afford to unleash it? If at any given moment the strength of the movement for peace is sufficient, they will not dare to start war, and, however great the internal contradictions, will be obliged to accept world peace. The socialist and people's democratic countries offer to the capitalist countries peace, peaceful diplomatic relations, settlement of all differences by negotiation, a vast extension of peaceful trade. This offer, put forward in all sincerity, greatly strengthens the movement for peace not only amongst the working people in the capitalist countries but amongst that section of the capitalists themselves who see the advantages of trade with the socialist and people's democratic countries and the disadvantages and dangers of war.

But peaceful co-existence, peaceful trade, *which can be preferable for a section of the capitalists to risking their all in a war that they are bound to lose*, does not solve for the capitalists the innate contradictions within the capitalist system. The monopolists do not want trade on an equal basis; they want unequal, imperialist trade which involves the exploitation of those with whom they are trading. They want cheap labour, super-profits, colonies or semi-colonies, not equal trading partners. Therefore, though a section of the capitalists will understand the advantages of trade with the People's Democracies and the Soviet Union, and though the capitalist states which are being colonised by American imperialism will *up to a point* accept the need for such trade, it is only the working class and the working people who will fully understand the advantages of such trading relations, and it is only through the struggle of the working people in the capitalist countries that such trading relations will be established, maintained and strengthened.

Such trading relations, which will strengthen the durability of peaceful co-existence and relieve the working people from the shortages and sufferings imposed upon them by the economics of war, will provide the most favourable circumstances for developing the struggles, in each country along its own road, for people's democracy and socialism. But it is only when the people take power in their own countries that such trading relations will lay the basis for mutual, peaceful planning, for the ending of slumps and crises, for the development of expanding, planned economies and rising, flourishing prosperity.

As long as there is capitalist encirclement of socialism the danger of war will persist. But the perspective of peaceful co-existence offers the most favourable circumstances for the people in each capitalist and colonial and dependent country to find their way towards people's power and to begin the onward march to socialism. Such a perspective holds out the bright promise of the future, when country after country has ended capitalism, when capitalist encirclement has been ended and when peace becomes durable, permanent and part of the normal way of life of all humanity.

The peaceful co-existence of the capitalist and socialist systems is not a Utopia. It has today become a practical possibility. History sets this central task before the working people of the world, since the forces exist that make its achievement possible.

It is the dialectics of history that makes the feverish world

imperialist drive to aggressive war let loose the human forces that can stave off this aggression. The preparation of war hits every working man and woman. The very scientific knowledge that, applied to the known and charted material resources of the world, could give them the homes, schools, centres of culture, the health, the leisure that they want, is used to rob them of what they have won after centuries of effort and sacrifice and to threaten them with far greater losses.

Marxism is not economic determinism. The Marxist theory of peaceful co-existence shows that the forces now exist that *can* secure peaceful co-existence and *prevent* a third world war. It does *not* show that such co-existence is inevitable. Whether it is achieved depends on the degree of unity forged between men and women all the world over in the common front for peace, and the degree of energy and sacrifice applied to the struggle for peace. To forge such a front puts a special responsibility on Marxists who, above all others, are conscious of its significance.

No one can claim to "understand" the *theory* of peaceful co-existence who does not in his or her *practice* work with every effort to make this theory a reality. To preach peaceful co-existence without working for it in the daily struggle, without fighting to build up the movement for peace in Britain, without working to obtain support for the world petition for the Five-Power Peace Pact, without seeking to end the wars in Korea and Malaya, is to make a mockery of Marxism.

But the fight for peaceful co-existence gives rise to ideological tasks of the greatest urgency. Dying monopoly capitalism, turning above all round its American pivot, using all the capacity of the state machinery, exerting every effort to develop the ideology of war, uses its control of the means of forming opinion to draw the people into its world-wide war machine, to make them resigned to the inevitability of war, to accept its horrors, to enmesh them in its net of lies and slanders.

To repulse this ideological onslaught is the central and honourable task of all fighters in the battle of ideas. No one who claims to be progressive, in whatever field he works, historian or philosopher, artist or writer, scientist or journalist, but shares responsibility in this field.

There are three main issues.

Firstly it is necessary to explain that the third world war that is being prepared is not for defence, for "peace through strength," for

“civilisation,” but is a war of aggression, fruit of the last desperate efforts of a dying capitalist society in deep general crisis, to find a way out of the contradictions which tear it asunder.

Secondly, it is necessary to explain that this third world war is not inevitable. The strength of the working class, of the working people, of the forces for peace, have reached a stage when, if they unite on a world scale and plunge into the struggle for peace, a third world war can be prevented.

Thirdly, wars are not part of human nature, not God’s punishment for the sins of the world, not a permanent part of human society. Wars are a feature of class society and they will end with the end of class society. Mankind stands on the brink of ending all wars for ever. The fight to prevent a third world war, the fight for the peaceful co-existence of the two systems, is the key link in the chain towards the organisation of human society in a way that will make all wars a thing of the past.

Marxism is an active, not a passive, view of the world, of nature and of society. “The philosophers have only *interpreted* the world in various ways; the point, however, is to *change* it,” wrote Marx in his *Theses on Feuerbach*. The central task today in changing the world for the benefit of mankind is to strengthen the fight for peace.

Karl Marx—Scholar and Revolutionary

BY BENJAMIN FARRINGTON

Marx Memorial Lecture, March 18th, 1951

IT is a great honour to be entrusted with the delivery of the Marx Memorial Lecture. As the years go by the occasion does not diminish in importance. The number of those interested in the personality and teaching of Karl Marx continues to grow until now about a third of the human race is busy reorganising its way of life in accordance with his ideas.

The title of my talk, in linking the words scholar and revolutionary, touches a central lesson of the career of Marx, although I propose here to touch only on his early formative period. The aim of those who follow Marx is to abolish exploitation and establish peace on earth. So incompatible is this aim with capitalism that it cannot be realised without a revolutionary change. That change cannot be made without a revolutionary theory and there can be no revolutionary theory without scholarship. It is the peculiarity of Marxism that it applies a vast theoretical equipment to the solution of an immediate practical problem, the elimination of poverty and war. All its knowledge is in relation to this problem. And it was Marx who saw that, as it had taken all history to produce the present situation of man, so all knowledge was relevant to the conscious amelioration of his lot. Marx reconstituted historical studies. In the Materialist Conception of History the connection between scholarship and revolution is close and vital. When socialism ceased to be utopian and became scientific, revolution and scholarship entered into indissoluble partnership.

These thoughts are so familiar to us that it is now not always easy to realise their originality. To formulate them for the first time required unique qualities of character and intellect. It has seemed to me that we might better understand Marx at the turning-point of his career, the point where the scholar and the revolutionary became one, if we compared him with a contemporary, and a very great contemporary, from among his own German people, who felt the same challenge as Marx but proved unable to make the same response.

Theodor Mommsen was born in 1817, the year before Marx, and long outlived him, dying only in 1903. Like Marx he matured

young. He was not yet forty when the publication of his three volumes on the history of Rome put him in the forefront of living scholars, and this pre-eminence he maintained throughout his long life by a series of monumental masterpieces of historical research. His great and manifold achievement was crowned with recognition and as the shadows began to gather about the old man, one might have expected that death would present itself as the serene close to a well-spent life.

But Mommsen did not feel it so. There had been a time when he had been conscious of a challenge which could not be met even by the dogged labours that went to editing the Corpus of Inscriptions, the Digest, the Theodosian Code. When he remembered the challenge and reflected on his own rare powers, he came to feel that his great labours had been a kind of running-away. So it came about that when he was over eighty he drafted what he called his Testament. In it he put on record the pain with which he viewed the misapplication of his powers. He directed that the Testament should not be published for thirty years after his death. Circumstances delayed its appearance still further. It was not till 1948 that it appeared in the Heidelberg review, *Die Wandlung*. I have seen it copied in Italian and Dutch journals. I am not aware that it has yet been printed in English.

"In my innermost being," writes Mommsen, "and I mean with what was best in me, I have always been a political animal and wanted to be a citizen. This is not possible in our nation, in which the individual, even the best, does not rise above rank-and-file service and political fetichism. This inner divorce from the community to which I belong decided me with my personality, so far as I could manage it, not to come before the German public for which I lacked respect. I desire that after my death this same people should not concern itself with my personality. My books can be read as long as they last. What I was, or ought to have been, has nothing to do with the world."

This is a confession of failure. But it is not simply as such that it is distressing. It is distressing because it is a failure resulting from too tame a surrender to circumstances. Mommsen did not lack political convictions. He sympathised with the revolutionary side in 1848. He was deprived of his Chair of Law at Leipzig and sent into exile. He lived two years in Switzerland before returning to Germany to take another Chair. It is plain what cause Mommsen thought he ought to have served. But he can hardly be said to have

served it adequately by taking elaborate precautions to tell the German people thirty years after his death that he did not respect them on account of their political immaturity. It was himself he did not adequately respect. He should have fought his battle with his people when he was alive. It is the bitterness of the awareness of this failure that underlies the Testament.

But this does not exhaust the lesson that may be learned from Mommsen's career. It may appear, when a scholar of outstanding ability decides that a political stand is more than he is prepared to take, that scholarship gains what politics loses. But this is far from being the truth. Scholarship too has its public obligations, the more frequent acknowledgement of which would make its annals more inspiring reading. Mommsen served scholarship well, but he served it on a lower level and in a meaner way than such a man as he was might have done. This too he seems to have felt.

For what Mommsen tried to do was to fight the battle of 1848 in the pages of his *History of Rome*. But this neither forwarded the revolution nor improved his history. He did not fight the class-struggle of his own day in the political arena, but he could not lay its angry ghost which haunted him in his study. So he sought out the capitalist enemy in the history of pagan Rome and gave him a sound trouncing in his vigorous pages a couple of millennia before he appeared on the historical stage. With what Quixotic zeal he descries and attacks his capitalist windmills. In Italy two hundred years before Christ there flourished, he tells us, "a pure capitalist system," "a developed system of capital." His anger with it is refreshing but hardly compensates for the anachronism. He may relieve our hearts but does not instruct our heads when he tells us, with regard to ancient Roman society, that "the whole system was pervaded by the utter unscrupulousness characteristic of the power of capital." We are glad that he sympathises with the poorer citizens and the slaves, but not enlightened when he confuses them under the common appellation of proletariat. It is not surprising, then, that Marx, when he brought out the first volume of *Capital* not many years later, could find in Mommsen's pages no advance on the traditional account of the economic system of Roman antiquity. "In encyclopedias of classical antiquities," writes Marx, "we find such nonsense as this—that in the ancient world capital was fully developed except that the free labourer and a system of credit was wanting. Mommsen also, in his *History of Rome*, commits in this respect one blunder after another."

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So Mommsen abandoned political activity and retired into his study because the Germans were victims of political fetichism and not worthy that he should work with them. Now he emerges from his study with his learned findings and, in the essential point, he does not rise above the level of popular conception, or misconception. It is true that his chapter on *The Management of Land and Capital* in republican Rome is a masterly collection of facts, but it does not mark any theoretical advance. And it was not because Marx was unmannerly, but because he had the interests of science to defend, on which rest the life and wellbeing of nations, that he left behind him in the MS. of the third volume of *Capital* this curt comment: "Mr. Mommsen discovers a capitalist mode of production in every monetary economy." In a footnote he adds: "Mr. Mommsen in his *History* does not use the term capitalist in the sense in which modern economics and modern society does, but rather in a way peculiar to popular conception."

