

Zeitschrift: IABSE congress report = Rapport du congrès AIPC = IVBH
Kongressbericht

Band: 2 (1936)

Rubrik: A. Ceremonial opening meeting

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A

CEREMONIAL OPENING MEETING
FEIERLICHE ERÖFFNUNG
OUVERTURE SOLENNELLE

Reichstag Assembly Hall in the Kroll Opera House

Berlin, October 1st, 1936

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Freiherr von Eltz-Rübenach,

Reichs- und Preußischer Verkehrsminister, Berlin.

Gentlemen!

In the name of the Government of the German Reich I offer a welcome to the Second Congress of the International Association for Bridge and Structural Engineering. I have the special honour of conveying to you the greetings of the Führer and Reich Chancellor, who takes a lively interest in your proceedings and is especially pleased that your meeting should be taking place in Germany. The Führer has recognised the importance of your meeting by signifying his special wish that members of the Reich Government should be members of the Honorary Committees of the Congress.

I give expression to the wish that the labours of your Congress may prove successful. May they play their part in promoting your researches and in enriching technical and scientific knowledge in the field of structural engineering. The fullness of your agenda and the topical importance of questions relating to steelwork, reinforced concrete and foundations give promise of a bountiful scientific harvest, and this promise the wide scope of your Preliminary Publication confirms.

The new Germany is keenly concerned to play her full part in cultural collaboration between the peoples, recognising in this a powerful means of drawing them closer to one another, and of erecting between them bridges of mutual understanding.

The Government of the Reich have already shown their interest in your Association by giving their consent in 1932, at the instance of your vice-President, *Dr. Klönne*, to the Second Congress of the International Association for Bridge and Structural Engineering being held in Berlin in 1936. At that time the German invitation had to give way to an earlier Italian invitation to Rome, but special circumstances have since arisen which led to the Italian wish that the meeting in Rome might be postponed to another year, and it was a particular pleasure to me that this change led to a renewed German invitation to the Association to hold its Congress in Berlin and Munich.

Gentlemen: when, in May 1932, the French Minister of Public Works, *M. Guernier*, as representative of the French Government, opened your Congress in Paris, France and the whole of Europe lay in the shadow of the terrible murder a few days earlier of the President of the French Republic, *Paul Doumer* — a crime which threw its pall over the First Congress and everything associated therewith. To-day also there are parts of the world which suffer the scourge of political troubles and of grievous strife. I am convinced, however, that these lamentable happenings will not impair that harmony which has always distinguished the common labours of those who practise the technical sciences.

The renaissance of Germany during the last few years has greatly stimulated constructional activity. The execution of great constructional schemes has proved a particularly effective means of reducing the army of a million unemployed, of restoring work and livelihood to many of our fellow citizens.

Among the new works constructed in these years are many which lie within the special fields of interest of your Association. Among the numerous bridges erected I may be allowed to recall those — already within your knowledge — across the Main at Frankfurt, the Mangfall bridge, the bridge over the Sulzbachtal, the bridge near Siebenlehen, the arched bridge over the Saale at Lehesten, the Bergen viaduct; also the magnificent new Rhine bridges at Duisburg, Krefeld and Neuwied, and the Rügendamm bridge which has been brought under traffic within the last few days — and, to mention also a reinforced concrete structure, the Mosel bridge at Coblenz. In all these bridges importance has been attached not only to progressive methods of construction, but also to aesthetic aspects of design. Harmonious relationship to the landscape has been no less emphasised than care in construction and reliability of materials. Many structures of other kinds, within your field of work, have arisen during these last few years, among them buildings designed to serve many purposes: I may mention the Deutschlandhalle and the Reichssportfeld in Berlin, the many great airship and aeroplane hangars of steel and reinforced concrete, the buildings at Nuremberg, and many industrial buildings which exhibit important technical advances and numerous innovations. Steel and reinforced concrete construction alike are in a state of rapid and continuous progress. The Reich administration of waterways, which is under my charge, has erected at Niederfinow a ship elevating work of unexampled size. I hope you will have opportunities in these coming days to inspect some of these works and to form your own impressions from them of the capacity of German engineers, bridge fabricating works, and contractors for structural and foundation work.

