

appreciation once their bold and novel air journeys are completed. The London "Times" comments: "The day when the navigation of the air will be as safe and as sure a means of transport as any other devised by the mind and hand of man has been brought sensibly nearer."

### In the Interests of Safety— Magnetic Testing of Steel

**I**NCREASING importance is being attached by engineers to two quite new methods of testing steel—such steel as that from which railway rails and elevator cables are made. One is known as magnetic analysis, the other is the examination by X-rays. Both of these methods permit the actual metal which is to be used to be studied internally and non-destructively.

This is important, for all previous methods of testing structural metals which are to be used in places where lives depend upon their integrity have been based on the relative uncertainty of tests made on samples chosen at random. Sometimes these samples have proved to be unrepresentative of the lot of steel from which they were chosen, in that disasters have resulted from the failure of engineering structures which were designed on the faith that the metal was uniform in quality. Press comment on accidents, to the effect that "the cause of the failure of the structure is unknown, competent engineers having stated that the design was faultless," doubtless often cover the inability of the best makers of steel to give positive guaranty that all of their product is "like sample."

Now comes a way to test, not mere

samples, but the whole product of the rail mill or of the steel mill which makes beams and columns for bridges and buildings—and that as fast as they are made, and without doing them the least injury.

### What Magnetic Analysis Is and Does

**S**OME years ago it happened that Dr. C. W. Burrows, who was in charge of the Magnetic Section of the Bureau of Standards, was making an investigation which required two short steel bars having identical magnetic qualities. The requirement seemed simple, but after long search involving efforts by the best steel experts it was found that two such equivalent pieces of steel could not be made. The slightest variation from place to place of the physical qualities of the steel was instantly revealed in a corresponding variation in the magnetic qualities.

Dr. Burrows realized that he had found a new method of testing magnetic metals; and the subsequent perfection of the technique has made it possible, by passing the product as it is made through an electromagnetic field the qualities of which are instantly influenced by the slightest changes in the quality of the metal, virtually to "see" the inside of the piece. If there are any minute cracks, any flaws, or any inclusions of weakening foreign matter, they are instantly "spotted" by a flash from a light which is operated by highly delicate electrical instruments.

Elevator cables which are made of many twisted wires often weaken inter-

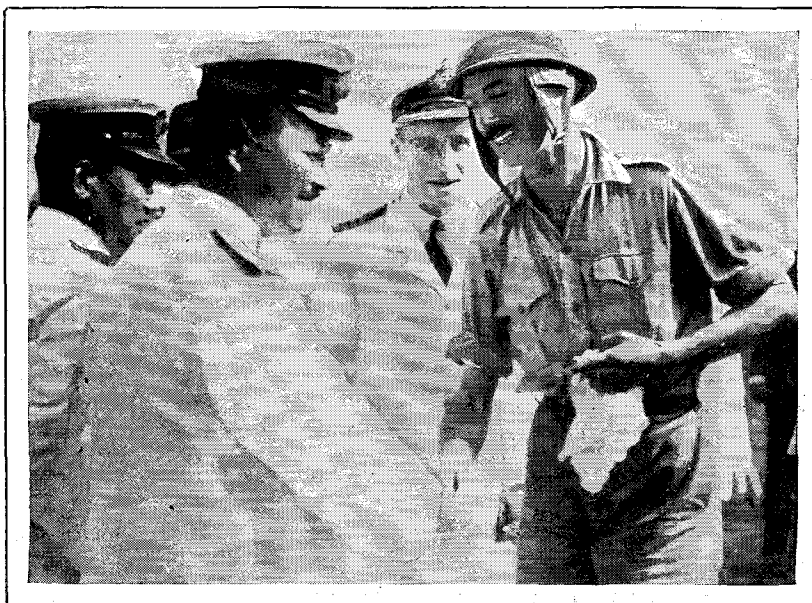
nally because some of these hidden wires break. But when such cables are periodically run through the "magnetoscope," as the testing device is termed, any such broken wires are as surely located as if they were visible.

Smaller parts of machinery are also being regularly tested under X-rays, which may reveal physical defects of a similar sort, but this method cannot be extended to large pieces either rapidly or economically.

### France and the Financiers

**A** CONFERENCE in which there are one hundred and fifty participants is not the best means for reaching speedy decisions. Those who looked for a quick solution of Europe's difficulties at the London Conference now in session had short memories. The Washington Conference in 1921-2, which was the most successful conference of recent years, was in session from the eleventh of November to the sixth of the following February, and most of that time was engaged in reaching an agreement in detail upon a proposal on which agreement in principle was reached in the very first session. No such unanimity has marked the London Conference—or any of the conferences on reparations, for that matter—at any stage of the proceedings. The one advantage that the London Conference has over other reparation conferences is that it has before it the Dawes Report, upon which agreement was reached without any conference at all.

What constitutes the chief stumbling-block in the way of agreement is the question as to the right of any one Allied nation to take separate action in case of German default and the failure of any other method to bring Germany to terms. The Versailles Treaty recognizes such right in the "respective" governments. The bankers who can raise the money to loan to Germany to enable her to start her reparation payments apparently do not want this right of separate action retained. They say that people will not buy German bonds if at any time France may occupy German territory. On the other hand, France declines to yield what she regards as the sovereign right of choosing for herself what she must do in an emergency for her own protection. If any group of bankers should propose that America should let other nations decide what she must do for her own safety, they would



International

Major MacLaren on his arrival in Japan welcomed by a Japanese naval officer

not have to wait long for an answer. Some of the very Americans who now find fault with France for wishing to retain her independence would be the most emphatic in declaring the independence of the United States.