If we are serious about the science of history, the significance of Marx's condemnation of Mommsen is great. Marx, taking an active part in the struggle of his time, knew what the contemporary world was like and knew it for a modern thing. Mommsen, not being under the same necessity to probe the true character of the contemporary world, was not even aware how it differed from the ancient. Hence he was content to describe a master-and-slave society in terms of modern capitalist production. Failing in this way he failed in the most important function of the historian, which surely is not so much to describe incidents as to distinguish epochs. A history that confounds in a common terminology civilizations separated from one another by two thousand years and a revolution in the mode of production is not the sort of science on which successful action can be based. It was Marx, immersed in the actual struggle, who made the essential advance in theory. And how great have been the consequences that have flowed from that advance! If the industrially backward peoples of our day are finding the way to raise their standard of living on the basis of a classless society without subjection to the capitalist world, the thanks are due, not to Mommsen, but to Marx, who created the historical science on which their action is based.

It was not easy to be the creator of this new science. It was one thing to view decaying German feudal society with disgust; it was another to find the way forward. About the time Marx was beginning his university career a dramatist of genius had a glimpse of the

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truth. "To reform society from above, by means of the educated classes," wrote Georg Büchner, ". . . impossible! I have convinced myself that any well-to-do minority, no matter what concessions it may win from the people in power, will never be willing to give up its privileged position to the great masses. In social questions the only thing to do is to go from a fundamental principle—build up the people to a new spiritual life and let the worn-out society of to-day go its own way to the devil. Let it die. That's the only new thing it is capable of." Such were the opinions of Büchner. Such also were the opinions of Marx. He too turned from the educated classes. He too based himself upon the people. He too saw that the old society must die and that the people must be built up to a new spiritual life. He turned his face in the opposite direction from Mommsen and wrote, not for the decaying feudal order, which could perfectly well do with the old style of history, but for the new rising proletarian class for whose service a deeper and truer kind of history was required.

Within three years of leaving the University Marx had already written work of world-historical significance. His *Introduction to the Critique of Hegel's Philosophy of Right* already contains the promise of the new world, the new socialist world which is being built in our own day. It burns with a scorn for the Germany of his day which is no less fierce than that of Mommsen, but much more fruitful. For Marx did not nurse a grudge against the German people all his life and deposit it in a Testament to be released thirty years after he was dead. He did battle at once for the truth as he saw it. The purpose of his *Critique* is to rouse his fellow-countrymen to consciousness of their state. "Our business," he writes, "is to deny the Germans a single moment of self-delusion and resignation. The real oppression must be made more oppressive by making men conscious of it. The real shame must be made more shameful by publishing it. Every corner of German society must be exposed to view as the skeleton in the cupboard of German society. Our petrified social structure must be broken up by forcing it to dance to its own tune. To knock spirit into them, the German people must be taught to view themselves with horror."

To compass this end Marx addresses the German people at the highest level of their own theoretical consciousness. The ideology of German feudalism had just been subjected to keen analysis by the school of religious criticism of which Strauss, Bauer and Feuerbach are the best known names. Marx takes his stand upon the positions they had just won, but he sees at once, what our

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Rationalists have not yet seen, that the criticism of religion is nothing, sometimes even worse than nothing, unless it is made the starting-point for a criticism of society. For what is the point of ridding men of their illusions about the next world unless you go on to rid them of the social conditions which breed those illusions and even justify them? Marx therefore does not spare the religious consciousness of German Evangelicalism which paralysed the will of the people for progress. "Luther," he writes, "destroyed the enslavement that sprang from devotion, only to put in its place the enslavement that springs from conviction. He shattered belief in authority, only to restore the authority of belief. He changed the priests into laymen, but only by changing the laity into priests. He redeemed man from external religion, only to make religion the inner essence of man. He struck the chains off the body but fastened them on the heart." Shelley too describes how the spell of outworn creeds paralysed the work of the French revolution:

The loftiest fear

*All that they would disdain to think were true:
Hypocrisy and custom make their minds
The fanes of many a worship now outworn.
They dare not devise good for man's estate.
And yet they know not that they do not dare.*

From the religious consciousness of Germany Marx passes to the philosophical. He shows that with Hegel the philosophical movement had completed itself in the subjective sphere and must now for ever halt or pass over into action. But the only action that could complete the philosophical movement must be the building of a new society in accordance with the deepest intuition of the philosophic vision, while the only foundation on which the new society could be built was the proletariat. Marx proclaims the partnership of the philosopher with the proletariat. "Philosophy finds in the proletariat its material weapon, the proletariat finds in philosophy its spiritual weapon." "The head of the emancipation movement is philosophy, its heart is the proletariat. Philosophy cannot carry its task through without the emancipation of the proletariat: the proletariat cannot emancipate itself without carrying through the task of philosophy." Four years later than this came the *Manifesto* in which the more schematic formulations of the *Critique* were packed with the rich historical content which

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makes it the first fully satisfactory statement of the Materialist Conception of History.

Was there anything in the career of Marx as a university student which prepared and foreshadowed the splendid development of the next few years? Marx left the university with his Doctor's Degree just before his twenty-third birthday. By the time he was thirty he had written both the *Critique* and the *Manifesto*. During his last two years at the university he devoted himself to the composition of a thesis on the philosophy of Epicurus. What is the merit of this piece of work? Does it offer any indication of the Marx that was to come?

It is well-known that Marx's biographer Mehring attached little importance to the thesis, regarding it as the product of Marx's immaturity, when he was nothing more than a Hegelian idealist. Against this view there is the well attested fact that Marx himself never lost interest in this early work and more than once considered revising it for publication. There exists, in fact, a second Preface to the thesis written, it would appear, in 1858, when Marx was forty years of age. The conclusion seems irresistible that Marx himself did not share Mehring's opinion of his work. He did not think the thesis valueless nor entirely contradictory to his maturer judgment.

Marxists, of course, do not need to be reminded that Marx, among his many other attainments was a profound classical scholar. He did not lay aside his Greek and Latin after leaving the university. He read and re-read his Aeschylus. The abiding charm of the Homeric epic challenged his interest in a problem of aesthetics—how the art of simpler times retains its appeal for more sophisticated ages. Discussing the history of economic theory he will refer as readily to Aristotle as to Adam Smith. His letter to Engels in which he tells him that he has been reading Appian in the original Greek for relaxation is one of the gems of the Correspondence. These are familiar facts, yet they hardly prepare us for the extent of Marx's researches into problems of Greek philosophy. The fact is, however, that for his doctoral thesis he had mapped out for himself a large enquiry which already shows a deep sense for the social currents which determine great movements of thought.

The traditional account of the development of Greek thought presents us with a superficial scheme which still exercises an undeserved authority. The Presocratic period is presented to us as the dawn of Greek thought; Socrates, Plato and Aristotle as the

noon-day sun; the Epicureans, Stoics and Sceptics as the twilight. Against this empty formulation, which cuts the philosophic movement away from its historic setting and fits it into an arbitrary framework, Marx rebels. He refuses, in particular, to regard the later schools—the Epicureans, Stoics and Sceptics—as a mere decline. In a fine phrase, which shows him already rich in historical sense, he recalls that these schools were the guise in which Greek thought migrated to Rome. That momentous fact would suffice in itself to win them consideration even if it were not true that the modern world finds these systems so interesting in themselves that it is unwilling to let them die. Marx takes these systems as typical of an age and asks what character they have in common. This common character he identifies as a deeper self-awareness of the human spirit and agrees with his friend Koeppen in regarding this development in its historic setting as the key to the understanding of the whole development of Greek philosophy.

In all this there was a pronounced element of originality; in particular there was a marked independence of Hegel. Marx acclaims Hegel as the true founder of the history of philosophy, but goes his own way. The period to which Marx attached such great importance was one which Hegel had misconceived and belittled. Marx, however, was not given the leisure to pursue his study as originally planned. He had intended to embrace the three later schools in his enquiry, but Bauer kept appealing to him not to make too heavy going of a mere university exercise, to despatch it as quickly as possible, and come and join him in the battle of ideas then raging in Germany. Marx acknowledged the force of this appeal and limited his subject to more manageable proportions. The thesis as presented for the degree dealt only with *The Relation of the Philosophy of Epicurus to that of Democritus*. Academically it remains a matter of regret that the full scheme had to be laid aside; it is some compensation that the portion completed handles a problem of capital importance in the history of ideas. The problem resides in the fact that, while Epicurus borrowed from Democritus the atomic theory of matter which forms the basis of his system, his philosophy in its purpose and spirit is radically different. This complex relationship between the two systems had been most inadequately described, and constituted an unresolved problem in the history of thought. Marx hoped to be able to give it a satisfactory solution.

In the notes made in preparation for his dissertation Marx speaks

of the principles which should control such an enquiry. The would-be reconstructor of an ancient system of thought must not be content to dwell among the incidentals of the system but must seek to lay bare its central thought. Having done this, he must fix the system as a moment in a larger historical development. Finally, having grasped the system in itself and in its context, he must record exactly what he finds, neither adding nor altering but concerned only to make an accurate transcript.

To select such a problem and lay down such excellent methodological principles argues a deep appreciation of the nature of historical study in philosophy. To carry through the research in the conditions of the time required such additional qualities as would have put it out of the reach of most scholars. In the century and more since Marx wrote his thesis a host of trained enquirers have gathered, classified and interpreted the materials on the examination of which the solution of Marx's problem depends. This work had not been done in Marx's day. He had to gather the material himself from multifarious sources and find his own way to its meaning. Yet it is the testimony of one of our most eminent authorities in this field that Marx triumphantly surmounted this difficulty. "Looking back at his work now," writes Dr. Bailey, "it is almost astonishing to see how far he got considering the materials then available. . . . There was no Diels, no Usener, and the whole wealth of material collected from casual references was as yet unavailable. . . . Yet Marx shows a penetrating acquaintance with the two philosophers, and produces in his notes a considerable array of illustrative passages, drawn nearly entirely from the main authorities." Dr. Bailey, in making these remarks, had before him the edition of the Thesis in the first volume of the *Collected Works*. His judgment bears out the opinion of the editors of this edition that the condemnation of Mehring had been much too hasty. Mehring in fact had quailed before the task of interpreting the mass of notes Marx had left. Those who know Marx's handwriting will not find it in their hearts to condemn Mehring. All the more honour, however, to the editors of the *Collected Works* who have given us the materials for a sounder judgment.

Accepting, then, the fact that Marx, by a remarkable feat of scholarship, had managed to familiarise himself with the scattered materials on which a solution of his problem depended, what use, we may ask, did he make of these materials. Briefly this is what he says. Democritus, coming at the end of the fifth century, summed

up in his atomic theory some two hundred years of Greek physical speculation. His doctrine of the atom was a generalisation of the physical knowledge of his day. He therefore granted to his atoms only such qualities as would enable them, by entering into combinations with one another, to produce the familiar world of sense phenomena. His atomic theory was thus an hypothesis to serve as a base for the natural sciences. It carried with it a belief in the universal reign of the law of cause and effect. Philosophically Democritus was a determinist. Epicurus, at the dawn of the third century, constructed his system under very different conditions and for a very different purpose. His age demanded of philosophy that it should provide a guide for the individual in the conduct of life at a period of social collapse. Accordingly Epicurus was primarily concerned to assert the autonomy of the individual will. He accepted from Democritus the atomic theory as in the main a correct account of the constitution of matter, but he repudiated the philosophical doctrine of determinism. Though he was the greatest of all ancient emancipators of the human mind, he did not hesitate to state that he preferred the myths of religion to the determinism of the philosophers. He therefore made such changes in the description of the atom as he conceived necessary to preserve the freewill of the individual. He gave to each atom a separate existence and made the fact of their combination depend on a spontaneous movement of escape from the domination of physical necessity. This conception of the atom allowed both for the development of a world of nature under the rule of law and of a human society that was both part of nature yet distinguished from it by being the theatre of human will.