I wish the Second International Congress for Bridge and Structural Engineering a smooth voyage and rich scientific gains; it is my special desire that our foreign guests may feel welcome among us, receiving not only enrichment of their knowledge but pleasant impressions, and may return to their own countries full of friendly memories.

Prof. Dr. A. Rohn,

President of the Board of the Swis Federal Institute of Technology, Zurich.
President of the International Association for Bridge and Structural Engineering.

Herr Reichsverkehrsminister,

Exzellenzen,

Herr Generalinspektor,

Meine verehrten Damen,

Meine Herren Kollegen.

Zu einer Zeit größter Unsicherheit und Unbestimmtheit auf internationalem Boden gehört gewiß eine außergewöhnlich optimistische Weltanschauung dazu, internationale wissenschaftliche Kongresse ins Leben zu rufen.

Unter diesen Zeitumständen war es für unsere Vereinigung ein besonderes Glück, daß sie die Organisation ihres 2. Internationalen Kongresses dem Deutschen Reich und seinen vielseitigen, machtvollen und hervorragenden technisch-wissenschaftlichen Einrichtungen anvertrauen konnte.

Der allererste Dank, dem ich, im Namen der Internationalen Vereinigung für Brückenbau und Hochbau, Ausdruck verleihen möchte, gebührt daher der Hohen Deutschen Regierung für den diesem Kongreß gewährten Schutz; er gebührt dem Deutschen Organisationsausschuß, der unter der zielbewußten und tatkräftigen Leitung des Generalinspektors für das deutsche Straßenwesen, *Dr. Todt*, diesen Kongreß in jeder Beziehung in vorbildlicher Weise vorbereitet hat.

Ich darf wohl hier etwa die Worte gebrauchen, mit denen der Herr Reichskanzler letzten Sonntag Herrn *Dr. Todt* gekennzeichnet hat: Ein Idealist größten Ausmaßes im Glauben an das zu unternehmende Werk, zugleich ein Realist und schärfster Denker in dessen Verwirklichung.

Ist dies nicht die schönste Definition des Ingenieurs, als dessen Vorbild ich unsern Kongreßpräsidenten begrüßen möchte.

Unter den Mitarbeitern des Herrn *Dr. Todt* sei mir gestattet, Herrn Ministerialrat *Schütte* zu nennen, der sich in restloser Hingabe und mit größter Sachkenntnis für diesen Kongreß eingesetzt hat. Mein Dank gebührt sodann unseren wissenschaftlichen Mitarbeitern aus allen Kulturstaaten, die in Verbindung mit unseren Generalsekretären und technischen Beratern, die wissenschaftliche Vorbereitung dieses Kongresses getroffen haben.

Es freut mich besonders festzustellen, daß die dreisprachige vollinhaltliche Herausgabe der Kongreßberichte auf Wunsch des Deutschen Organisationsausschusses erfolgte und durch seine weitgehende finanzielle Hilfe ermöglicht wurde. Ebenfalls war es der Wunsch des Deutschen Organisationsausschusses, den Wirkungsgrad der Arbeitssitzungen dieses Kongresses dadurch wesentlich zu verbessern, daß alle Mitteilungen gleichzeitig in der einen oder andern Kongreßsprache angehört werden können.

Meine Damen und Herren.

