As Nixon Threatens Troops In Rail Strike—

UNION BUSTING COURT JAILS CESAR CHAVEZ

Trotskyism Moves Forward In Canada

WILDCAT SWEEPS NEW YORK PORT


**What The Editor Thinks...**

After close to a month of deliberation the Communist Party has informed thereau (Viet Nam) the committee will not be a sponsor of the Committee. The reason given is that the committee is "too broad.""  

The truth is that support for the committee has come from a very broad list of sponsors, including the trade unions, the Communist party and a number of other organizations. It will be interesting to see how this will affect the new union movement.

**Why the Socialist Workers Party and the Young Socialist Alliance in refusing to sponsor the farmas case.**

**BEANS**

The reason the Communist Party is clear enough. They are motivated particularly by a lack of Trotskyism. Let us remember that while 200 or so unions supported the Trotskyist Movement, 18, the first victims of the Smith Act, were not the Communist Party only refused to support the other unions and only later did the others succumb.

Let us remember that while the McCarthy period witch-hunted and persecuted James M. Cannon, Harry S. Woodruff, and a legion of other leaders, unions offered support to all of whom the Communist Party refused to support the campaign.

It is true that in later years they admitted that they had been wrong and that they have never proceeded to the roots of the matter and that they have never reversed the Moscow Trials nor can they admit to the true facts of Trotsky's role in the Russian Revolution and Stalin's real character.

The other side of the Communist Party's hatred of Trotskyism is their support to the cccp which is guilty of the most serious offenses it has committed. The ccp is a fascist organization. Here they are common enemies and political fronts with the and unions. They stand in support of capitalism.

For instance they support the ccp democratic Shirley Chisholm in the elections. They then propose to work with her and the Black Panthers in a common liberal, not anti-communist, anti-socialist, anti-revolutionary, anti-communist way.

The results of such a policy can be clearly seen in the Russia case reported elsewhere.

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**Jail**

President C. L. Dennis of the Railway Clerks Explains his strike decision this way: "The chances are, regardless of what I did, that members of our union will strike."

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**Railway Workers Challenge Nixon's Union-bashing**

As we go to press a national rail strike threatens. Four AFL-CIO unions representing over 3,000 railroad workers are preparing to strike 12:01 a.m. December 10 regardless of what Nixon does.

Nixon for his part is proposing special Congressional action to end the strike. The further delays in the union movement as have all rail disputes, for years under various special laws. Railroad workers are becoming more and more convinced the only way they can strike is to defy all the laws, injunctions and other government actions used by the railroads to impose their will and terms of work on the workers.

It is because these workers have faced such heavy government pressure that they are now striking. As with other rail strikes, new laws have been needed to override the unions.

This is why the railroad workers have rejected a three year pact said to be a 37 percent of $1.32 an hour raise. They are determined to take the lead in the wage offensive of American workers.

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**Juan Farinbas Goes To Trial As Support Grows Nationwide**

BY A BULLETIN REPORTER

Juan Farinbas, the young trade union leader who is charged with violating the Selective Service Act on five frame-up counts, goes on trial Thursday, December 10. A demonstration is being held outside the courthouse at 9 a.m. to 1 p.m. to support him.

Many of the organizations which have co-sponsored the Defense Committee are now actively building this demonstration, marshalling on the campuses and throughout the city, and urging people to come down to the courthouse. Some of the groups working most actively with the Defense Committee are the Young Lords Party, Puerto Rican Students Organizing Committee, American Servicemen's Union, Black Unity and Latin Alliance at New York City Community College, Young Workers League, the AFL-CIO, Students League, City College, the Labor Committee at Columbia University, WKCR, the Columbia Radio study group, and WBAI are making announcements about the demonstration.

**DEMONSTRATION**

Helen Fallon is interviewed on the New York Radio station. The committee is co-sponsoring a dance with the Young Lords on Saturday, December 5 at the Pennsylvania. To make it easier to bring the case to a meeting of the Young Lords, President, Local 147, Compressed Air and Tunnel Workers, Missionary President, Local 1640, AFSCME, Detroit, John L. Williams, Vice-President, Local 100, Amencan Express Local 208; Rodolfo "Corky" Gonzalez, President, Denver Crusade for Justice, Puerto Rican State Chairman, New Party of Ohio; Latin Liberation Front, University of Minnesota; Gilberto Gerena-Valentin of the Cuba pro Reprisal Committee; Jerry Gordon and James Lafferty, National Co-Chairman, National Peace Action Coalition, Peace and Freedom, and League of Movement in Independent University, Westchester Peace Council; Columbia Presbyterian Medical Center Coalition Against Environmental, Racism and Repression; Chris Wiley of the Black Workers Council; Spark newspaper; Stony Brook SDS and the New York Regional SDS; and Wayne State University SMC, Carlos Heredia, President, G.L.A.S., Chicago; and Peter Radu, Recording Secretary, I.B.T Local 522.

This open political attack by the United States government against minority groups and youth must be resisted and, if possible, prevented. All supporters of the Farinbas Defense Committee, all workers and students, workers and members of the Spanish-speaking and black communities should help to expose and defeat this attack. The most concrete way that this can be done is by helping to build the picket lines.

If an appeal is necessary, the committee will continue its work. If you are interested in working more closely with the committee, write to the Farinbas Defense Committee, 6th floor, 135 W. 14th Street, N.Y.C. 10011, and the telephone is 212-924-0852.

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**EDITORIAL**

Railway Workers Challenge Nixon's Union-bashing

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**Jail**

There can be no doubt that but that Dennis and other railroad union leaders will be thrown in jail if the strike takes place. It is even possible that the entire force of the railroad will be used to keep the trains as they did the Post Office last year. This is the threat all trade unionists now face.

Gerena faces life imprisonment unless he calls off his lettuce boycott in support of the lettuce strikers in Monterey County. As with rail there must be united trade union struggle against these attempts to use the courts and jails and possibly new laws to impose on the American worker conditions of work agreeable only to the employer and not freely agree to by the workers themselves.