Thus the heart of the two systems is different, and this difference persists in the views of the two philosophers on the problem of knowledge. Democritus taught that sense knowledge was delusory and did not give knowledge of reality; Epicurus insisted that sensation was essentially knowledge of reality. From these divergences in theoretical consciousness there flowed, as Marx points out, a difference in the practical conduct of their lives. For Democritus knowledge of the atomic theory was truth; but it was meagre in content and stationary. Driven, therefore, by this inner emptiness of his system Democritus was restless,—physically restless in the sense that he was a great traveller, mentally restless in the sense that he was an amasser of information, enamoured of positive knowledge. Epicurus, to whom sensation gave knowledge of reality,

was equally in touch with reality everywhere and his knowledge was not static but growing. He had not the urge for travel or the amassing of facts. He founded a school and offered help in living. Not the least interesting result of this analysis is that it reverses the traditional judgment on the two men. Tradition had made of Democritus the profound philosopher and of Epicurus the shallow imitator. Marx makes Epicurus appear the deeper of the two, the man who laboured to give his system inner coherence, who found room in it both for nature and society, for the external world and the demands of the moral consciousness. These conclusions must, of course, abide the judgment of scholarship. For myself I can only say that this unpublished youthful work of Marx seems to have anticipated the direction in which Epicurean studies have progressed in the last hundred years. It is a pleasure to record also that Dr. Bailey is in general agreement with the findings of Marx. "The contrast" drawn between the two philosophers "is in general true, and Marx was probably the first to perceive it."

Marx was thus right to feel that, if he could have found time to revise and publish his thesis, he would have made a contribution to the interpretation of the thought of classical antiquity and have displayed the efficacy of his method in a new field. For such we must presume were the only motives that could have influenced Marx to give this study to the world. We now can see that Marx was eminently qualified to contribute to the understanding of Epicurus. In conclusion we may ask whether Epicurus and Lucretius had not something to contribute to Marx. We think of the various influences that went to his make-up. Baptised a Christian, confirmed in the Evangelical Church about the age of sixteen (an age when Marx was sitting up and taking notice), grounded at the gymnasium in the Greek and Latin classics, devoting himself at the university to the study of law and the practice of poetry until the superior claims of the Hegelian philosophy asserted themselves, he was well equipped, so far as formal education went, to be the founder of a science of human society. But, cast as he was to play an epochal role in the unfolding of human destiny, we may perhaps conclude that his selection of Epicureanism for the subject of his study and meditation in his last two years at the university was no academic accident but the result of a real affinity of spirit. His delight in the thought of Epicurus and Lucretius is visible in every page of his work; and his long dwelling on the brilliant anticipations of a philosophy of history to be found in the materialist philosopher and

the materialist poet form a natural preparation for his own greater achievement in this field. Marx was interested in Epicurus because he marked an advance in human self-awareness and in human freedom. These remained throughout life the concern of the great scholar and revolutionary.

Bibliographical Notes and Acknowledgment

Text of the *Dissertation* and *Notes* and the *Introduction to a Critique of Hegel's Philosophy of Right* in *Marx-Engels Gesamtausgabe*, Erste Abteilung, Band I. Frankfurt, 1927.

Mommsen's *Testament*, reprinted from *Die Wandlung*, iii, 1948, in *Athenaeum*, Nuova Serie 26, 1948.

Some information about Mommsen's career in Sandys, *History of Classical Scholarship*, vol. iii.

The review of Marx's *Dissertation* by Dr. Cyril Bailey in *Classical Quarterly*, XXII, 1928.

Mr. Kurt Karl Merz has translated Marx's *Dissertation* into English and written a long introduction to it. This work is still unpublished but Mr. Merz has allowed me use it in typescript. Without this invaluable aid I should not have been able to carry my study of the *Dissertation* even so far as appears in this lecture.

For an extended scholarly account of the contents of the thesis see Henry F. Mins: *Marx's Doctoral Dissertation*, Science and Society, XII, i, 1948.

BY MAURICE DOBB

ROSA LUXEMBURG will go down to history as a great socialist, who fought to keep alive the revolutionary traditions of the working class in the years when the tide of Revisionism was setting strongly in German Marxism, with its corrupting influence over the Labour movement. Her writing had a compelling vigour and freshness; in polemic she was both trenchant and unusually skilful; at the same time the thought behind her writing was impressive in its range and insight. Many will find an interest in this English translation of her well-known work¹ as their first introduction to this figure of international socialism and to her much-debated theory.

Her *Accumulation of Capital* (first published in 1913) was both a study in the Marxian theory of crises and a preliminary sketch for a theory of imperialism. Its outstanding quality is the distrust which it shows for theories tending to demonstrate that a smooth and harmonious development of capitalism is possible, whether *via* universal free trade or *via* some kind of "planned capitalism." A large part of the work (some 150 pages) consists of a polemic against such views, from J.-B. Say to Tugan Baranovski. She is even critical of Marx's formulæ when they seem to her capable of such an implication. In particular, she is concerned to stress that capital accumulation necessarily, from its essential nature, involves an unsold surplus of commodities, which can only be marketed *outside* capitalist society *per se*. This is her famous theory of the "external (or third) market": that capital accumulation can only proceed at all if new demands are continually tapped in non-capitalist strata (small commodity-producers, etc.). Thus "colonies" are not incidental adjuncts of Capitalism, but essential to its very being; and predatory expansion, battenning on petty commodity production and eventually destroying it, is part of Capitalism's very nature. As she puts it in her powerful concluding paragraphs: "It (Capitalism) is . . . the first mode of economy which is unable to exist by itself, which needs other economic systems as a medium and soil. Although it strives to become universal . . . it must break down—because it is immanently incapable of becoming a universal form of production" (p. 467). For many readers the most interesting will be those chapters in the third and final section of the work,

¹ Rosa Luxemburg, *The Accumulation of Capital*. Translated by Dr. A. F. Schwarzschild, with an Introduction by Joan V. Robinson, M.A. (London, Routledge and Kegan Paul), pp. 475, 35s.

in which she describes the methods of capitalist expansion into colonial territories, including her richly factual accounts of the British in India, China, Egypt and South Africa, the French in Algeria, and American capital penetrating its own hinterland.

In the more strictly theoretical core of her work her intuition has much more to commend it than her analysis. She has the virtue of emphasising that the process of accumulation requires, not merely certain proportions (or "equilibrium conditions") between different sectors of production (as economists from Say and Ricardo to Tugan Baranovski had stated), but also certain proportions between productive power and consumption; and that moreover under Capitalism production has a tendency to proceed faster than consumption. In other words, her emphasis was upon the reality of a problem of so-called "realisation" of surplus-value, as well as of production of surplus-value; and upon the fact that the conditions of the one were apt to stand in contradiction with the conditions favourable to the other. But her analysis of why this was so, and in particular her critique of Marx's formulæ of "expanded reproduction," shows a good deal of misunderstanding and confusion. The result is not only of formal interest: as we shall see, it had the effect of giving certain misleading twists and emphases to the practical implications of the theory.

The first misunderstanding (if the reviewer has grasped her rather prolix argument correctly) relates to Marx's arithmetical examples in Vol. 2 of *Capital*, which she takes as her starting point. These examples were designed to show the relations which would need to hold for expanded reproduction (i.e. a process of annual net investment) to take place and continue of its own momentum. Marx's "Second Illustration," which she quotes on p. 333, represented expanded reproduction *at a constant rate*: all the main quantities growing in the same proportion (as Mrs. Robinson points out in her Introduction, and illustrates in a commendably simplified example). In this case expansion was assumed to occur without any change in composition of capital or in the rate of surplus value; while the proportion of capitalist income saved remained constant, and consequently both saved income (or accumulation) as a proportion of net income ($=V+S$) and the relation between the two departments of production (means of production and means of consumption) also remained constant. This model is criticised by Rosa Luxemburg as quite unreal. (It is of course abstract, but not unreal in the sense that it

could not correspond to reality even as an approximation. She does not seem to understand that development *can* at times occur on the basis of the same organic composition, provided there are sufficient reserves of labour-power available.) She accordingly substitutes for this model one (p. 337) in which *both* the composition of capital is changing *and* the rate of surplus value is rising due to rising productivity of labour. (It is to be noted incidentally that in the example she chooses the rate of profit would actually be rising, as she herself points out on p. 338.) She then shows that in such conditions there will always be a problem of unsaleable surplus of consumer goods in Department 2. Unless these can be sold outside the system, the capitalists in this group of industries will be unable to realise their surplus value in money form, and the process of capital accumulation must break down.

Corresponding to this surplus of consumer goods is an actual deficit of means of production (the one being the obverse side of the other). Curiously enough, having pointed out this deficit, she seems to forget it on the very next page (and at some stages of the subsequent argument), and to speak as though the problem were one of a surplus of means of production also. This apparent confusion is not, however, of major significance. More significant is an apparent failure to see that the result, to which she attaches so much importance, depends, not on the change in the organic composition, but on the rise in the rate of surplus value, which (on the assumption that capitalists save a constant proportion of their surplus value) means that the *saved part of the income must grow as a ratio to newly-created value, or net income* (total $V+S$). Hence it is, not *any kind* of expanded reproduction, but expansion involving *this* kind of change that creates a problem of "realisation," owing to productive power in Department 2 running ahead of consuming power. As Lenin said, disproportion between productive power and consuming power is only one, if a very important one, of the many-sided contradictions of capitalist development; and to a considerable extent accumulation *can* (and does) take place on the basis of an expanding "internal market."¹

As a matter of fact, it is possible even for the above mentioned ratio to rise, *provided* that this is sufficiently offset by a simultaneous

¹ Cp. for Marx's statement of these conditions, p. 604 of Vol. 2. Cp. also Sweezy's analysis in *Theory of Capitalist Development*, p. 164. Incidentally the reviewer's own statement of the conditions in a footnote to p. 107 of his *Political Economy and Capitalism*, 1940 edition, is wrong, since it fails to allow for the increase of variable capital.

rise (due to technical change) in the average composition of both departments and (as the necessary corollary of the latter) an expansion of Department 1 at a *faster* rate than Department 2. Then, and only then, will the increased saving be prevented from being abortive (to use a modern way of expressing it). This is illustrated in another of Marx's examples: his "First Illustration" (first stage, pp. 596-8); and indicates that Rosa Luxemburg was wrong in suggesting that the realisation difficulty arose necessarily and directly from a rise in the composition of capital. (It is to be noted that in her own example on p. 337, Department 1 is *not* made to expand faster than Department 2, and it is therefore hardly surprising that her model should run into difficulties.)

Actually Marx had himself drawn attention to this "realisation" difficulty in a still earlier example (p. 591 of Vol. 2) where examination of his figures shows that reproduction must have been taking place *at an increasing rate* (in the sense of a rise in the ratio of accumulation to net income) without any change in composition of capital. (Alternatively one can put it that Marx's "conditions" are not fulfilled in this case, and the ratio of accumulation is too high for the size of the consumer goods industries as compared with the size of Department 1.) For this case he himself poses the question: how in these circumstances do the capitalists in the consumer goods industries realise (by sale) their surplus value in the form of money—money which they can invest in new means of production? This is equivalent to asking how accumulation can ever proceed at an increasing rate, or for that matter ever have got going at all. Marx reserved his answer to this riddle until the very end of Vol. 2; where the answer he gave was that the capitalists of Department 2 sell their products *against gold* to the gold producers (who are implicitly included in Department 1). The point of this answer is not I think that money thereby comes into the system (as Mrs. Robinson asserts), but the fact that an exchange with gold producers represents a one-sided exchange of goods against money, and not of goods against goods.

This leads us directly to the second misunderstanding. Rosa Luxemburg, having posed this problem of markets, goes on to speak of *foreign trade* as the solution which capitalism finds for its crucial difficulty. (See especially p. 359: "international trade is a prime necessity for the historical existence of capitalism.") But foreign trade is normally a two-way traffic: it is an exchange of goods against goods; export of goods is matched by

import.¹ What is needed to assuage a crisis of over-production is an *export surplus* from the capitalist world. Since goods are never given away, this implies an export on loan, i.e. an export of *capital*.