Der internationalen Zusammenarbeit treten heute auf dem Felde der Politik beinahe täglich neue Schwierigkeiten entgegen. Umsomehr sind alle Bestrebungen zu unterstützen, die dazu geeignet sind, die geistigen Fäden unserer Kultur nicht zerreißen zu lassen. Hierin liegt der Hauptwert internationaler Kongresse, veranstaltet und besucht von Männern, die sich bewußt sind, daß sie auf geistigem Gebiet eine wertvolle Vorarbeit zu leisten haben, die sich hoffentlich später auch darüber hinaus, auf politischem Gebiete, auswirken werde. Die Ingenieure sind unter den geistigen Arbeitern ganz besonders dazu geeignet, diese Vorarbeit zu leisten, denn einmal führt sie ihre Tätigkeit oft über die Landesgrenzen hinaus, dann aber liegt ihnen jede konstruktive Aufgabe, jede aufbauende Arbeit im Rahmen der Anwendung untrügbarer Naturgesetze besonders nahe.

Es waren solche Überlegungen, die es uns zur Pflicht machten, alles aufzubieten, um den eingeführten vierjährigen Turnus unserer Kongresse wenn immer möglich aufrecht zu erhalten.

Nachdem festlag, daß die Abhaltung unseres 2. Kongresses in diesem Jahr in Rom — wie ursprünglich vorgesehen — nicht möglich sei, konnte, jedoch erst am 14. Januar dieses Jahres, in München endgültig beschlossen werden, diesen 2. Kongreß achteinhalb Monate später in Berlin durchzuführen. Man muß diese Vorbereitungszeit miterlebt haben, um zu wissen, welche Aufopferung aller Beteiligten nötig war, um in so kurzer Frist eine in jeder Hinsicht gleich einwandfreie Tagung vorzubereiten.

* * *

Der Wunsch, die Bauingenieure zu wissenschaftlicher und konstruktiver Zusammenarbeit zusammenzuschließen, führte zu einer ersten freien Tagung, die im Jahre 1926 in Zürich abgehalten wurde. 1928 folgte ein ebenfalls freier Kongreß in Wien, worauf 1929 unsere Internationale Vereinigung gegründet wurde. Ihr 1. Kongreß wurde 1932 in Paris, leider im Schatten der wenige Tage zuvor erfolgten Ermordung des Präsidenten der Französischen Republik, durchgeführt.

Die Beteiligung an diesem Kongreß übertrifft alle unsere Erwartungen; trotz aller Schwierigkeiten dieser Zeit sind 36 Staaten durch 1200 Teilnehmer vertreten. Dieser Kongreß wird somit einen Markstein in der Entwicklung unserer Vereinigung und was wesentlicher ist, einen Markstein in den Richtlinien der Vorbereitung internationaler Zusammenarbeit darstellen.

Unsere Mitglieder wissen alle, daß ein in Deutschland durchgeführter Kongreß jede Gewähr für beste Organisation, nutzbringende Arbeit und anregende Erholung und Geselligkeit bietet; darüber hinaus aber hegen unsere Mitglieder das größte Interesse für eine Fühlungnahme mit ihren deutschen Kollegen und mit dem deutschen Volke überhaupt, — mit diesem Volke, das sich in so verständnisvoller und vorbildlicher Weise im Werke des Wiederaufblühens des Deutschen Reiches eingespannt hat.

* * *

Erlauben Sie mir eine kurze persönliche Reminiszenz: Vor 36 Jahren wurde ich als Statiker und Konstrukteur bei der Gutehoffnungshütte im Ruhrgebiet

angestellt. Ich verdanke den acht Jahren, die ich dort blieb, außergewöhnlich viel; vor allem die Freude an der Arbeit und die Freude am Beruf..

Zähigkeit, Fleiß und Arbeitswillen sind die ureigensten Eigenschaften des deutschen Volkes; dieser Geist hat die deutsche Industrie und Wirtschaft in hervorragender Weise befruchtet und sie zu ihrer Machtstellung geführt. Ich werde diesem Lande stets dankbar bleiben für die großzügige Lehrzeit, die es mir geboten hat; sie war für mein ganzes Leben von wegleitender Bedeutung.