We said that the recent campaign of slander and attacks on students, youth, black and other groups is part of a general offensive against all working people and the trade unions. It is a direct attack on the labor movement itself. We said that the Unions' War in Canada, like the troops in Northern Ireland, were for instruction in similar moves by the unions, and now the threat of a rail strike and more jailings of union leaders this is becoming even clearer.

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**Place**

What we propose is that all labor stand together against these attacks. United action through mass demonstrations of support to jailed labor leaders! A general strike of all labor if troops are sent against any shop or youth! A break with the perpetrators of slave labor laws against workers who fight back against inflation and unemployment! Forward to a labor party based on the trade union movement and all the workers, black and white, young and old, employed and unemployed!
Helena Farinas addresses NPAC conference demanding that its sponsor Farinas defense.

**Lines**

The NSA and the SMC continue to put forward the perspective of the popular front in the fight against the war in Vietnam. This was expressed in the Organizational Proposal adopted at the conference.

"The desire for peace cuts across political, racial, religious and national lines." This of course means class lines too. The NSA ignores the critical question of the difference between a desire for peace and inevitability of war under capitalism. In its own statement the SMC simply refuses to recognize the class struggle. The aversion of the middle class to war is enough. Everyone is turned upside down and the working class is subordinated to the middle class, to the from the developments at GM. Sensing that the Woodcock leadership might not be around much longer, Ford wants to take advantage of his sellout policies while they can. Not only is Ford refusing to accept the sellout contract as retro-active for Ford workers from the beginning of the strike but Ford is also backing down on its verbal agreements over local issues.

At the Ford depot in Natick, Mass., the company now wants to take back local gains made by the workers in earlier contracts. The feeling in Natick is that there will be a strike against Ford.

Ford and Chrysler Ranks Join Fight Against Sellout In Detroit

**Just Off The Presses!**

**Reversal in**

This booklet discusses the recent international congress of the Poblotos and relates the disputes to the origins of Poblotos and the Marxist method. 50c.

Send to: LABOR PUBLICATIONS 135 West 14 Street, New York City, 10011.

One of them will be helping to sell the Bulletin in the future. At River Rouge the workers linked from the parking lot to get their leaflets and some returned for extras for their families. Many of the workers that read the leaflet on the spot expressed agreement with it and demonstrated with Woodcock.

The way to victory at Ford is for the rank and file to reject the sellout and build a rank and file committee which will fight for $1.25 immediate raise retro-active September 15, full 30 and out now, no strings, full c.o. i.e., decent conditions, voluntary overtime and no speed-up.

The conference agreed to become sponsors, and over $60 was raised for the defense.

Jim Lafferty acknowledged that while he was a sponsor in his own personal capacity, NPAC claimed it could not sponsor the committee because it raised political issues.

The only political issue raised by the Defense Committee is that the attack on Farinas to an attack on workers, youth and minority peoples as well as an attack on democratic politics. It is a political attack.

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Strikes Paralyze Spain As Basque Trial Opens

BY LOU DELKIN
The Franco regime has declared a three month state of emergency following strikes and demonstrations by tens of thousands of workers and students protesting the court martial of 16 Basques accused of murdering a fascist police officer in 1968.

The province of Guipuzcoa, one of four Basque provinces that have been the scene of widespread protests, is being placed under martial law. The government has issued an order forbidding even concerts and sporting events in the province.

The murder of a Basque police officer has sparked widespread protests in the Basque provinces. leaflets distributed by the ETA during its recent strikes have called for a general strike and a general strike to be held in protest against the arrest of the four Basque police officers.

The trial of the four Basque police officers was moved from Madrid to Basque country because of the widespread protests. The trial has been characterized by a climate of fear and intimidation.
SCIENTIFIC WORLD

Materialism versus idealism: Einstein’s relativity

BY MARTIN ZARROP

At the end of the 19th century, many scientists considered that there was very little that could be added to their basic body of theoretical physics. The fundamental theories of Newton in mechanics and gravitation had served the bourgeois well. The development of capitalism signified a huge step forward in mankind’s productive forces and his knowledge of the world in which he lived.

The truth of Newton’s theories—verified daily in a million ways within every factory machine—seemed unassailable. Surely here was unconditional and absolute truth—the divine word of God, revered to man through his profits?

Even the development of the theories of electricity and magnetism by Faraday and Maxwell in the 19th century could scarcely disturb the calm.

The universe, including man, was conceived as a system of tiny, indivisible particles, moving under their mutual interactions—either gravitational or electromagnetic in nature—and subject to the laws of Newton and Faraday-Maxwell.

In other words, the universe was qualitatively finite at the atomic level.

As one eminent scientist of the day said—everything is perfect apart from ‘two small clouds’.

The ‘small’ clouds to which he referred led in 1900 to Planck’s quantum theory and in 1905 to the special relativity theory of Einstein!

The theoretical and practical implications of their work challenged everything that had been considered fixed and settled. Together they dealt a heavy blow against the old conceptions of the nature of matter, space and time.

The purpose of mechanics is to describe how bodies change their position in space with time.

What is meant by the terms ‘position’, ‘space’ and ‘time’?

By position we mean ‘position relative to some rigid body of reference’; for example, we may fix the position of an aeroplane by a measurement of longitude, latitude and height. Here the reference frame is attached rigidly to the earth.

With the advent of space travel, it will become more convenient to use one attached to the sun or even the galaxy. In other words, we are dealing with the spatial relationships of real, material bodies.

For Newton, ‘it is the non-material space between the bodies which is basic:

‘Absolute space, in its own nature, without relation to anything external, remains always similar and immovable’ ('Mathematical Principles of Natural Philosophy’—1687).

Absolute space is therefore considered as a canvas (reference frame) against which bodies move without interaction.