That this point should not have been appreciated, apparently, by Rosa Luxemburg is strange. It leads to an over-emphasis, when she comes to imperialism, upon the search for markets and a tendency to neglect the central rôle of export of capital. While she devotes a chapter to international loans and refers to the need for new proletarian strata in the colonies to exploit, she seems to treat capital export, not as an essential element, but as incidental to the subjection of colonial areas and the break-up of pre-existing "natural economy." Moreover, her notion that accumulation is *never* possible without an external market leads to a treatment of colonial exploitation as a product of capitalism at all stages (since the days when it thrived on primitive accumulation) rather than of capitalism at a relatively mature stage. It also carries the implication that the "collapse of capitalism follows inevitably as an objective historical necessity" when there are no more "third markets" left to conquer (p. 417); even if "a string of political and social disasters and convulsions" (p. 467) is likely to bring about its downfall before that point of final mechanical breakdown is reached.

It is interesting to note that the standpoint of Rosa Luxemburg bears a striking analogy with that of the Russian Narodniks whom Lenin had criticised nearly 15 years earlier in the first chapter of his *Development of Capitalism in Russia*. The Narodnik writers also had spoken of the impossibility of realising surplus value without the aid of an external market, and had identified this problem with that of an unsaleable surplus of consumer goods. (From this they had drawn the conclusion that Russian capitalism was an alien and artificial growth and had no future.) Lenin's statement has already been quoted that the "striving towards unlimited expansion of production and limited consumption" is "not the only contradiction of capitalism" (Lenin, *Sochinenia*, 4th edition, Vol. 3, p. 36). This was one form in which disproportion between the various branches of production might be expressed; and such disproportion could create difficulties "not only in the realisation of surplus value, but also in the realisation of variable and constant capital; not only in the realisation of products in

¹ True the problem implied in her particular example could be met by an export of consumer goods against imports of producer goods; but this is not the universal pattern of foreign trade, least of all in the most mature capitalist countries where heavy industry exports play an increasing role.

means of consumption, but also in means of production" (*ibid.*, p. 25). He went on to emphasise that the growth of capitalism is invariably associated with a faster rate of growth of capital goods than of consumer goods: since "according to the general law of capitalist production constant capital grows more quickly than variable," it follows that "the department turning out means of production must grow more quickly than that which turns out means of consumption. Thus the growth of an internal market for capitalism is to a certain extent 'independent' of the growth of personal consumption, being accomplished rather at the expense of productive consumption" (i.e. investment in constant capital). This might seem paradoxical, since it involved "'production for production'—an extension of production without a corresponding extension of consumption." But this, he declared, was "a contradiction not of doctrine, but of real life," pertaining to the essential nature of capitalism (*ibid.*, pp. 32, 34). Indeed, it was precisely in this expansion of production without a corresponding expansion of consumption that the historical mission of capitalism consisted. Such a contradiction was the very stuff of development of capitalism; and while it contained the germ of periodic crises, it in no wise implied the mechanical "impossibility" of development without an external market.

Mrs. Robinson in her Introduction strives to summarise the main points of Marx's and Rosa Luxemburg's analyses, which she does with her usual lucidity of exposition and with an eye to translation of their ideas into terms familiar to academic economists. Translation, however, is apt to be a slippery business when it is not merely a question of finding equivalent symbols for the same notion, but where the notions themselves are different. Naturally interpretations of a doctrine such as Rosa Luxemburg's (which is often far from rigorous in its exposition) must be expected to differ. (Compare, for example, the interpretation given in this Introduction with that given by Sweezy.) All the same, one cannot help feeling that the attempt of the Introduction to show Rosa Luxemburg as a forerunner (if primitive and in some respects misguided) of Keynesian doctrine, and to treat her analysis in this setting, has resulted in her argument suffering a misleading gloss in several places, and in her being given both too little credit as a critic of Capitalism and too much credit as a reviser of Marx. But one can wholeheartedly agree with the conclusion that "this book shows more prescience than any orthodox contemporary could claim."

The Origins of Modern Science

BY S. LILLEY

TILL very recently the orthodox historian has almost always neglected science. In the last few years, however, some have come to realise that science has been a far from negligible factor in the historical process and therefore cannot be neglected. The book under review¹ merits serious attention as the first major English product of this new trend. The place in history which Professor Butterfield gives to science is indeed a high one. Speaking of the Scientific Revolution which centres on the 17th century, he writes (p. viii) that "it outshines everything since the rise of Christianity and reduces the Renaissance and Reformation to the rank of mere episodes . . . within the system of mediaeval Christendom." He is not, however, mainly concerned with demonstrating this point, with describing or assessing the effects of the scientific revolution on modern history; only two of his less satisfactory chapters are devoted to this topic. Rather he is attempting to rewrite a part of the history of science itself as he feels a historian should write it—presumably as a preparation for some future rewriting of history as a whole in which science shall take its proper place.

Butterfield is right, of course, in assuming that the history of science, even as a "thing in itself," needs rewriting. Undertaken largely by scientists or ex-scientists without historical training, it has remained mostly a matter of collecting biographies or of drawing straight lines from one great figure or discovery to another. Even work which has attempted a more subtle approach has usually failed to achieve adequate historical perspective. The historian ought to be able to give the subject a superior degree of organisation. And in many parts of the book Butterfield does succeed in giving a new integration, a new coherence to developments, where previous treatments have simply failed to make historical sense. The three chapters that trace the history of astronomical thought from Copernicus to Newton are specially noteworthy. Copernicus is far too often regarded as a conscious revolutionary (within science) who intentionally upset the existing scheme of things and so began one of the main movements of the scientific revolution. He is better

¹ H. Butterfield, *The Origins of Modern Science: 1300-1800*; pp. 217. G. Bell and Sons Ltd.; 1949, 10s. 6d.

regarded as one who pushed a mediaeval line of research so far that it revealed its contradictions, and so set a problem whose solution at a later date did help to found modern science; and though Butterfield would probably not accept the conclusion in that form, he does marshal the evidence to show how essentially conservative Copernicus' thought was. The period of more than fifty years during which the Copernican hypothesis was accepted by only a tiny minority has usually been regarded as a rather inexplicable curiosity or as a demonstration of stupid prejudice on the part of contemporary scientists. Butterfield clears these misconceptions away by putting the work of Copernicus in a wider context. The old geocentric theory had been an integral part of a remarkably self-consistent philosophy of the whole universe—of its physics and mechanics as well as its astronomy. To accept Copernicanism was to reject the whole body of existing (scholastic) science. Thus Copernicanism could not become generally acceptable until the early 17th century, when a new dynamics was in the process of creation, with which Copernican astronomy was not in obvious conflict. (It is a pity, however, that Butterfield ignores the different nature of 17th-century opposition to Copernicanism, which had its roots in the association of the Church with dying feudalism.)

Many other examples could be mentioned. And more generally, by merely bringing the trained historian's habits of thought to bear on quite familiar material, Butterfield is able to exhibit the diverse movements of thought during the scientific revolution as elements of a coherent process to a far greater extent than any other writer I know. If I devote the rest of this review to exposing what I consider to be inadequacies in the book, I do not mean thereby to suggest that it is of small value. On the contrary, it will for some years to come form part of the essential reading of anyone who wishes to understand the history of science or the role of science in history. Precisely because the positive features of the book are so great, it is very necessary to analyse its negative aspects.

Some minor criticisms arise from a failure of the author here and there to understand fully the scientific points involved. These mar the chapter on chemistry. And more seriously the whole chapter on the experimental method in the 17th century is spoilt by what I believe to be a fundamental misunderstanding of the essence of the experimental method. Butterfield appears to regard this essence as the frequent use of experiments, rather than the use of even a few experiments correctly related to theory—basically,

experiments used to test hypotheses by the familiar process of deducing consequences and comparing them with experimental results. The mere quantity of experimentation is not important; the distinguishing feature of the experimental method is reliance on experiment—perhaps only two or three well chosen experiments after volumes of theoretical discussion—as the *ultimate* test of truth. But Butterfield, with his emphasis on the number of experiments performed, seems to be suggesting that one worker used the experimental method with little effect, when in fact he was merely piling up experiments at random; and at another time he seems to say that Galileo did not really rely on the experimental method, merely because mathematical argument bulks so large in his work and he is willing sometimes to reject experimental results after critical examination. All this, unfortunately, serves to bolster up the “new thinking cap” argument which I shall discuss later. But it is necessary to pass to broader considerations.

As a *description* of the development of *thought* which constitutes the scientific revolution, this book is very illuminating. But the italicised words denote limitations which destroy a large part of its value. It is concerned largely with thought, and not, for example, with the development of experimental or observational techniques—a bias that is, perhaps, excusable in a historian, though that does not make it objectively less of a distortion. The other limitation is more serious. Whether the book was intended to uncover the *causes* of the scientific revolution is never made clear, though the title would hint that it was. It does not, in fact, succeed in doing so. But the very fact that the description is so good, that the contradictions and absurdities of earlier treatments have been removed, and that the coherence of the whole process is so clearly exhibited, will surely give to the majority of readers the impression that the causes have been revealed, and will give an entirely wrong idea of what those causes are.

There have been three main views on this matter hitherto, besides the Marxist one: (1) that modern science owed little to the Greeks and almost nothing to the men who groped in the mediaeval night; and by implication, since no other sources are suggested, that the scientific revolution arose from the fortuitous or providential arrival on this earth of an unprecedented collection of geniuses; (2) that modern science was essentially a continuation of Greek science, which had been accidentally lost during the mediaeval darkness and was recovered by the Renaissance; (3) that modern

science is a direct continuation of mediaeval, that nothing essentially new happened in the 17th century, though perhaps the men of that century did succeed in combining into a whole and stating clearly many trends which the mediaeval scholastics had only grasped in an isolated way and rather vaguely.

Suggestions of all three of these views occur in Butterfield's book. Much of his first chapter reads like an exposition of the third theory—an attempt in the manner of the Duhem school to derive the inertia of modern mechanics from the theory of impetus developed by the scholastics from the 14th century on. Yet he cannot gainsay the fact that there is a long gap between the last active developers of the impetus theory and the first gropings towards inertia in the immediate predecessors of Galileo. Elsewhere (e.g. pp. 65ff.) he appears to me to exaggerate the debt of the moderns to the Greeks. He does not go so far as to say (on the lines of theory 2) that the modern development is a mere continuation, after an interruption, of the ancient—and indeed in another place (p. 163, in a context where it can hardly correct any wrong impression derived from the earlier passage) he brings forward the obvious refutation of that view: that the Greeks showed no signs of developing in the direction of modern science. But he does believe (p. 67) that ancient mathematics and particularly the works of Archimedes were “a body of knowledge which, so far as one can judge, it was necessary to recover before all the components of the scientific movement could be assembled together and the autonomous efforts of scientific enquirers . . . could properly be put into gear.” It is, of course, agreed that the moderns made eager use of the hoard of ancient mathematical tools which they found in Greek works. But the general tone of the scientific revolution suggests strongly that this was only a secondary effect: the new scientific movement had far stronger driving forces; it gratefully used available tools, but if they had not been available it would have fashioned them for itself at the cost of a decade or so of delay.

It cannot, however, be denied that the early modern scientists owed something to both the Greeks and the mediaevals. And though he seems to me at times to exaggerate these debts, and to lean too much towards theories (2) and (3), Butterfield is too sensitive a historian not to recognise the essential novelty of the scientific revolution. On the first page of the book he writes that the crucial revolutions in both celestial and terrestrial physics

were not brought about by a mere piling of discovery on discovery, “not by new observations or additional evidence . . . but by transpositions that were taking place inside the minds of the scientists themselves.” He compares these transpositions to “putting on a different kind of thinking cap.” And this point is reiterated again and again throughout the book.