* * *

Meine Aufgabe sollte eigentlich heute darin liegen, Ihnen einige Merkmale der Entwicklung der deutschen Ingenieur-Baukunst zu skizzieren; Ihnen einige Namen ihrer hervorragendsten Förderer zu nennen. Ich werde mich jedoch in dieser Beziehung sehr kurz fassen und zwar aus einem zweifachen Grunde. Erstens sind die Grundzüge der Entwicklung der deutschen wissenschaftlichen Bautechnik in unseren Fachkreisen derart allgemein bekannt, daß hier nicht der Ort ist, darauf einzugehen. Zweitens aber dürfte es ausgeschlossen sein, mit wenigen Worten diese glanzvolle Geschichte darstellen und auch nur wenige Namen unter ihren Hauptpionieren hervorheben zu wollen.

Zusammenfassend muß jedoch betont werden, daß in Deutschland in selten einheitlicher Weise die Vertreter der Bauwissenschaften und der Bauausführungen Hand in Hand arbeiten. Die Forschungsarbeiten führender Wissenschaftler haben stets die größte Anerkennung seitens der Bauunternehmungen gefunden, sie sind dort angewendet und erprobt worden; jede praktische Erfahrung bot wieder Anlaß zu neuer wissenschaftlicher Arbeit.

Der Geist der Arbeit und der fruchtbaren Verbindung der Leistungen des Wissenschaftlers und des Konstrukteurs — dieser Geist, der mich während meines Jugendaufenthaltes in Deutschland so begeistert hatte, dieser Geist, den die Lehrer der Technischen Hochschulen Deutschlands weit um sich verbreitet haben, dieser Geist tritt uns heute in noch vermehrtem Maße bei Schritt und Tritt entgegen. Erlauben Sie mir, hierfür als einziges Beispiel das gewaltige Unternehmen der Reichsautobahnen zu nennen, das unter der Leitung unseres Herrn Kongreßpräsidenten steht. Dieses gewaltige Unternehmen ist eine wunderbare Synthese von zeitgemäßer Verkehrsförderung und Arbeitsbeschaffung. Die Reichsautobahn dürfte übrigens gegenwärtig zu den größten Auftraggebern für Brückenbauten gehören. Wir freuen uns auch ganz besonders, daß wir nachher Gelegenheit haben werden, den Leiter dieses Unternehmens über seine Lebensaufgabe sprechen zu hören. Wir danken ihm auch für die Überlassung der schönen Denkschrift: Drei Jahre Arbeit an den Straßen Adolf Hitlers.

* * *

Und nun, meine Damen und Herren, bleibt mir noch übrig, Sie als Kongreßteilnehmer und Mitglieder unserer Vereinigung herzlich willkommen zu heißen. Unsere Vereinigung bemüht sich, ihre wissenschaftliche Aufgabe und ihre Beziehungen zu ihren Mitgliedern auch in der Zeit zwischen den Kongressen zu fördern durch Herausgabe von Abhandlungen, Mitteilungen usw. Immerhin bieten die Kongresse die einzige Möglichkeit, mit der Gesamtheit unserer Mitglieder in

Beziehung zu treten, Wünsche und Anregungen entgegenzunehmen, die der Verfolgung der Ziele unserer Vereinigung förderlich sein können.

An verschiedenen Abenden werden Reichs- oder städtische Behörden in Berlin, Dresden und München die Kongreßteilnehmer empfangen und mit künstlerischen Darbietungen erfreuen. Sehr lehrreiche Besichtigungen sind für Samstag nachmittag, Sonntag und nächste Woche nach Dresden und von dort zum Teil über die Reichsautobahn nach Bayreuth, München und Berchtesgaden vorgesehen. Neben der Arbeit ist also reichlich für Erholung, künstlerischen und geselligen sowie landschaftlichen Genuß gesorgt. Wir haben allen Grund, dem Deutschen Organisationsausschuß für diese ausgeglichene Zweiteilung des Programmes zu danken. Wir hoffen, daß unsere Mitglieder aus allen Staaten auch die Empfänge und Ausflüge lebhaft dazu benützen werden, jenen gesunden internationalen Geist des Wissenschafters und Konstrukteurs zu fördern, der dazu geeignet ist, diesen Kongreß auch in menschlicher Beziehung fruchtbar zu gestalten.