Absolute time

Newton’s view of absolute time is consistent with this:

‘Absolute, true, and mathematical time, of itself, and from its own nature, flows equally without relation to anything external, and by another name is called duration’.

Time is related here to the ticking of some cosmic clock, rather than emerging as a quantitative measure of the development of material processes.

Until the end of the last century, the question: ‘Where is the absolute frame of reference?’—equally, ‘How fast is the earth moving relative to absolute space?’—was not decisive as far as scientific practice was concerned.

In the first place, the earth’s rotation has a negligible effect on most terrestrial scientific activity and therefore a reference frame, fixed to the earth, proved as adequate as the elusive absolute frame.

Secondly, no constant velocity of the earth relative to absolute space can be detected by any experiment.

This is embodied in the principle (not the theory) of relativity which can be stated as follows:

‘The result of an experiment performed on a station platform is the same as the result obtained in a train moving along a straight track at constant speed.

For example, an observer on the train who releases a stone from his hand sees it fall to the floor in a straight line, just as if he were standing on the platform.

Of course, an actual platform-observer would see the train-observer’s stone travel in a curve, a parabola.

Coupled with the relativity principle is the theorem of Galileo concerning the addition of velocities. This simply states that a man walking at five miles per hour along the corridor of a train travelling at 40 mph appears to be moving at 45 mph to an outside, stationary, observer.

Such a ‘commonsense’ result could hardly be questioned—or could it?

Conflicted

After 200 years of Newtonian supremacy, the development of electromagnetism produced a law that conflicted with Newton and Galileo.

It was shown by Lorentz that the speed of light is always the same (in a vacuum), whether or not the light-emitting body is moving.

To see the significance of this, let us speed the train up to one mile per second and attach a lamp to the front. As the speed of light is 186,000 miles per second (mps), the outside observer should see the beam travelling at 186,001 mps.

However, according to the new law, he actually measures a velocity of 186,000 mps! The impossibility of resolving this contradiction within the philosophical framework laid down by Newton constituted one of the ‘small clouds’ that marred the scientific horizon until 1905.

In overcoming this impasse, Einstein embarked on an examination of space and time measurements from a materialist standpoint.

Both absolute space and absolute time are rejected, together with the old law of addition of velocities. Einstein concludes that ‘every reference-body has its own particular time.’

The nonsensical statement that 186,000 mps equals 186,001 mps is now made meaningful by rendering it concrete: 186,000 miles per train-second equals 186,001 miles per platform-second.

Time as measured on the moving train moves more slowly than it does on the stationary platform.

Expressed in this way, the problem seems to have been solved through sleight of hand. However, Einstein shows in a simple experiment how relative time-scales are linked to the relative motion of the observers.
How do two observers, in motion relative to each other, synchronize their clocks?

Suppose that the stationary clock ticks once every second and with each tick emits a flash of light. An observer moving away at constant velocity adjusts the ticks of his clock to correspond to the arrival of the light signals.

'Discrepancy'

Because of the motion each consecutive signal has further to travel before being detected. Therefore, a second for the moving observer is greater than a second for the stationary observer.

There is no way in which the 'discrepancy' can be detected, because such detection would presuppose the existence of a process transmitting faster than light.

Such a process has not as yet been discovered and certainty could not be described by the theory of relativity in its present form.

Einstein's theory led to a reformulation of the laws of mechanics—a more precise reflection of objective reality. However, this did not mean that Newton's laws were not 'valid' or that they were scrapped. The development of quantum theory put relativity in a new light, and the conditional and limited nature of Newtonian theory and, therefore, enriched our understanding of it.

The theory of relativity remains outside the atomic domains (displacement of a million of a centimetre) and deal with speeds which are small compared with the speed of light, then classical theory suffices.

For example, even for a train moving at 1 m/s, that is, 3,600 miles per hour, the difference in the hour is only a fifteenth of a second.

Practically, relativistic effects only become important (on earth) in the realm of elementary particles, which can attain velocities comparable with that of light because of their infinitesimal masses.

The theory of relativity real- izes time and space as a unit inseparably linked with material processes.

It not only embraces the gains made by Galileo and Newton, but reveals new qualities of matter.

Probably the most impor-
tant thing is that mass and energy become interchangeable—mass can give rise to energy and vice versa.

This is the principle behind the creation of new fundamental particles and the possibility of nuclear oblivion.

We can understand this in the following way. A force acting on a body produces an acceleration, which (according to Newton) will, after a time, give the body a speed greater than that of light.

Relativity theory rules this out and 'automatically' increasess the mass of the body with the speed, and, therefore, making more and more difficult to accelerate.

It is in this way that there emerges the famous formula: E=mc². (Energy equals mass multiplied twice by the speed of light).

The attack on Einstein came mainly from those who praised his achievements. At all costs, the materialist core of his theory had to be obscured, along with Einstein's continuity with and break from Newton.

No longer true

Dr Hermann Bondi, is his book 'The Universe at Large', has this to say:

'In spite of the enormous number of cases where Newton's theory has not re- cent, it is no longer regarded as true in any sense: but we know from its close agree- ment with Einstein's theory that, except for a few very small details, (!) Newton's theory will give the same answers as Einstein's.

Einstein's theory is much simpler mathematically, we go on using it as a useful tool of astronomical work, not as something we believe in in the sense of the word (19-20).'

Here empiricism runs rife. Physical theories are collec- tions of facts, devoid of all qualitative aspects or reducing them to 'a few small details'.

If it works, use it—if it doesn't, it isn't true.

On page 18, Dr Bonli is more explicit:

'There is also no good, in science to cry for the fullest information. We have never got it. One always has to do with what we have and make the best of it in hand at the moment.'

Empirical

According to Einstein, Bondi renders him superfluous. Other physicists had approached achieving the same ends in an empirical way, from the standpoint of adapting Newton to the new developments in science.