Now these phrases have the merit of emphasising clearly the essential novelty of modern science. It can *not* be explained as a mere logical continuation of its ancient mediaeval forerunners, no matter how much the moderns may have found it convenient to use the stones of old buildings in erecting their new edifice. The moderns have a new attitude to the world around them; and it is this not a mere increase of evidence or a mere continuation of existing theoretical trends, that creates modern science. But where did the new attitude, the new “thinking cap,” come from? It is here that Butterfield leaves us high and dry. His philosophy of history leads him to the desire to see the origin of thoughts only in other thoughts, and that is why he is led to half-hearted attempts at deriving modern thoughts from mediaeval or ancient—only to be arrested by the unavoidable realisation that there are novelties in modern thought that cannot be derived in this way. The result is his resort to the metaphor of the new “thinking cap,” but with no effective suggestion of where this remarkable piece of headgear came from. And this is merely a return to the first theory of the scientific revolution. Butterfield would not, of course, be so crude as to say that a fortunate concurrence of geniuses in the 16th and 17th centuries produced the new attitude of mind; but for lack of any alternative explanation that is the conclusion to which the reader must be driven.

This is a dilemma from which the historian can rescue himself only if he is willing to use the Marxist method and to consider the history of science as a part of the whole social process. We need not assert, as some mechanical pseudo-Marxists have tended to do, that the “internal” development of science is unimportant, that little is to be gained by investigating how a man's work is logically related to that of his predecessors, that the scientific work of any period is solely a response to the contemporary social environment. But we must recognise that many crucial developments in science can *not* be explained in terms of internal growth alone, but must be explained as the result of the impact of the whole social environment on the already existing science. One of these is the new

“thinking cap” which Galileo and his contemporaries put on.

It is particularly to be regretted that when a general historian turns to the history of science he should treat it so much as an isolated development as Butterfield has done. He does not completely ignore the interaction between science and its social environment. One source of the new “thinking cap,” he agrees, may be the fact that in considering motion, Aristotle thought of a horse and cart, while the moderns thought of a projectile (pp. 14, 105). Galileo’s interest in problems of shipbuilding, artillery and pumping are mentioned (p. 80), with a hint that it may explain something of his down-to-earth sensibleness in mechanics. And quite a few more examples could be mentioned. But such scattered allusions and hints do not amount to a consideration of the relations between the scientific revolution and its social background. Since the intellectual development is described connectedly and in detail, while its relations with all the rest of history are merely hinted at here and there, the reader is naturally left with the impression that the social factors count for little; and so he must still be driven to the conclusion mentioned in the last paragraph but one.

But any serious treatment of cause and effect cannot possibly ignore the fact that this scientific revolution is closely correlated in space and time with a far wider economic and social revolution—with the bourgeois revolution in the widest sense of the term, the whole lengthy process of the decline of feudalism and the rise of capitalism. Towards the end of the book Butterfield gets as far as admitting that the scientific, industrial and agrarian revolutions are all “aspects of a general movement” (p. 170). But he does not mention that they are all aspects of the bourgeois revolution; still less that, even added together, they are far from constituting the totality of that revolution.

In my belief, it is only by considering the scientific revolution as an aspect of the bourgeois revolution that its causal origins will be understood. It would be impossible here to sketch how that understanding is to be achieved—much of the necessary research remains to be done, while to state what has been done would require a book rather than a paragraph or two in a review. But a few brief hints may be given. Modern science arose with the bourgeoisie—it was created mainly by members of that class or by people closely associated with them. The characteristics of this modern science and the reasons why it appeared where and when it did can be understood by considering the nature of the bourgeoisie

as a class—more particularly by considering the relations of this class to (a) the processes of production and (b) the society of which it forms part. To take the former, it is broadly true that in no previous society had the ruling class (or a revolutionary class on the way to power) been greatly concerned with the organisation and control of the processes of production. All previous ruling classes had been concerned with the control and exploitation of the producer, but not (except in minor ways) with the process of production itself. The lord of the manor, for example, ruled his serfs, and “accepted” dues from them; he did not direct the agricultural processes as a capitalist farmer does—much less did he, or the king or the bishop, supervise the methods of working of the master craftsman. Hence in the pre-bourgeois stage, production and the organisation of productive processes were carried out by the same people—the peasants or the artisans. With the rise of capitalism, on the contrary, a division takes place *within* the sphere of production itself: the capitalists organise, direct and control production, but do not themselves produce; the wage workers produce, but only according to the orders of their masters. The capitalist class is therefore interested in processes of production¹ as such, in a way that no previous class was—not as actual producers, but as directors of production. To the pre-capitalist artisan, theory and practice were one; his knowledge was in his hands; he had no need for a theory separate from his practice. But the capitalist, who has to organise production while not actually producing with his own hands, is denied the craftsman’s direct knowledge of materials and processes; he must find instead a generalised theoretical method of dealing with material things; he needs a method of dealing with reality, not through the feel of his hands, but by thoughts and words of command. Furthermore, it must be a theoretical method that will stand up to the test of practice—orders given to the workers must lead to successful production. In no pre-bourgeois society did the ruling (or any influential) class have need of theoretical knowledge that would pass this test of practice (there are a few exceptions, like the geometry of Pyramid building or the theory of Hellenistic artillery).

One obvious deduction from this is that the bourgeoisie would favour science as a way of solving the technological problems they

¹ In “production” here we have also to understand such things as navigational techniques which “produce” transportation and accountancy which “produces” accurate knowledge of costs and prices.

encountered. And Hessen,¹ Merton² and others have shown that the lines of research most vigorously pursued in the 17th century were significantly related to the technological problems of the bourgeoisie. That is not to say, of course, that all scientists were consciously working to improve production (or navigation, etc.)—some were, some were not. But the bourgeois need for a generalised, theoretical method of solving technological problems, added to the tremendous increase in the complexity of these problems which their expanding business created, provided one of the main reasons why 16th and 17th century society favoured science and encouraged scientists as no previous society had done.

That, however, is by the way for the moment, for I am more concerned with showing how from this viewpoint we can resolve the mystery of the new "thinking cap." This enchanted piece of headgear, I suggest, is in large measure one aspect—naturally a very refined aspect—of the type of outlook developed by a class which needs to control the processes of production while not actually producing (or more generally developed in a society in which such a class is influential). Concretely the process of creation of the new "thinking cap" took many and subtle forms. To mention but one, the capitalist mode of production and the transitional forms that preceded it opened up new channels of communication between craftsman and scholar—the increasing interest in craft matters shown by scholars from Rabelais and Vives on through Gilbert and Galileo to Boyle and the early Fellows of the Royal Society merely reflects the need to organise production in a theoretical manner, i.e., the need for the ruling class or its intellectual representatives to understand in a generalised way how the craftsman works. Hitherto only the craftsman had enjoyed real positive knowledge of the properties of material objects, and only he had been accustomed as a matter of daily practice to rely on empirical test. On the other hand, only the scholar had a systematic and theoretical training. A coming together of craftsman and scholar, leading to a combination of the craftsman's empirical attitude with the scholar's system and theoretical way of thinking, was one of the chief sources of the method of modern science. Experimentation as a habit arose among craftsmen—like Leonardo da Vinci—who had attained a special status in the new society.

¹ B. Hessen, "The Social and Economic Roots of Newton's 'Principia,'" in *Science at the Cross Roads* (London, Kniga, 1931).

² R. K. Merton, "Science, Technology and Society in Seventeenth-Century England," *Osiris*, 4 (1938), pp. 360–632.

It is such men, piling experiment on experiment unsystematically, who have misled Butterfield into giving experimental method too low a place in the scientific revolution. But, in fact, they did not reach the experimental method, because they had no way of relating their experiments correctly to theory. The experimental method only arose at the very end of the 16th century and during the 17th, when the social trends to which I have referred put some scholars in such intimate contact with production processes and manual producers that they came to realise the value of the craftsman's experiments, and then discovered a way of synthesising experimental test with scholarly theory.¹ Seen in this context, Galileo's contacts with the artisans in shipbuilding or pump erecting and his own clear statement that he learnt much from the crafts achieve a new significance, which is quite lost when Butterfield refers to them without noting the whole background of social change. Galileo, in fact, inherited at Padua the tradition of the best scholastic methodology, learnt from the ship-builders of the Venetian arsenal the value of empirical test, and combined the two to create modern scientific method. Taking learned methodology to the arsenal and bringing back experimental method is but a personal embodiment of controlling production theoretically—and of course, Galileo was only the best of many in whom the same process was taking place.

The last paragraph sketches only one aspect of what can be learnt about the origins of the scientific revolution in general and the new "thinking cap" in particular by considering the relation of the bourgeoisie to production. And as much again can be learnt from their relation to society as a whole. The transition from the hierarchical universe of Aristotle and the Middle Ages to the progressively more "democratic" universes of Copernicus, Gilbert, Kepler and Newton, reflects the struggle for the abolition of feudalism and the creation of a bourgeois-democratic society. Much of the success of the moderns arose from their willingness to accept solutions of isolated problems (like how fast a stone falls) without

¹ For a fuller exposition of this thesis see Edgar Zilsel, "The Origins of William Gilbert's Scientific Method," *J. Hist. of Ideas*, 2 (1941), pp. 1–32, and "The Sociological Roots of Science," *Amer. J. of Sociology*, 47 (1942), 544–62. For a less clear account of the role of the crafts in the formation of the mathematical element in scientific method, see Edward W. Strong, *Procedures and Metaphysics* (Berkeley, 1936). Zilsel's work is perhaps the biggest single contribution in recent years to the understanding of the origin of modern science (a bibliography of it appears in *J. Hist. of Ideas*, 11 (1950), p. 235). It is remarkable that Butterfield makes no reference to it and, so far as I can see, makes no use of it, though it was all published by 1945.

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worrying about how these would fit into a general philosophy of the universe—and the capitalist's attitude to economic society is clearly reflected in that. The new emphasis on the quantitative has only too obvious relations to economic changes. And so one could go on.

Of course, the connection between the bourgeois revolution and the changes in science is often indirect. One chain starts with the needs of the 14th century Florentine bourgeoisie for a new, realistic type of art,¹ carries on through the painters' studies of perspective, hence to the outlook of 15th- and 16th-century artists who placed their figures and buildings in an abstractly constructed space instead of building space round the objects, and so eventually to the concept of a pre-existing abstract Euclidean space into which the material universe is fitted—a concept fundamental to 17th-century scientific thought. Or again, much of the outlook of 17th-century English scientists can be understood only through their affiliations to Puritanism, the creed of the English revolutionary bourgeoisie. Proceeding in this way, it is possible to explain many—and presumably, in the long run, all—of the elements that make up the scientific revolution as derived directly or indirectly from the great economic and social change of the period, or from the impact of this change on the heritage of classical and mediaeval science.

But enough has been said to show that there is really nothing mysterious about the new "thinking cap". It was spun, woven, cut and stitched by the bourgeoisie and their allies. It is only when one looks for origins exclusively in the field of pure thought that the "thinking cap" appears to be without antecedents.

The extreme danger of this theory of a "thinking cap" that came from nowhere becomes clear when we turn to the latter part of the book.

I have mentioned earlier the great importance which Butterfield in his Preface ascribes to science as a factor in the making of the modern world. By the time he comes to the chapter on "The Place of the Scientific Revolution in the History of Western Civilisation," that importance has grown still larger. He now writes (p. 163): "And when we speak of Western civilisation being carried to an oriental country like Japan in recent generations, we do not mean Graeco-Roman philosophy and humanist ideals, we do not mean the Christianising of Japan, we mean the science, the modes of thought

¹ P. Antal, *Florentine Painting and Its Social Background* (London, Kegan Paul, 1948); cf. review, *Modern Quarterly*, 5 (1950), pp. 254-62.