* * *

Mesdames, Messieurs!

Permettez-moi en vue de documenter le caractère international de notre Association, de vous adresser aussi quelques paroles en langue française, l'une des langues officielles de notre Association.

Je voudrais rappeler d'abord que c'est sur le voeu très précis du Comité d'Organisation allemand que l'internationalité de ce Congrès a été assurée de façon particulièrement satisfaisante, tant en ce qui concerne les publications que les séances de travail. Nous espérons que les efforts faits contribueront notamment à augmenter le rendement scientifique et technique de notre réunion.

Vous allez passer quelques journées très bien remplies dans un pays qui a mis tout en oeuvre pour assurer son renouveau économique; le distingué Président de ce Congrès, M. le *Dr. Todt*, est à la tête de l'une des entreprises qui en caractérisent le mieux l'esprit et la volonté. Nous sommes certains que vous apprécierez spécialement l'occasion qui vous est offerte de prendre contact avec vos collègues allemands et avec le peuple allemand en général. Ces contacts d'homme à homme seront très fructueux dès qu'on réalise que tout peuple est le produit de la topographie de son pays, au sens le plus large du mot. Nous sommes appelés, nous autres, placés en dehors de toute activité politique, à préparer à l'aide de nos forces intellectuelles une atmosphère de compréhension réciproque qui permette enfin d'envisager l'aube de temps meilleurs.

Les lois de l'équilibre — que nous avons tous coutume d'appliquer dans notre travail journalier — dominant de même toute tâche politique ou économique. C'est pourquoi je crois spécialement au rôle de l'ingénieur dans la réalisation de l'équilibre économique et politique de notre vieille Europe.

Il a fallu beaucoup d'optimisme pour mener à bien un Congrès International d'ordre scientifique dans les conditions actuelles. Je vous convie à cultiver ces jours prochains cette mentalité optimiste qui assurera le succès de notre Congrès et qui, en somme, seule donnera à notre humanité les forces nécessaires pour aller, et malgré tout, courageusement de l'avant.

* * *

Ladies and Gentlemen!

In view of the international character of our Association, I take the liberty of addressing you briefly in English, which is one of the official languages of the Association.

First of all I would point out that it was the express wish of the German Organising Committee that the international nature of this Congress should be ensured in a very adequate manner as regards the publications and working meetings. We hope that the efforts made will contribute towards increasing the scientific and technical results accruing from our assembly.

You are about to spend some very busy days in a country which has devoted all its energy to the task of building up anew its economic position; *Dr. Todt*, the distinguished President of this Congress is the head of one of the enterprises which characterises best its spirit and will. We are sure that you will particularly appreciate the opportunity offered you of getting into contact with your German colleagues and with the German people in general. These individual contacts are bound to be productive, if we realize that every individual is a product of the topography of his native country, in the widest sense of the word. We, who stand aloof from all political activity, are called upon to use our intellectual forces with a view to creating an atmosphere of mutual understanding that will herald the dawn of better times.

The laws of equilibrium — and we are all accustomed to applying them in our daily work — also govern every human enterprise, both political and economic. That is why I have particular faith in the structural engineer — in the part he will play in establishing economic and political equilibrium in old Europe.

It has needed a great deal of optimism to carry through an International Congress of a scientific nature under the conditions prevailing at the present time. And during these next few days I would urge you to cultivate this spirit of optimism which is the only means of ensuring the success of our Congress and which, in fact, is the only thing that can give mankind the necessary strength to go forward, courageously and in defiance of every difficulty, into the future.

* * *

Meine Damen und Herren!