Einstein has, of course, given 'the right answers' by continually avoiding theory and relying on 'rules of thumb'.

The present stage of the theory of elementary particles is now coming more and more to rely on such 'rules', albeit of a very sophisticated and complex nature.

As we have attempted to show, Einstein transcended Newton in developing physical theory from a materialist standpoint.

The implications of his general theory and Einstein's philosophical standpoint will be dealt with in a further article.

'WHAT'S THE TIME?'

We look at wrist watches and give the answer; confident that we are correct within an error of a few minutes. If we want to check this, we either switch on the radio, have a look at Big Ben or telephone the speaking clock.

We would then, in fact, be referring to time as measured out by an atomic clock, driven by the process of decay of a suitable radioactive active element—a process relatively unaffected by external factors, such as traffic vibrations or changes in temperature, which disturb our 'everyday' time-pieces.

Even Big Ben itself runs slightly fast (except on the hour) because of the weight of its minute-hand!

It is the extremely weak interaction between the atomic clock and its environment which gives us the accuracy of time in 'normal- ness'.

We seem to be approaching Einstein's absolute time which, 'from its own nature, flows equably without regard to anything external'

Some of these relationships make it all the more difficult to abandon the concept of absolute time, namely, 'Do moving clocks really slow down when they are carried off by the stationery observer?'

Firstly, time and process cannot be separated. In his paper 'The Relativity Theory of Time' (1920), Einstein insists on this:

'Einstein's theory of relativity, the physical significance to the concept of time, processes of some kind are required which enable rela-
tions to be established between different places. It is immaterial what kind of processes one chooses for such a determination of time. This holds for the propagation of light in vacuo in a higher degree than for any other process.

From all observations the atomic and time data have a physically real significance but that for a fictitious, significance.'

MATERIAL

Einstein's relativity, therefore, is a powerful stimulus to time-measurements but the development of motion on physical processes.

We are obliged to drop the concept of time as observable and to recognize that a real, material observer, moving

Stalinism perverts science. THE CASE OF LYSENKO

by MARTIN Zarrop

The growing crisis of world Stalinism is inextricably linked with the political and economic problems of the country that are shaking imperialism.

The theories of 'de-Stalinization' and the 'self-liberalization' of the Soviet bureaucracy so beloved by the revisionists after Stalin's death, are revealed as completely bankrupt by the events of 1968 and subsequent developments.

The Czech Communist Party has been purged from top to bottom and the attack on intellectuals within the Soviet state itself continues.

Fearful of the developments taking place on an international scale, the Soviet bureaucracy lashed out viciously against those who criticize it.

There is no room for any development in art, literature or science independent of the needs of the counter-revolutionary caste in the Kremlin.

Last year, a two-day conference was held in Moscow and attended by more than 200 intellectual leaders. At its closing session, Mr Nikolai Bukharin, General Secretary of the Communist Party Central Committee in charge of cultural affairs, spelled out their tasks in the period around the 20th anniversary of Lenin's birth.

The task was to prepare for an 'uncompromising struggle' against bourgeois ideologues, i.e. against any attack on Stalinism.

The implications of this for 'uncompromising struggle' against bourgeois ideologues, i.e. against any attack on Stalinism.

The implications of Stalinism on scientific research was revealed most sharply in the field of genetics during the Lysenko period.

This took the form of a struggle between Michurinism and neo-Mendelian as two rival theoretical systems.

The struggle came to a head in 1948 when the Central Committee of the CPSU, under the influence of Michurinism, ruled against the status of an official 'state' theory, whose main exponent, Burri, had been subjected to severe criticism by O. Lysenko, President of the Lenin Genetical Institute.

Tet-Mendelism encompasses genetic theory as is generally acknowledged.

It is an extension of the work of Mendel in the light of subsequent research.

The isolation of a single gene, recently carried out in the United States, is the final proof that the hereditary units present in the Mendelian system.

Each kind of gene may exist in a number of different forms, called 'alleles' and from this account, for example, for the difference between tallness and shortness in Mendel's pea plants.

The genes are arranged in a line within the chromosomes situated in each cell.

The laws of heredity are therefore laws concerning the distribution of different genes from generation to generation and the next and the mechanism of cell division and reproduction is not well understood.

On this basis, we can begin to understand the immense variation of organisms (for instance, variations in blood colour-skin colour).

These variations can be separated into two components—those which are due to genetic factors and those which are due to modifications which are due to environmental factors (e.g. sultan) or differences in the organism (e.g. muscular development).

Modifications therefore affect the functions of the organism's organs and do not reproduce cells.

Individuals in the hereditary constitution are due to mutations.
with a real, material clock, is subject to the same effect and cannot detect the relativistic changes.

However, light signals received by a stationary observer reveal the changes.

Although not strictly analogous, this situation arises even in classical physics.

If we stand near a railway track, the pitch of a train whistle drops as the train goes past, while for a passenger the pitch remains constant.

Returning to our atomic clock, experiments have shown that the process of radioactive decay is also subject to the relativistic changes.

Such material emits charged particles to produce 'clicks' on a Geiger counter.

If the material is attached to the rim of a disc which is then rotated at high speed, the average time between clicks increases during motion away from the counter, in accordance with relativity.

So we can be confident that the launching of Sputnik I from its Westminister pad and its subsequent flight into an orbit high above Britain would cause the clock to run slow (except for those MPs who‘equate’ the building at slast off).

The introduction of material objects, whether man-made or natural, to the problem of space and time related to the character of our experiences?

After 1916, this outlook led him to a theoretical impasse as we shall see later, both in the development of general and quantum theory.

An individual's experiences—sense data—are taken as the main items of scientific research.

On the first page of his 'The Meaning of Relativity' he explains his philosophical position:

The object of all science... is to co-ordinate our experiences and to bring them into line with a logical system. How are our customary ideas of space and time related to the character of our experiences?

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An individual's experiences—sense data—are taken as the main items of scientific research.