The Origins of Modern Science

and all that apparatus of civilisation which were beginning to change the face of the West in the latter half of the seventeenth century." Thus he is asserting that the essential feature which distinguishes the modern world from anything before the 17th century is not—as one would have thought any sober analysis would have revealed—its capitalist economic system and the technology that has developed with it, but simply modern science. He has invented—whether intentionally or not I do not know—a new idealist theory of history; and more than that, what we might call a new *mono*-idealist theory of history.

There was a time when idealist historians believed that the modern world was created by the Reformation—a movement in religious thought. Later they believed (as many still do) that it was created by the Renaissance—a movement in literary and artistic thought. Now Butterfield is suggesting that it was created by the Scientific Revolution—a movement in scientific thought. This last is much more plausible than the others; for quite obviously science has had extremely far-reaching effects since the 17th century, whether we consider its technological effects, or such intellectual effects as the idea of progress, in the creation of which science played a major part. If then the Scientific Revolution itself arose merely as a movement of thought, by the donning of a new "thinking cap" which appeared mysteriously from nowhere, an idealist view of at least modern history is well nigh incontrovertibly established. By hiding the material loom—the bourgeois revolution—on which the "thinking cap" was actually woven, Butterfield makes it appear that the whole shape of the modern world arises from "transpositions that were taking place inside the minds" of Galileo, Bacon, Newton and a few others. That is why it becomes doubly urgent to demonstrate that the scientific revolution itself is in fact only a part—though a very important part—of the bourgeois revolution.

Reviews

The Physical Basis of Life. By J. D. BERNAL. Routledge and Kegan Paul, 1951. 80pp. 6s.

THIS little book is packed with thought and is the most recent addition to the short list of important books which have discussed the question of the origin of living matter on earth in the light of contemporary knowledge. It does not, of course, solve the problem of the origination of living organisms, as we conceive them, from the once incandescent earth-ball, but it does indicate what some of the steps may well have been between that apparently unpromising beginning and the kinds of living things which now exist on earth.

The contrast between the impassiveness of rocks and mountains and the lively movements of birds and beasts, between the passiveness of tilled fields and the growth of crops on them, must have set men thinking of these contrasts ages ago: the differences between 'living' and 'dead' forms, and of the origin of the relatively sparse but obviously living forms from the massive matrix of 'dead' matter. The Greek atomists certainly considered the problem of the origin of living things on earth. The poem *De rerum natura*, based philosophically on the teachings of Epicurus, gives the views of the great Roman materialist Lucretius upon the matter (see the new translation by R. E. Latham, entitled *The Nature of the Universe*; Penguin Classics, 2s. 6d.).

While the problem of the origin of living things on earth was thus posed very early it remained an abstract problem in that there was no accepted theory, much less real evidence, which suggested that the earth had once exhibited conditions incompatible with the existence of living things as we now know them; the concept of evolution had not yet been born.

With the development of geology it was at last recognised that the earth had a history and that there must have been a time when living things could not have existed on earth, nor indeed the chemical compounds from which they are constructed; it was too hot. With the triumph of the Darwinian theory of the evolution of living forms came also the recognition of evolution in cosmology. Everything had a history and it became the business of science to find out what that history was.

Advances in cosmology, geochemistry, physics and biochemistry during the last 50 years have enabled the gap to be much narrowed which exists between our knowledge of successive states of the cooling planet on the one hand, and our knowledge of the kind of physical, chemical and organisational composition which primitive organisms evolved from that inanimate environment might have.

Science is drawing ever more definite pictures of successive physical

Reviews

and chemical states of the cooling planet, at some stage of which living matter must have appeared.

N. W. Pirie has discussed "the meaninglessness of the terms 'life' and 'living'" (in *Perspectives in Biochemistry*, Cambridge Univ. Press) and showed clearly how impossible it is to define these concepts in neat (really, one might point out, metaphysical, non-dialectical) terms. It is a metaphysical way of thinking which leads to attempted allocation into the two categories: living or non-living. And as Pirie showed in his exercise in formal logic it cannot be done. But even a merely historical approach yields a more fertile analysis. We can work back from those physical-chemical-biological complexes which are frankly recognised as living organisms to earlier forms, and to organisationally simpler forms. From our knowledge of the ways in which present forms exist and multiply, and what this involves in terms of physical, chemical, physiological and biological complexity, energy requirements and tolerable physical conditions, it is possible to have a much clearer picture of the chemical and physical factors which must have been pre-requisites for the evolution of the earliest self-perpetuating and multiplying physico-chemical complexes. We can get a much clearer picture of what simpler forms living matter could have.

On the other hand, geochemical and geophysical studies are ever more closely describing what the successive physico-chemical stages of the cooling earth must have been, before the earliest forms of living matter appeared to modify the 'simple' sequences of physico-chemical change.

The gap between the state of the lifeless planet and the state of the earliest imaginable living things continually narrows. The problem of the origin of living matter becomes more and more clearly defined; we now know much more clearly the *kind* of transitions that must have happened. As knowledge increases there remains less and less cover for Paley's Watchmaker to hide in.

It is this aspect, the perennial fight between philosophic materialism and idealism, that gives this book a lasting value (as it does to the earlier writings of T. H. Huxley, E. B. Wilson, and A. I. Oparin) however much subsequent scientific advance may modify the details. The progress of science is clearing the jungle of irrational feeling and primitive emotions from men's minds, draining the mental marshes and thereby removing the will-o'-the-wisp of "creation." This is not explicitly mentioned in Bernal's book, but that is its implication.

Some quotations may be given to illustrate these general remarks:

"... My emphasis will be on one particular aspect of life, on the problem of *origin* rather than that of structure, metabolism and behaviour. I have chosen the emphasis on origin in biological systems because it is far more important than in physical systems.

"Until recently discussions on the origins of systems were even

considered in some way improper to science, but now even in physics itself questions of origin are coming into discussion. . . . What I have done is to correlate . . . different contributions and add some speculation of my own on the actual conditions under which life originated. My aim is by such a broad sketch to bring out in sharp relief the critical points of difficulty, not in order to evade them by pious allusions to mysteries beyond human comprehension, but as a guide to practical research in the future" (pp. 11-12).

"We should attempt . . . to produce careful and logical sequences in which we can hope to demonstrate that certain stages must have preceded certain others, and from these partial sequences gradually build up one coherent history" (p. 18).

"In the account which follows an attempt is made to present the main outlines and the critical stages in the development of life from its inorganic origins. It is based essentially on two kinds of data—the geochemistry and physico-chemistry of the cooling planet, and the organic chemical composition common to all existing living organisms. Such an attempt reveals at once the large gaps that still exist, but it also reveals the lack of perfectly feasible research which is bound to help to reduce these gaps and to bring out others that may now be unsuspected.

"The process is one which we can imagine as taking the form of a play divided into a prologue and three acts. The prologue introduces the scene on the surface of the primitive earth, and the first group of actors of an entirely inorganic kind which must start the play. The first act deals with the accumulation of chemical substances and the appearance of a stable process of conversion between them which we call life; the second with the almost equally important stabilization of that process and its freeing from energy dependence on anything but sunlight. It is a stage of photosynthesis and of the appearance of molecular oxygen and respiration. The third act is that of the development of specific organisms, cells, animals and plants, from these beginnings.

All we have hitherto studied in biology is really summed up in the last few lines of this act, and from this and the stage set we have to infer the rest of the play" (pp. 27-8).

The rest of the book is devoted to a working out of this scenario in terms of modern science, and in language that non-scientists should be able to understand.

J. KEMP.

Soviets in Central Asia. By W. P. AND Z. K. COATES. Lawrence and Wishart Ltd. 288 pp., 16 plates. 25s.

SOME months ago, towards the end of the summer of 1951, the British Protectorate of Nyasaland received a visit from the Colonial Secretary, at that time Mr. James Griffiths. His object was to persuade the Africans of Nyasaland (and also of Northern Rhodesia) to accept federation with Southern Rhodesia. The Africans, to cut a long story short, would have none of this. But what was more surprising than their refusal of Mr. Griffiths' arguments for federation was their unanimity. It was not only their more consciously political leaders who returned a stolid negative to federation with Southern Rhodesia (for they had nothing against federation with Northern Rhodesia): the District and Provincial Councils, and the Protectorate Council, also said no—and they said it with one unhesitating voice.

Now the measure of this negative can be taken only when you realise that the District Councils, the three Provincial Councils, and the Protectorate Council of Nyasaland—all of purely advisory status—consist not of democratically elected representatives of the Nyasaland tribes, but of chiefs hand-picked by Government, of civil servants whose livelihood depends on Government favour, and of other Africans generally regarded by Government as "safe" from the influence of nationalism. The Africans on these Councils are nearly always the "good boys" through whom Government operates its system of so-called "Indirect Rule." Before the arrival of Mr. Griffiths on this memorable visit last year, these "good boys" had been lectured up hill and down dale by British officials on the value and advantage of federation. For all that, the "good boys" let Government down with resounding unanimity. They said they did not want federation, and they said why.

Their reasons for rejecting federation were many, but they could be condensed essentially in one reason; and this one reason the Nyasaland Africans reiterated again and again. Federation, they said, meant the spread of the doctrines and practice of permanent white supremacy from Southern Rhodesia into Northern Rhodesia and Nyasaland. "We know what the European settlers under the leadership of Southern Rhodesia want," said the Nyasaland African Congress; "they want Dominion status . . . they want to forestall the development of Nyasaland and Northern Rhodesia as Black States . . . they want Nyasaland and Northern Rhodesia to become white men's countries . . . they want to take our land . . . they want to debar all Africans in Central Africa from any effective political rights . . . they want to exterminate the African people of Central Africa politically. . . ."

What Mr. Griffiths met with in Nyasaland, in fact—and what he later met with in Northern Rhodesia—was a united African demand for liberation from colonialism. That was the gist of what the Africans were

saying. That was the reason why the white settlers of Northern Rhodesia and Nyasaland were, and are, so anxious to link themselves with the powerful body of settlers in Southern Rhodesia—to forestall “the development of Nyasaland and Northern Rhodesia as Black States. . . .” This unanimity among the Africans, moreover, marked a new step in their development of a political and national consciousness. As was rightly said at the time, Mr. Griffiths found himself present at something like the birth of a nation. The Africans of Central Africa, in a real sense, have reached the point where they are no longer content to tolerate their status of “protected” helots.

The British people, more urgently than ever, are called upon to take a decision, to exercise a choice between the interests of the white settlers and the interests of the Africans. That the Colonial Office under a Labour Government decided to accept federation, in spite of this unanimous African opposition to federation, does not remove the choice. Imperial government may have opted for the settlers against the Africans: the responsibility for this option rests none the less on the shoulders of the electorate. Just as in West Africa, so also in Central Africa (and in other parts of Africa as well) the African peoples have taken up the fight for their own survival, their own future. Colonialism in Africa is in crisis: the battle for Africa is joined.

It is obvious that in these circumstances a special responsibility rests upon the British Labour Movement. And if the working people of Britain, seeing their own welfare in the welfare of the working people of Africa, wish to break with imperialism, there arises a more urgent need than ever for them to study ways and means. The *Pax Britannica* of the British Empire was never less peaceful or more stultifying than it is today: on every hand we see how it can be maintained only with daily violence and threats of violence. Upholding the imperial heritage, today more than ever, means war and impoverishment for the working people of Britain and the Colonies alike. In this connexion no segment of human experience is likely to be more profitable and rich in lessons for us than the history of the Soviets in Central Asia. That is one good reason why the Coates's new book is timely and important.