Es gereicht mir zur besonderen Ehre, allen Stellen der Deutschen Reichsregierung, des Deutschen Organisationsausschusses, der Stadt Berlin und der Technischen Hochschule Berlin, d. h. allen Stellen, die uns in dieser Woche vom 1. bis zum 7. Oktober in freundlichster Weise aufnehmen, den herzlichsten Dank aller Teilnehmer an diesem Kongreß zu entbieten. Ich bin davon überzeugt, daß alle Veranstaltungen dieser Tagung den tiefsten Eindruck hinterlassen werden. Die deutsche Kongreßleitung hat der internationalen Brückenbaukunst ihren zukünftigen Weg geebnet; hierfür ist ihr unsere internationale Vereinigung zu tiefgefühltem Dank verpflichtet.

G. Pigeaud,

Inspecteur Général des Ponts et Chaussées, Paris,
Vice-président de l'Association Internationale des Ponts et Charpentés.

Ladies and Gentlemen!

I feel it a very special honour to be called upon to address so numerous and so distinguished a company in this room which has heard speeches so rich in substance and so earnest in tone. At any other time this fact would have caused me great apprehension, but fortunately my task to-day is not to make a speech, not even to present a technical paper, but is a much easier and simpler one.

The task consists of expressing in a few words, in the name of French speaking members of the Congress, and especially in that of my French colleagues, our pleasure at the extraordinarily friendly welcome that has been offered us in the capital city of Berlin by the German authorities and by our German colleagues — on this occasion of the opening of the Second Official Congress of our Association for Bridge and Structural Engineering.

We are well aware of the keenness and trouble which have made the preparations for this Congress such that these can only be described as outstanding. Those who have been entrusted with the arrangements for earlier Congresses — especially the first official Congress in Paris — understand only too well how difficulties which are great enough at all times rapidly become almost insurmountable when there is a lack of the necessary time for consideration, decision and execution.

On these matters you will be addressed by those more qualified to speak than I. My aim and my wish are simply to give expression clearly and fully to our feelings of gratitude and admiration.

It is a very real regret to me that I cannot make use of the German language, for obviously nothing would please me more than to be understood directly by our German colleagues. I hope you will excuse this lack on my part, and I am convinced that in your friendly way you will accept my words, when translated, as an accurate and sincere statement of my feelings, and will interpret them in their best sense.

I am one of those who perceived from the beginning — that is to say on the occasion of the Congress in Vienna — the great advantage that would attend an International Association to be concerned with bridge and structural engineering. I am one of those who have helped to overcome the difficulties which to-day are completely conquered. I am, therefore, also one of those best equipped to appreciate the success of our congresses. These congresses furnish the clearest and most expressive proofs of the activity and progress of our Association. They bear witness, moreover, to what can be brought about by

the greatest variety of nationalities when collaborating in the pursuit of disinterested aims.

I am certain that the Berlin Congress — by reason of its great scope and its high status: by reason of the success already assured and testified before to-day's meeting — will be looked back upon in future as one of the happiest phases in the life of our Association.

I repeat once again the assurance of our thanks to all those who, in preparing the Congress at this time and in this place, have so well understood our needs and so energetically sought to meet them.

Dr. G. Caffarelli,

Député au Parlement, Secrétaire national du Syndicat fasciste
des Ingénieurs, Rome,

Vice-président de l'Association Internationale des Ponts et Charpentés.

Ladies and Gentlemen!

As representative of the Italian delegation I have the pleasant task of conveying the heartfelt greetings of Fascist engineers to members of the Second International Congress for Bridge and Structural Engineering. In this way there falls to me the special honour of expressing to the German Organising Committee, and its President, our sincerest thanks for the readiness with which they undertook the organisation of the Congress when political circumstances arose which formed an obstacle to its being held, as we had hoped, in the Italian capital.

We feel convinced that the work on which we are here engaged will serve not only to promote the art and knowledge of the engineer but also to accomplish among us a task of the highest social significance, more particularly in relation to those moral values which you so well understand.