On the first page of his 'The Meaning of Relativity' he explains his philosophical position:
‘If, nevertheless, the neo-Kantians are attempting to resurrect the Kantian concepts...’ This is, at least the special theory was talking about real things.

Forty years separated the publication of Einstein’s original paper and the destruction of Hiroshima in 1945. In the intervening years, thousands of scientists and mathematicians worked on his theory, yet it was Einstein himself who made the next major step forward in 1916. It was in this year that he published his General Theory of Relativity—a theory of gravitation.

Einstein’s re-examination of space and time, which led to the special theory, had rejected Newton’s concept of absolute space and time, yet he realized that in many ways it remained inadequate and as limited as Newtonian theory.

**SPECIAL**

If the result of an experiment performed on a stationary platform is the same as the result obtained in a train moving along at a constant speed—the principle of relativity—a theory of gravitation is Einstein’s theory and Einstein’s special theory—the question arises: ‘Why are we restricted to a straight track or a constant speed? In other words, why are we restricted to special frames of reference?’

Conversely, if we are restricted in this way, what determines which frames are which?

Paraphrased, Einstein argues as follows: ‘We can think of no cause for the restriction for special observers, unless we say that this is a property of space-time. In which case, we have rejected Newton’s absolute space and time for an absolute space-time

which determines material processes.’

Einstein, correctly, rejected this as unscientific and de- manded that the principle of relativity be extended to any motion.

At first sight, this seems ridiculous. Surely, no-one is going to be convinced that they are standing on solid ground when, in fact, they are riding on a roller-coaster!

In a way, Einstein does precisely this and in so doing developed a theory of gravitation, in which matter and motion became inseparably linked.

**THE CONCEPTS of mass and energy are basic to any system of mechanics . . . but what are they?**

In the first case, it used to be said that ‘mass is quantity of matter’. Such a definition seems circular and makes sense only if all matter were made up of identical atoms and we could simply count their number in any given body.

One body would then have twice the mass of another if it contained twice the number of atoms.

**PHYSICAL**

However, above all, this definition in no way indicates how the concept of mass arose from man’s practices, from scientific experimentation, as a quantitative measure of a real, physical quality.

Mass emerged as a measure of inertia, that is the property of a body to resist changes in its motion. It is easier to throw a pebble than to move a boulder; a boulder requires a large force to deflect it from its path, while a football changes direction hundreds of times during a season.

This property of inertia, independent of other properties, as mass, temperature and shape gave rise to the concept of inertial mass.

But if matter is essentially inert, what motivates matter—what is the ‘impelling power’ of physics?

The reply of physics is—energy. This can take many forms—the thermal energy of a hot body; the potential energy in the process of melting or burning; the kinetic energy of a body in the process of motion; the chemical energy of a wound spring which is then released.

Energy is usually represented in physics as a non-material entity. It is an end in itself, as it can undergo endless transformations under the influence of non-material energies whose association with inert matter is responsible for physical change.

Marxists seek no cause for the rejection of the concept of energy for its motion. Matter is self-motivated. Matter includes not only the quality of inertia, but the quantity of the same. In this way the concept of the ‘motivility’ or ‘impelling power’—measurements of which define quantities of energy.

In other words, energy is the quantitative aspect of matter’s energy, and inherent tendency to be active.

The dialectical unity of energy and inertia is expressed in the numerical equation of energy and mass, in accordance with Einstein’s equation: energy equals mass multiplied by the velocity of light squared.

This does not mean that mass is equal to ‘energy’ itself.

Rather, rotary and inertia are dialectically opposed physical qualities, mutually transformable in accordance with Einstein’s equation.

Transformations of inertia into moticity and vice versa take place in every chemical reaction (such as the burning process) but, in these cases, changes of mass are extremely small.

**ANNIHILATION**

However, within the modern particle-accelerators, the so-called ‘annihilation’ of matter and the ‘materialization’ of energy is commonplace and easily detectable.

The special theory of relativity was therefore a triumph for the non-materialist conception of matter.

Einstein’s equation (in mathematical form) expresses the invariance of the physical quantities, mass and energy.

To the formalist and idealist, this exhaustion of the relationship—the form is taken for the content, the unity and opposition of qualities, motivity and inertia.

In Newton’s world, particles moved in empty space acted on by forces external to them. Mass was divorced from (non-material) energy.

**IMMEDIATE**

In particular, astronomical bodies influence each other a distance through the force of gravity, completely separated by empty space.

This action at a distance is instantaneous.

According to the Newtonian theory of gravitation, if I lift my little finger, I change the distribution of mass in this part of the universe and immediately, the farthest stars change their courses in a predictable way.

Einstein’s theory rules out instantaneous action at a distance.

If the maximum speed for signals is that of light, then lifting my little finger will not affect the sun for eight minutes, the time taken for light to travel 93 million miles.

During the eight minutes, ‘something’ is travelling between the earth and the sun—energy.

Empty space is therefore replaced by a real gravitational field, a region of energy. Inertia and motivity are reunited.

However, gravity has an unusual property. If we release two unequal stones from the same height, they hit the floor at the same time. The force of gravity will differ for the two stones (that is, they have different weights), yet their accelerations are the same.

This may be expressed by saying that the stones have different gravitational masses.

**KEY**

What is surprising is that the most refined measuring techniques to date have failed to detect any difference between the gravitational mass of a body and its inertial mass.

Newton simply accepted this as a fact and talked about ‘mass’.

For Einstein, this ‘principle of equivalence’ became the key to his general theory of relativity.

Just as the constancy of the speed of light led to the special theory and mass-energy law, so the principle of equivalence was to lead to a general theory of gravitation.

Einstein hoped that this would also resolve the problem of ‘special observers’, discussed in our last article.

Mach, at the last part of the 19th century had already put forward the proposition that such observers were naturally selected by the gravitational effects of the distribution of matter in the universe.