It may seem a long way from Nyasaland to Central Asia. Yet the parallels are striking. The Russian conquest of the Central Asian Khanates was more or less contemporary with the British infiltration into Central Africa. Turkoman Merv was finally subdued and annexed to the Russian Empire in 1884: the British acquired protectorate status of Nyasaland in 1895, and of the land that was to be Northern Rhodesia at about the same time. In Northern Rhodesia the British Government took over responsibility from the British South Africa Company in 1924: in Southern Rhodesia the settlers acquired self-government in 1923. But it was in these years, precisely, that the Khanates of Central Asia underwent their Soviet revolution. Interesting comparisons remain to be

drawn between the thirty years of settler government in Southern Rhodesia and the same period of Soviet government in Uzbekistan, Kirghizstan, Turkmenistan, Khazakhstan, and Tadjikistan. Valuable lessons for the future of the Central African peoples remain to be taken from the way in which these Central Asian peoples were enabled to throw off the domination of their handful of local potentates and Russian settlers.

“The old government, the landlords and the capitalists, have left us as a heritage such browbeaten peoples as the Kirghiz, the Chechens and the Ossets, whose lands served as an object of colonisation by the Cossacks and Kulak elements of Russia.” What Stalin said of Central Asia in 1921 could be said of many parts of Africa today. Wisely and helpfully, the Coates have prefaced their description of contemporary Central Asia—much of it the product of their personal experience and observation—by chapters which tell of the Russian imperial conquest of these lands, of the consequences and methods of that conquest, and of the broad principles along which these countries have developed since 1917. It says a great deal for the Coates's diligence and care that you are left at the end of the book with a stronger thirst to know more. The contrast of before and after is so sharp that you want to hear much more about the processes in between. That is not an adverse criticism of this book—for in less than 300 pages the authors could scarcely have given us more information than they have. It would take several volumes, obviously enough, to describe in detail the all-important processes whereby these “browbeaten peoples” were transformed into self-confident communities whose maturity and social and material progress are abundantly illustrated by the conditions which the Coates describe.

Uzbekistan and Turkmenistan were admitted as Soviet Republics to the U.S.S.R. in 1925. In the same month, making his memorable speech to the University of the Peoples of the East, Stalin laid down the theoretical foundations upon which great changes were to be built. The immediate tasks in the Soviet East, he said, were to create industrial centres . . . to advance agriculture and above all irrigation . . . to improve and advance peasant and handicraft co-operation . . . to bring the Soviets into closer touch with the masses . . . to develop national culture. . . . A quarter of a century later the chairman of the Uzbek Council of Ministers, Abdudiyabbar Abdurakhmanov, could say of conditions in his Republic that “Uzbekistan gives the country coal, oil, steel, rolled iron, mineral fertilisers, cranes, excavators, metal-working lathes, diesel-engines, cotton-harvesting machines, mowers, sowing-machines, textile machinery, electric cables, building materials, textiles, consumer goods, foodstuffs and so on. The skilled workers and experts who man the factories are the Uzbeks themselves.”

The Coates travelled in these countries and saw for themselves. They

visited factories, collective farms, schools, universities, hospitals, the homes of the people. They do their best to avoid making their book a catalogue of facts—or, at the other extreme, of making claims unsubstantiated by facts—and on the whole they succeed admirably well. If they do not always succeed, that is perhaps because they have so much to tell. There are 26 well-chosen black-and-white plates; and an outline map of Central Asia. The publishers also deserve praise for their readable and tasteful production; and 25s. must not be accounted expensive for this book. The Coates have brought to us a whole new region of the world—a region of which the old atlases have little to tell but the tale of deserts and abandonment: but where men and women have done away with deserts and abandonment and have built a new civilisation. Legendary Tashkent, “forbidden” by Moslem tradition, a place of secret mosques and silence? Not a bit of it: a fine industrial town of a million and a quarter people, filled with libraries, schools, people whose culture has come to fruition.

BASIL DAVIDSON.

Spartacus. By HOWARD FAST.

HOWARD FAST has written a most moving book. Its subject is the great slave revolt in Italy in 71 B.C. “It is a story,” says the author, “of brave men and women who lived long ago and whose names have never been forgotten. The heroes of this story cherished freedom and human dignity and lived nobly and well. I write it so that those who read it may take strength for our own troubled future and that they may struggle against oppression and wrong—so that the dream of Spartacus may come to be in our time.”

For this novel of the Great Slave Wars of Rome is a story of the age-long struggle of man for freedom. Here the struggles of all the ages and climes find symbolic expression in one concrete example.

This is, of course, a difficult thing to do—to recapture the feel and spirit of Rome; to imagine and, even more, to make convincing the personalities of Spartacus and his companions; not only to tell a tale but to bring out the whole significance of the revolt without making the characters mere puppets, mouthpieces for current propaganda. But Howard Fast has succeeded.

The story begins with some young Roman patricians setting off from Rome along the Appian Way to Capua. “And at this time, alongside the road a crucifix was planted every few feet and on every crucifix a dead man hung.” There were six thousand, four hundred and seventy two, and one more to come, the crucifixion of David the Jew, lieutenant to Spartacus and the last awful, symbolic sacrifice. We are to see, therefore, the interaction of two forces, the rebel slaves and the proud but already

haunted oppressors. One of the signal achievements of the book is the way in which every Roman is judged by his or her attitude to Spartacus. Spartacus is among them all the time, changing them, driving them to fury and cruelty and then to shame and grief, then to fear. When the Romans halt for the night in the villa of Antonius Caius and discuss the Slave War, Gracchus sums up their feeling thus: “They all hated Spartacus; no one knew his form or shape or thoughts or manner, but this house was filled with his presence and Rome was filled with his presence.”

Then the scene changes to Capua before the revolt and to the story of Spartacus the Thracian, when he came with hundreds of others to work in the Nubian mines. Howard Fast draws a compelling picture of those men and their awful labour—the unbelievable horror and agony of it, the mindless cruelty.

When the gladiators, Spartacus their leader now, begin painfully to grope for self-awareness, and are at last moved to unite, we see a picture of the whole upsurge of oppressed humanity to self-consciousness. Lenin once said that almost all socialists looked upon the proletariat as a sore and nothing else, and watched with horror the spread of this sore, but Marx realised that the proletariat was not to be pitied but aroused, that “the emancipation of the working class is the work of the working class itself.” So here it is the latent strength, the irrepressible humanity of these degraded slaves and gladiators that is aroused and breaks prophetically out in flaming revolt; and this is clearly the symbol, though the lesson is never forced, of the whole revolt of exploited colonial peoples of our day against whom we and our allies are even now waging a great slave war from Korea to Indo-China and Malaya to Suez and beyond. The Spartacus revolt cannot succeed for many historical reasons, but it is no more a failure than the Commune of 1871 or the Russian Revolution of 1905, or the Peasants’ Revolt of 1881 or the Peasant Wars of Germany. It is the undying fire of human protest against exploitation that passes from age to age and movement to movement until the time comes when in “the war of the slaves against their oppressors, the only just war in history,” as Marx says, victory comes at last.

Howard Fast gives us a very clear picture of Rome in the last days of the Republic. “A whole society built on the backs of slaves.” “We are the unique product of slaves and slavery,” says Cicero who, with Gracchus, is the most conscious of what is happening. “You have built your grandeur by being a thief to the whole world.” And what has it done to the Romans? We know what it has done to the slaves. The picture of social decay—“Here on 10,000 acres where once lived 15,000 people, and now there are 1,000 slaves and the family of Antonius Caius”—and of political and moral decline is convincingly done. Gracchus the politician “who convinces the people that the greatest fulfilment in

life is to die for the rich," Crassus the immensely wealthy general who defeats the insurrection and crucifies the slaves, but is getting frightened even of the hands in his perfume factory and is shamed and shaken by the dying David on his cross, and almost overcome by the simplicity and passionate singleness of purpose of Vannia the wife of Spartacus, these, and all the Roman characters, are depicted as not merely corrupt, but as torn by contradictions, as baffled and half aware of their doom, as men and women who will one day lose their nerve. The slave and his oppressor are two sides of one evil society. They destroy each other. Crassus is the incarnation of ruling class dictatorship. "So did we destroy Spartacus and his army. So will we in time—and necessarily—destroy the very memory of what he did and how he did it. I am a fairly simple man and not particularly clever, but I know this. The order of things is that some must rule and some must serve. So the gods ordained it. So will it be."

There is no caricature or malice or lack of understanding here, but they are all, men and women alike, irrevocably judged.

Every phase of the slave revolt is full of significance. For instance the moment when at last "the slave takes up the sword," when for the first time in his life he knows he is a free man, the moment when a man says to himself, "If I do not do such and such a thing then there is no need or reason for me to live any more." When many men come to such a point then the earth shakes, then the army is born which will change the world, "an army committed to victory, for there are no bridges over which it can retreat, no land which will give it shelter or rest. It is a moment of changed motion in history, a beginning, a stirring, a wordless whisper, a portent, a flash of light which signifies earth-shaking thunder and blinding lightning. It is an army which suddenly has the knowledge that the victory to which it is committed must change the world and therefore it must change the world or have no victory."

Despair follows when there is no victory. "Spartacus, Spartacus, why did we fail?" are the last words from the cross. But hope cannot die and as Vannia and her son escape to Gaul and Rome is left to her own inevitable decay we remember that in the dawn of that revolt, false dawn though it was, "there was no one among them, no, not even among the little children, who had not dreamed dreams of a world where there were no slaves." And that is a dream that is more than a dream. It is a prophecy and it is an inspiration.

JOHN LEWIS.

(The Bodley Head are Howard Fast's publishers in Great Britain and they hope to publish this book later in the year.)

Editorial Statement

HOWARD FAST AND AMERICAN FREEDOM

HOWARD FAST is well known and admired in this country as the author of *Citizen Tom Paine*, *Freedom Road*, *The American*, *The Unvanquished*, and many other novels. His critical essays *Literature and Reality* have also been much appreciated. Not all who read his novels are aware that he is one of the victims of the wave of persecution of progressive opinions now sweeping through the United States, and was only recently released from prison. His courageous stand has also exposed him to an unscrupulous attack on the historical accuracy of his books on the American Revolution, and to a determined effort to suppress his writings. 130,000 copies of *Conceived in Liberty* and *The Unvanquished* have been destroyed by his publishers, and no publishing house could be found to undertake *Spartacus* which has therefore been produced and distributed by the author, aided by the help of many hundreds of people who bought it in advance of publication.

Here we meet then that other America, the America of Howard Lawson, Eugene Dennis, Paul Robeson, Albert Maltz, and Barrows Dunham. We pay tribute to all those, and they are many, who have the courage to stand up to the political intimidation which would condemn them to silence.

The extent of this is hardly realized here. As the American Civil Liberties Union says: "There is a growingly inclusive and pervasive social atmosphere of fear and intolerance, stifling the good old American habits of speaking one's mind, joining the organizations one believes in, and observing the principles of fair hearing and of holding a man innocent until he is proved guilty." No one is safe but some people are more scared than others. The amount of terror exerted, indeed seems in inverse proportion to the distance from the Communist Party. Archibald MacLeish is only one of a growing number of leading figures who are coming to see that the effect of these persecutions is to make opinions as such and their advocacy punishable, "and thus to restrict freedom of opinion and freedom of belief as they have not before been restricted in American history."

The Smith Act invoked against the eleven leaders of the Communist Party was framed to penalize those who advocated the overthrow of the constitution by force. Since no Communist can be found who is responsible for statements or writings to this effect, the Act has now been stretched to include supposed intent behind the actual words. So that those now facing trial are accused of the following "overt acts":

"... on or about October 1st, 1949, Pettis Perry, a defendant herein, did leave 35 East 12th Street (former C.P. headquarters).

"... On or about September 1st, 1949, Isidore Begun, a defendant herein, did attend and participate in a meeting. . . ."

The defendants in the trial of the eleven were not even charged with saying anything or writing anything designed to overthrow the Government. The charge is that they agreed to assemble and to talk and publish certain ideas at a later date.

The present trial includes among the defendants, Alexander Trachtenberg, whose indictment threatens to put the whole publishing trade under police supervision. Every author, editor, publisher and reader has a vital stake in the defence. He is on trial as the Managing Director of International Publishers who were responsible for the publication of the Marxist Classics and other "books, articles, magazines, and newspapers, advocating the principles of Marxism-Leninism." He faces a five-year sentence on this charge.