There ought not to be any fundamental difficulty in providing guaranties if the other nations believe as strongly as France does that Germany ought to repair the damage she did. If those guaranties are strong enough, it will be quite unnecessary to raise the question whether France or any other nation should yield its right of self-defense; for a strong joint guaranty would make independent action unnecessary, and therefore wholly beyond the range of practical possibility.

### Mussolini Attempts Reform

SINCE the special correspondence from Rome printed in this issue was written Mussolini has taken action which answers in part the questions that our correspondent asks. It is clear that, in order to extricate himself from the position into which he is placed by the Matteotti murder, Mussolini realizes that there must be instituted reforms within the Fascista Party itself. According to a special despatch by wireless to the New York "Times," Mussolini recently outlined a programme for the Fascisti to follow. This included:

The election of a new directorate of the party by the free vote of the Fascisti.

The expulsion from the party of all its good-for-nothings, its exploiters, and its lovers of violence for violence' sake.

The establishment of a super-court of discipline to be presided over by a non-Fascista—a sort of Judge Landis, we suppose.

The development of the Fascist trade-union movement simultaneously with Fascist collaboration with capital, to the end that profits of capital be shared with the workers.

It will surprise no one to learn that the Grand Council of the Fascisti enthusiastically and unanimously indorsed his programme. Open dissent from the publicly announced programme of Mussolini would be as improbable among Fascisti as a publicly acknowledged debate in the Kloncilium of the Ku Klux Klan over the recommendations of the Imperial Wizard. This means simply that Mussolini, like every other good

leader, continues to keep in touch with the people whom he leads.

### Tolstoy on Trial

ACCORDING to a despatch from Vienna which we find in the New York "Herald-Tribune," the Bolsheviki have been enjoying themselves in a public trial of Tolstoy. Those of us who remember Tolstoy may at first wonder whether the philosopher, Socialist, and radical was selected for reprobation because of any supposed immoral tendencies in his books. Those who object to certain things in his "Resurrection" and "Kreutzer Sonata" might mistakenly think this to be the case. Not at all! The terrible charge was brought that Tolstoy was *bourgeois*, which from the Red point of view is far, far worse than being immoral.

The story relates that the widow of Lenine appeared as prosecutor, and she is quoted as saying: "I have read Tolstoy's works, and I maintain that their effect is worse than that of opium; they are permeated with the poisonous doctrines of the *bourgeoisie*. Every line is full of narrow-minded ideas." Comrade Krupskaja, as Lenine's widow is called in this story, went on to speak of Anna Karenina as nothing but "a sentimental *bourgeoise* caught in the toils of middle-class morality," and declared that Tolstoy's women generally fell far below Communistic ideals.

Following the process by which canonization is attained by saints in the Roman Catholic Church, the court appointed an advocate to defend the culprit—no less a person, in fact, than the Minister for Proletarian Education. He was a very mild defender indeed, for he admitted that the case was one which his conscience really forbade him to espouse and that Tolstoy was really and truly middle class and *bourgeois*. He could plead but one extenuating circumstance, and that was "that the accused lived at a period when the proletarian dictatorship and its culture were unknown."

It is not surprising that the jury convicted poor old Tolstoy, who died thirteen years ago thinking that he was a radical of the radicals. The verdict was that Tolstoy's books should be removed from all public and private libraries so far as they might have contaminating *bourgeois* influence; that they should be ground into pulp, and that the pulp should be made into paper which should

be used for printing the nobly educational and humane works of Lenine and other Red authors who were, in the opinion of the court, to be looked at as the modern Tolstoys, Dostoievskys, and Turgenevs.

One interesting feature of this extraordinary trial was that the phrase "proletarian dictatorship" was used officially in this trial. This is the true and precise definition of the underlying doctrine of Bolshevism, and was used by Lenine himself in a published address made in April, 1918, and at the time reported in The Outlook. The phrase is far more descriptive than the words Communism, Socialism, and Anarchism, which are commonly and loosely used. The philosophy may be wearing out a little at the edges and may be less strenuously proclaimed than before, but Bolshevism remains in essence unchanged.

### The Crime of a Persian Mob

RELIGIOUS superstition and priestcraft rather than any nationalistic feeling incited the mob which killed Major Robert Imbrie, Vice-Consul at Teheran and injured his companion. Apparently the mob did not know, and probably did not care, that its victims were Americans or, in fact, foreigners of any kind. The delusion which possessed the minds of these Persian fanatics was that their victims belonged to the hated sect of the Bahais. Believing that the water in a sacred well had been poisoned by Bahais, who may be classified roughly as Persian modernists, the orthodox crowd set upon the two Americans with all the passion of lynchers set upon a criminal and fanatics set upon a heretic. The Americans had descended from their carriage with the purpose of taking a photograph, and, being warned, had attempted to drive away. Unfortunately, there were Persian soldiers in the crowd and there were only ineffectual and feeble attempts on the part of the police to control the assailants.

Though the Persian Government has apparently of its own free will made apology and offered punishment of the guilty as well as financial indemnity for the widow, the United States Department of State has thought it advisable to send the Persian Government a very blunt note. The Department's indignation over the affair was increased when later word came that after the murder of Major Imbrie his widow was insulted