In other words, we got our inertial bearings from the stars in a very real sense and this neatly explains why the ‘star sphere’ which we see when we star-gaze is fixed.

If ‘Mach’s Principle’ were correct, then the rotating heavens would automatically carry our ‘fixed’ frames round with it and no one would know the difference.

**MATERIAL**

The main point about ‘Mach’s Principle’ is that it was the natural solution to the problem of the special observer rather than attribute the properties of empty space.

This was the attraction of ‘Mach’s Principle’ for Einstein himself, who saw it as a natural extension of his relativity.

Yet before he could return to the special observers, they had to be discarded. Which brings us back to the roller-coaster.

So shut your eyes, enjoy the ride and think of the principle of equivalence. Now, where are you?

To be continued.
Rebirth Of Trotskyism In Canada

SPECIAL TO THE BULLETIN

MONTREAL, December 14: Comrade Wohlfirth, National Secretary of the Workers League, addressed a meeting here today at McGill University on "The Struggle for Marxism in Canada." The meeting marked an important new stage in the development of Trotskyism in Canada. In the afternoon a new Workers League branch was formed in Montreal.

In the afternoon the meeting a new Workers League branch was formed in Montreal.

Comrade Wohlfirth's talk centered on Trotsky's struggle against pragmatism and for dialectics in 1940. He emphasized that Canada has not only been penetrated by American industry and finance capital but has also absorbed American culture and views, unlike the rest of the world, including the United States which would favor a Canadian working class in conducting a united and revolutionary struggle to overthrow capitalism—Canadian and American—Canada and throughout the continent and world.

HYSTERIA

Wohlfirth explained how the petty bourgeois opposition in the SWP in 1940 was swept away by its program to reflect the anti-Soviet hysteria among the middle classes and its reaction to the analogy of an "amphetamines" on the eve of the war. "Today the capitalists are using a very similar hysteria around this question of terrorism. We can see that the same forces which support the FLQ and we see it in the United States with the Panthers and others."

He noted that the SWP today was seeking to build a broad front against the Petro Plains hysteria campaign by running its own "protest" demonstrations, parallel campaign against terrorism and by attacking the Panthers precisely their break with black nationalism accusing them in the process of preaching terror.

PABLOITAS

In Canada, Wohlfirth commented, the Pabloite LSA-IJO refused to confront the real issues. "They are forgetting that fighting it only on a civil liberties basis and in the name of consumerism is in C:

progression against the separatist move.

ment. They refuse to see it as a class struggle, as a Canadian working class as a whole or to fight back against the attack in a class way."

"It would be a mistake to see these Pabloites as simply adapting to middle

class currents, such as the peace move-

ment in the United States, and French separatism, without recognizing that this sensitivity to the middle classes is a problem which is with us now and in the immediate future. These groups are really reflecting the fear of the working class and the most vicious kinds of betrayals of the working class by the Canadian working class above all which will be the result of the Pabloites are allowed to get away with it."

In conclusion Comrade Wohlfirth felt thedockers' great hunger for Marxism in Canada and explained the objective reasons for a rebirth of this theory.

THEORY

"Theory in Canada, like the United State workers is in front of GM plant in St. Thomas, Quebec. Some 26,000 General Motors workers in five Canadian states are negotiating for the first time in the history of the United States. This strike illustrates the need for united struggle of all Canadian workers with American workers against the bosses.

Workers in the United States have struck against the bosses and their agents in defense of their jobs, their wages and their working conditions

Their struggle is the struggle of all workers in the world, regardless of their nationalities, against the bosses and their agents.

The struggle of the United States workers is a struggle for the future of the world. The victory of the United States workers will give strength to all workers in the world in their struggle against the bosses and their agents.
Witchhunt Against AIM Students

BY A STONY BROOK STUDENT

STONY BROOK, N.Y.— The prospects for working class and minority youth obtaining quality, free higher education grow dimmer as state and federal aid to education is continually found on the Nixon-Agnew chopping block.

At a time when unemployment is skyrocketing, many youth in college are finding it increasingly difficult to make ends meet despite tuition waivers and are being forced to take out loans to remain enrolled in schools with programs designed to alleviate these financial obstacles.

One such program called Advancement on Individual Merit (AIM) in the New York State university system, is clearly being threatened on the Stony Brook campus by the introduction and stricter application of “guidelines and regulations” governing the maintenance of the program.

CUTBACKS

In recent months, statements by the Nixon Administration have expressed their clear cut intentions to institute massive cutbacks in funding for national and state programs like AIM, in efforts to narrow and eventually eliminate the presence of “undesirable and dissident” elements on the campuses.

Explicit statements have been made to the effect that student militants should be investigated as to the extent of any financial assistance they receive and that this assistance be stopped. It should be noted here, that in the wake of a two month rush of bomb scares, the FBI was recently allowed to make extensive investigations on this campus, supposedly justified by the bomb threats.

Days ago, the Carnegie Commission suggested a complete revamping of the university system, reducing a student’s stay from four years to three, so as to limit the “experimentation with varied life styles” and contact with “radical ideas” which the Commission feels are resulting in witchhunting and repression against unregistered students.

That is an illusion that we must look at recent developments in the AIM program at Stony Brook.

INTIMIDATION

Here, the demise of the program is being overshadowed by incessant forms of intimidation directed against it supposedly because of a rising crime rate that is plaguing the campus. Some AIM students, all of whom are black and Puerto Rican, have been charged with committing crimes on campus. This is being used in a racist campaign by state administrators as the excuse to carry out repressive measures against these programs suggested by the Nixon Administration.

The alleged and trumped up boisterous or criminal conduct is being used to justify the abolition of the program through the adherence to stricter guidelines governing conduct and grades, and tighter entrance requirements. But because these repressed are only covers, “justifications,” for the wider repression being taken up at this time against the working class and its youth, we know that it’s just the beginning.