With him stands V. J. Jerome on the charge that he published an article in *Political Affairs* dealing with the degradation of culture in the United States.

It is clear that writers and thinkers in the United States are faced with a grave choice. If they yield to anti-communist hysteria or are silent because they are afraid, they bear the same responsibility that is borne by the German intellectuals who co-operated or were silent while Hitler prepared Germany for war. If with Howard Fast and those who stand by their principles they maintain their ground, they will rally all lovers of freedom to the cause of world peace and national independence.

Communication

MODERN PAINTING

IT is a pity that Oscar Thomson marred an otherwise excellent essay on Modern Painting by repeating the conventional misrepresentations of Byzantine culture, which are familiar to us in the pages of such reactionaries as Spengler and Toynbee.

He says, "For an Egyptian or Byzantine artist the possibility of exploring the values inherent in structural relief does not exist; line, colour and 'flat' composition are the limits of his freedom."

This idea of a Byzantine stereotype does a sad wrong to the rich and vital variety of Byzantine art over the centuries, in which the hieratic monumental quality is in ceaseless struggle with the aerial and impressionistic subtlety of Hellenistic art, with the dramatic urgency of Syrian realism, and so on, and in which new elements from below keep on breaking through.

So far from failing to explore problems of structural relief, the Byzantine artist continually did so. It was the great humanist revival of classical elements in the iconoclast period which laid the basis for the whole following European advance. The emergence of concrete three-dimensional form in the Gothic realism of Chartres is definitely born through the impact of iconoclast humanistic art and its developments on the stirring energies of the new Western town. And so far from Giotto marking a simple new starting-point, as Thomson says in the vein of the bourgeois art-historians, he and Duccio are rather provincial Byzantine artists who belong to a Renaissance that had been going on for centuries and embraced Russia and the Balkans as well as Italy. He faces in a new direction, and a new great art of development is beginning with him; but the sharp statement by Thomson falsifies history.

This is not merely an academic point. It is of the highest importance because the denigration of Byzantine culture, the limiting of it to one aspect, is part of the theoretical basis on which the Toynbees seek to build their false notions of a Western Christian humanism opposed to rigid Eastern totalitarianism.

JACK LINDSAY:

Review of Foreign Publications

U.S.S.R.

Over the last eighteen months *Voprosi Ekonomiki* (Questions of Economics) has had a large proportion of articles on detailed technical questions. Discussion of general theoretical issues has been rare. While there has been some follow-up of previous discussion on the comparison of investment-variants and the time-factor in investment policy (to which Strumilin, Khachaturov, Chernomordik and Mstislavsky had contributed in this journal and elsewhere, and on which the editors had invited further discussion contributions), more attention has been paid to such questions as methods of accountancy in factories and workshops and the improvement of accountancy (*khozraschot*). In particular, there have been several discussion articles on the correct method of calculating the turnover of working capital in industrial undertakings. A special point has been made of contributions analysing the experience of particular factories. There have also been treatments of the organisational and accounting problems of collective farms. Articles have also appeared on economic developments in the new democracies and on developments towards a war-economy in the capitalist countries.

Of special interest to readers of *The Modern Quarterly* is a summarised report (in No. 10 of 1950) of a discussion at the Institute of Economics, called by the Party organisation at the Institute, on problems of "the gradual transition from socialism to communism." The discussion took place on the basis of certain prepared theses, and the opener of the discussion was I. A. Anchishkin. The theses began by stating that the basic difference between socialism and communism was that in the former there were two forms of socialist property (State and Co-operative) and classes still remained, as did also remnants of the contradiction between physical and mental labour and between town and country; whereas under communism there would be only one form of property and there would no longer be distinct classes. "Under socialism the level of productive power is still insufficient to satisfy the needs of the workers; whereas under communism the productive forces will have been developed to a level where an abundance

of means of consumption is attained." Whereas the transition from capitalism to socialism involves a revolutionary leap, that from socialism to communism is characterised by a gradual development of one into the other.

Money-commodity relations, and wage-differences according to amount and kind of work as a production-incentive, are features of the socialist phase of development. The dying-out of trade, of the law of value, of money, credit, etc., as well as of wage-differences as production-incentives, will occur "only when the lower phase of communism is transformed into its higher phase."

In opening the discussion Anchishkin concentrated upon two points: firstly, a criticism of those who started a study of the question from a "more or less full picture of future communist society" (which smacked of utopianism), instead of taking as the starting-point for study "germs of communism existent in contemporary Soviet actuality"; secondly, a criticism of those who thought that a transition to the communist principle of "distribution according to need" (via free distribution of products) could be introduced gradually for individual products as their supply became adequate to meet the demand for them. To do so, he claimed, would tend to undermine the "socialist principle of distribution" (i.e. wage-differences as a production-incentive) and "destroy the whole system of commodity-money relations between town and country and the accounting basis (*khozraschot*) of socialist enterprises." The gradual transition to distribution according to needs was realizable not by way of an extension of free (*bezplatny*) supplies, but by raising the real wages of workers and employees and the real incomes of collective farmers "until the great mass of toilers of socialist society can fully satisfy all their various needs."

This led to an interesting and lively discussion, in the course of which many participants expressed disagreement with the views of the opener, especially regarding the gradual extension of the "free supply" principle to individual commodities as the supply of these approached saturation of demand. Some suggested that many services might come

to be supplied free before commodities, as had already happened with medical care and accommodation at sanatoria. Academician Strumilin suggested, for example, that the "free supply" principle might be introduced at a quite early stage in communal restaurants (set *table d'hôte* meals being supplied free at the same time as those wanting greater variety of choice continued to be charged for items on an *à la carte* menu).

Other matters around which the discussion centred were: the part to be played by the transition from the arteform to the commune-form of collective farm and the declining importance of collective farmers' individual plots; the effect of growing mechanisation of production (in particular the extension of modern automatic continuous-flow methods) combined with stakhanovite rationalisation in narrowing the gap between manual and mental labour by raising the function and status of all workers to that of the technician and specialist engineer; the basic importance in the whole question of growth (both qualitative and quantitative) of the productive forces. One speaker suggested that Stalin's long-term target (mentioned in a speech of 1946) of an annual output of 60 million tons of steel would suffice to lay the material basis for the transition. Another suggested that a qualitative "leap" or revolution in productive technique was a necessary preliminary. Another raised the question of how far the transition would presuppose a radical change in the structure of production (as regards the relationship between the absolute size and rate of growth of capital goods industries and of consumer goods industries). The economist Kronrod drew attention to the organisation of "rational communist international division of labour" among those countries belonging to the socialist camp as one aspect of the problem of "creating the material basis for communism."

It is, perhaps, of some interest to note that a certain amount of criticism has recently been levelled at the editorial board of *Voprosi Ekonomiki*. In the *Izvestia* of the Academy of Sciences (Economics and Law Series, 1951, No. 2) there was reported a discussion organised by the bureau of the department of economics and law of the Academy. In the course of this the journal was criticised for failure to develop study of general problems of the economics of

socialism and for its unsatisfactory organisation of discussion (in particular discussion of the problem of "the effectiveness of capital investments," mentioned above). "Theoretical articles on realistic themes, published in the journal, in the majority of cases bear a general or propagandist character and do not appear as the result of work of scientific research." In general it was complained that the editorial board failed to work as a real "editorial collective" or working team.

M. D.

GERMANY

Einheit has continued its new policy of relating every theoretical article to the living tasks of defending the German Democratic Republic (and World Peace) against Imperialism and, internally, to the construction of a socialist commonwealth. Three articles are especially interesting to foreign readers, the report of Paul Wandel, Minister of People's Education, on the multiple tasks of socialist education: cadres, heightening of Marxist-Leninist consciousness, interpenetration with and support of all workers groups, relation of the school to the tasks of safeguarding peace, hostility to Cosmopolitanism (as against Internationalism) in culture, and to "objectivity" as a mode of annulling all class content in learning, thus divesting science and history of significance. The mere enumeration of concrete tasks from electric light bulb supply to rewriting of text books is in itself a fascinating picture of the complexity of issues, with their wholly new content, which confront a society overcoming its past poisons, infusing new insights, always specific in work, and philosophical in direction.

The resolutions of the Socialist Unity Party concerning formalism in art bring up new definitions of *kitsch* (bogus art with apparent artistic form but fraudulent content), point out why the capitalists everywhere seek (for their "cultured" class) art forms that deny realism, favour pessimism, arabesques, weary Byzantinism, sheer corruption, degeneration, terror, obsession with crime, death, success, separation of each artistic exponent from his fellows. Its masterly review of capitalist art-gangsterism, from existentialism to Hollywood police drama, is used to indicate precisely what are the tasks of socialist writers whose

fantasy and illumination acquire meaning in relation to the tasks of their fellows all about them.

The leading academic article calls for a reorientation of the teaching of political economy in the universities, in the party and in the trades unions. It stresses the necessarily partisan character of all economic teaching, the class struggle itself enabling us to perceive the truths of economic relationships, a perception that cannot otherwise arise. It reasserts the Leninist teaching that Marxism is harmonious, monistic, without any relics of bourgeois servility. It restates Marxian assumptions that political economy is a science of class relations (in capitalism) and not of "categories" or things. Some of the committee then criticize sharply their previous textbook teachings. Not even so distinguished a Marxian as Kuczynski, National Prizeman, escapes censure. They point out, particularly, that most teaching on the theory of rent must be revised because its superficial character had led to mistaken policy with reference to the peasantry. The necessarily greater wealth of economic studies in Russian requires acquaintanceship with that language. They demand that all Marxian political economy be related to history, to the actual development of manufacture, to accumulation at various stages of capitalism, to the changes of class relations owing to changes of technology as manifested in developing class society. The entire article reveals how much even Marxians who take such ideas for granted (verbally) have failed to apply them and hence have weakened the use of political economy as a tool for liberation and for socialist construction.

W. J. B.

POLAND

Mysl Wspolczesna (*Contemporary Thought*), Nos. 3-4, 1951.

In an article in this issue Dr. Kazimierz Petruszewicz shows that in biology the philosophical division into vitalists and mechanists does not correspond to the division, generally applied in philosophy, into materialists and idealists. Vitalism is an idealist outlook, though some vitalists in certain

aspects of their views were more dialectical than many mechanists.

Among the mechanists—in the biological sense—there are both materialists and idealists. Biologist-mechanists who utilize, though unconsciously, and not fully, the dialectical method, stand, in principle, on the positions of materialism (e.g. Lamarck, Darwin, Haeckel, Timiriazev).

On the other hand there are biologist-mechanists who fail completely to apply dialectics and usually slip down into the idealist camp: (e.g. Weismann, Morgan).

From the dialectical point of view, the unity of the organism with external conditions, the constant exchange between these components within the framework of the whole, is the driving force of evolution: to express it dialectically, the development of living matter takes place thanks to the unity and struggle of opposites between the organism and the environment in which it lives.

Hence, examining the social origins of the long-standing controversy between mechanists and vitalists, the author comes to the conclusion that this controversy is being fought out between bourgeois biologists, and to-day it is the result of the limitations of bourgeois science, which formerly could not and at present does not wish to see the causes of the development of the organic world.

The differentiation between the "progressive mechanists" and the "reactionary vitalists" was correct and progressive in its time; to-day it has become unscientific and reactionary. The materialist trend in biology which began with Darwin, and to which contributed such progressive scientists as Haeckel and Timiriazev, and many others, could not, in the capitalist system, become the completely conscious and consistent trend of dialectical materialism; only in the socialist state this movement, with the teachings of Pavlov, Michurin and Lysenko, has completely and consistently taken the positions of dialectical materialism, thus giving rise to a qualitatively new, a creative biology: Soviet biology.

J. L.

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