GI's Show Solidarity With Viet Cong

Class Hatred of U.S. Imperialism

BY A BULLETIN REPORTER

Imperialism is finding it more and more difficult to hide the fact that its Army is in revolt and has refused to defend its interests.

It has been reported that the only section of the Army in Vietnam that shows any discipline are new recruits. The new recruits coming to Vietnam are isolated from the rest of the GI's for the first year of their tour of duty in keeping with tight security and protected by barb wire fences.

But all the barb wire in the world will not stop the youth in the army from realizing and acting on their class interests against the interests of imperialism.

Last week a medical research associate at Harvard Medical School, Dr. Charles Levy, testified before the Senate that after interviews with 60 ex-Marines that had served in Vietnam, he found they were more hostile to the South Vietnamese Army and their own officers than toward the Viet Cong.

CLASS

In his testimony Dr. Levy reported that they talked about: ‘‘They talk in terms of the Viet Cong and North Viet

namese Army not being the primary focus of their hostility. Instead, according to Levy, the Vietnamese were invariably positive.’’

According to Levy, the problem should be resolved by a sort of ‘‘boot camp in reverse’’ to undue these ‘attitudes.’’

The government and the psychologists these attitudes are the result of ‘emotional problems.’’

But what is actually being expressed by these youth in their very real class hatred of imperialism and the war and a feeling of class solidarity with the Viet Cong.

ATTACK

The right of youth to a decent education preparing them for useful activity in society is under basic attack and an ominous burden is falling on the working class and minority youth. Programs for working class youth entitling them to equality in education are under the gun. Budget cuts are being made, and the programs are being slashed and slandered with京东 stories, and the citizenry are led to believe that the attacks on funding programs and an end to the repressive attacks.

Above Black GIs meet in Heidelberg to oppose the war and fight back within the army.

FEAR

All this means is that the government is at no loss to spare huge sums to crush another section of the working class. This fear, that the rulers fear so much, is that youth fighting against the hated policies of a decaying system. As the youth grows and moves forward, the government fears the youth and the use of the military. But, as the youth and workers move on, the government fears the youth and workers. The government fears the youth and workers move on, the government fears the youth and workers that could lead to a movement to destroy the enemy of progress, capitalism, and replace it with a system based on progress, socialism. The fighting against these cutbacks must be part and parcel of the struggle to build a mass working class youth movement to defeat capitalism.
Prison Report
Cover Up For Murder
GILBERT JIMENEZ

INTERVIEW WITH

A. Well I think they are hiding their guilt. They went right in and made direct promises to the inmate, then they would do everything within their power if any information about what happened there. In other words they swore that there would be no witnesses or evidence.

Q. Now they are just going along with Lindsey's story, isn't it?

A. Definitely, that's it, you know they are part of the system.

Q. What does the Inmates Liberation Front plan to do now?

A. We, well, we had a press conference and we are having a meeting with a coalition of local labor unions. We are getting ready to attack the whole thing, the prison, so we can make the people aware.

Well I'll tell you one thing, the trial is going to definitely expose things. It is going to be one of the best trials in the history of the U.S. because it is going to expose the whole prison system throughout the U.S. and it is going to bring a lot of things into light. A lot of officers will be exposed; a lot of corruption should be arrested.

Funds for bail are urgently needed. We urge all our readers to send con... about the Inmates Liberation Front.

State Prison Strike in N Y

ANGRY TAXI RAMS FORCE
STRIKE IN N Y

BY A LOCAL 3036 MEMBER

NEW YORK—With a thunderous cory of "strike!" thousands of New York City taxi drivers from Lower Manhattan to the Bronx, Long Island City, and as far out as Yonkers, are striking against their own representatives.

The strike was called in protest against the proposed new fare, which taxi drivers feel is inadequate to cover the expenses of running a taxi.

BY A BULLETIN REPORTER

NEW HAVEN, CONN.—Under conditions of armed security, jurors are still being selected for the trial of Bobby Seale, Black Panther Party Chairman and Ericka Huggins.

They have been charged with aiding and abetting murder and kidnapping and with conspiring to murder. The murder was in the death of Alex Rackley in May, 1969. These charges carry the death penalty.

The case has all the makings of an elaborate and calculated frame-up. One of the primary prosecution witnesses will be George Sams, a police informer, whose testimony has been the focal point of the trial. The prosecution has been accused of using a conspiracy on a conspiracy charge of Leo title McKee. McKee is a former police officer who has been accused of conspiring against the police, and is now in a prison in New York City. The police, however, have denied any involvement and have stated that they would continue to prosecute the case.

The trial is expected to last several months and is expected to be a major test of the Black Panther Party's willingness to bare the brunt of the police harassment.

LABOR MUST STOP

PANIC REPORT

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LABOR MUST STOP
Union-busting Court Gives Cesar Chavez Life Sentence

BY EARL OWENS

SALINAS, Dec. 4—Today Cesar Chavez was sentenced to life imprisonment without trial by Monterey County Court Judge Gordon Campbell. Chavez will remain in jail until he agrees to call off his boycott against lettuce. The initial sentence is for 10 days but it will be continued indefinitely until, and if he gives in.

In this open union-busting action by the growers, Judge Campbell lays the responsibility squarely on the Nixon Administration for the unions. The action against Chavez is a vicious attack on the entire labor movement. The unions must immediately take up the fight to free Chavez.

Chavez was charged and sentenced for violating an injunction compelling the boycotting of lettuce. The injunction grew out of a dispute which began when the Teamsters staged a protest meeting in the Farm Workers Union office. Chavez, a member of the AF of L, signed a sweetheart contract with the growers.

STRIKE

Chavez and the United Farm Workers closed their offices to the strike. On Sept. 16 the Superior Court issued an injunction which compelled Chavez and growers to stop the boycott rather than fighting it out at this point of the boycott. The meeting began and began the nationwide boycott.

Now it is clear that the big corporations such as Safeway together with the growers cannot even tolerate the boycott and are viciously attacking workers even the basic right of union organization. What concerns the government fear is the growing determination and militancy of the workers. The workers and the politicians find Chavez’s unwillingness to take orders from the court intolerable.

The growers are attempting to set up company unions to counter-attack Chavez’s United Farm Workers Committee. The magazine California Farmer, owned by the growers, recently described a new organization called “Federation of Agricultural Workers” which will be put out by the growers to point out this new group is not against children working in the fields. This new group also opposes “another annoying mayor—Chavez,” the union hiring hall.

The fight to free Cesar Chavez must be brought into every union and into every central labor council meeting. Unless Chavez is freed many more union leaders will be imprisoned before long.

Local 400 Caucus

BY A LOCAL 400 MEMBER

SAN FRANCISCO—California state workers and welfare clients are among the first to be affected by the crustian bed of cutbacks in order to stave off what Reagan terms the “irreversible bankruptcy” of the state.

On November 30 Reagan ordered an immediate freeze on new hiring of state employees. An immediate freeze on new employment and on the purchase of necessary office equipment.

Several days later Reagan disclosed impending cutbacks upwards of $10 million which threatens to cut off medical insurance of all persons who earn more than $1,000 on state Social Security payments. All doctors and social service workers will have their fees cut 15% which is causing many doctors and agencies such as nursery homes to drop Medi-cali patients altogether.

In San Francisco, the Social Services Department will not survive until the end of the fiscal year in March without an additional $20 million. There is word that the already intolerable low wages which will be further cut at. At the same time many workers are threatened with layoffs. Because of the increasing numbers of people applying for welfare due to unemployment, caseworkers are avoirng with no relief in sight.

SEIU, a breakaway group from AFL-CIO Local 400, is engaged in a court suit to obtain status rights for social workers to become elected to Eligibility Worker jobs at a pay cut! This group of a union supporting actual demonstrators only reflects their demoralization and their inability to wage an effective campaign to fight for social workers to keep their own jobs.

Local 400 has taken the position of fighting to retain the social work jobs and to prevent any demotions and transfers of workers and telegrams have been sent to the mayor announcing this position, but what remains to be done is to mobilize city workers for a fight against layoffs and against attempts to cut real wages.

San Francisco city employees must see these attacks in the contest of massive layoffs of thousands of city workers in Ohio, Philadelphia and New York. They must see the threats to their wages in terms of talks of “payless pay days” for California state employees and in New York, and the offer of a mere 2.5% “increase” for San Mateo workers. The latter is actually a decrease when the cost of living is considered.

The Rank and File Caucus of Local 400 is fighting for a program to beat back these attacks. The cause will fight for the following motion at the next Local 400 meeting:

‘That Local 400 make the following demands:

1. A written contract.
2. Guarantee against layoffs.
3. 10% increase.
4. Dental and medical plan paid for by the city.”

It calls upon the Executive Board to prepare for the necessary strike action if these demands are not met.

Further, that by the end of January, Local 400 call a meeting with all affected employees and unions to make plans for seeing that these demands are implemented.

Randall, 400, calls for clearing the air of the panic in the department. There is no need to panic. The measures are being taken in the best interest of the city.

Local 400 Caucus

Hill Sabotages Fight Against City As Lindsay Closes Welfare Centers

BY AN SEIU-371 MEMBER

NEW YORK—Last week, Lindsay announced the closing of welfare centers. Bushwick City Council Member Hort, as well as three satellite centers. This is the latest follow-up to the layoff of 300 welfare workers and threats of paypays if no wage hike is reached.

The closing of these centers signifies a start on the shrinking of welfare centers. The city, at a time when the welfare rolls are growing and an increased need for welfare is being demonstrated.

In response to this vicious move, Stan Roth, a member of the Social Services Employees Union, has done next to nothing. Roth recently held a press conference for a showdown with the city, but has done nothing to fight for the jobs needed for a work action which amounts to no more than publicizing present policy in the department. Roth accepts work calls for workers to do “emergency” work on all cases over the contractual limits, and on uncovered caseloads. Furthermore, Roth denies that the planned caseworker job action would mean the squelching of more militant actions already being carried out in other centers.

GOTTHAUS

Hill tried to justify his position by saying this was the first work action in the union in over a year which was sponsored by Victor Gottahas, head of District Council 37. It is true that this was the only reason that Gottahas is supporting the action, in fact it is a meaningless gesture which can only have the effect of demoralizing staff and thus cooling off the situation for him, while allowing him to build a militant facade. Thus, Gottahas’s precious relationship with Lindsay will be saved, and the necessary confrontation with the city over these critical questions can be avoided.

The Committee For A New Leadership has been fighting citywide to turn the fight into a real fight, by calling for no work on emergencies. Workers have made it quite clear that they want to go further than the leadership will accept.

LAYOFFS

This was the reaction, not only in relation to the overwork situation, but also in regard to the fight against the layoffs. The City Council made a motion on the floor of the last meeting of the Delegates Assembly which would have meant that Hill’s militant reaction in words to the layoffs (his call for strike) would have had to be put into action. The motion called for the SEIU to take the fight for strike action against the firings directly to the rest of the ranks of the District Council. Through leaflets, radio, newspaper and public appearance.

The motion passed by a vote of 39-35, with three of the four people counting, in agreement. The leadership refused to recognize passage of the motion and refused a call for recount and a division of the house.

STAND

In this period, with Lindsay dealing blow after blow to the city’s labor movement, and most of the major municipal contracts coming due at the end of the month, a real counter-offensive must be waged. The SEIU is fighting citywide for a policy of “minimum wage increase.”

If this policy is not fought for by the rank and file, against the will of the union leadership, Lindsay will keep pounding away until he is able to deal the worst possible blow to any union that stands in the way. New York City. Labor must take a firm stand now. Lindsay must be put on notice that if he attacks a union, that city will be paralyzed this winter.