A great nation is unthinkable without the best possible technical equipment, and without the highest élite of engineers recruited from among its ablest sons able to master the latest expedients of the constructional art and to create work recognisable as a material sign of the scope and degree of the civilisation of the nation.

The boldness of the calculations, the genius inherent in the solutions of problems, offer means for estimating the mastery attained in the work and occasion for admiring the scope of the intellect.

In the last fifty years construction — particularly in the fields of steelwork and reinforced concrete — has attained to a marvellous degree of accomplishment impossible in the past, and continues to furnish us daily with new proofs of virility and progress: a result of calculation and exhaustive research.

Bridges of an incomparable lightness thrown across deep chasms, steel skeletons with a slenderness reminiscent of church towers which seem to touch the skies, testify to the urge of mankind after ever higher aims.

This wonderful human desire is in accord with the spirit underlying our studies.

Fortunately, however, the last word has not been spoken, and no limit is yet set to the boldness of our calculations. Our work proceeds, and improves upon itself. In this way whatever has been attained yesterday we must always seek to surpass to-morrow.

Indeed we find in our work the satisfaction of our highest wish: the improvement of the conditions of life of the people, and the bringing of the latest

means of civilisation and welfare even to those places where nature in her intractability seemed to oppose obstacles against any progress.

Our urge to erect fine buildings and to bridge over the valleys separating peoples and countries finds in these assemblies a welcome outlet, and the occasion, through the heartiest of co-operative effort, to attain its consummation.

It is no mere chance that in ancient warlike Rome the highest powers of the state were entrusted to those whose special attainments lay in bridge engineering. The "pontifices" of the Roman army held the highest rank, not merely because the results of their work were a precondition for success in war and for the might of the Empire, but because communications and civilisation are one and the same thing.

It has just been pointed out that our work as engineers brings the people closer together. It is indeed our wish to be truly constructive in the promotion of a better mutual understanding between nations, by joining the thoughts and strength of everyone to this creative task.

This is the reason why our efforts to improve communications, to lay down always new and better roads in places where they have hitherto been lacking, must never suffer by interruption — not even when the obstacles to our progress may appear to be the most difficult to overcome, and when the incidents of combat crowd most rapidly upon one another.

In order to attain this most desirable of all aims we have done our work and have erected structures even when many thought the economic difficulties were too great to be overcome; and now that these great difficulties lie behind us we are still at work, and we will always continue to work — because work means strength and true prosperity, and this, to us, is the highest of all social policies.

Art, intellect and culture draw the souls of peoples together and contribute to the improvement of understanding between them, particularly so when it is to the promotion of the constructional arts that the intelligence is directed. All of you are engineers; and we pride ourselves in being a people of constructors.

For these reasons it is a pleasure to us Italian engineers to be brought into this contact with you, and to express our wishes for the success of the International Congress. We have to ask you, Mr. President, to record our desire to do all we can that may help to give lasting effect to the work of the Congress.

Dr. Ing. M. Klönne,

Vizepräsident der Internationalen Vereinigung für Brückenbau
und Hochbau, Dortmund.

Ladies and Gentlemen!

As the German vice-president of our Association I have the task of expressing to the Reich Government, on behalf of all German speaking members of the Congress, our thanks for the invitation to Berlin and for the work done in preparation for the Congress. The programme which we have before us gives us some idea of the scope of the work which was necessary to set the stage.

At the same time I should like, in the name of the German delegation, to offer a hearty welcome to all our guests from far and near. *Dr. Todt* and the Reich Minister of Transport having already said all that should be said on the occasion of our ceremonial opening I will add only a very few words.

We hope that you will spend pleasant days in Germany and will be pleased with all you find, whether in engineering, in art, or in other precious attributes of culture and civilisation.

If I may be permitted, on my part, to add to that hope a request, it is this: whatsoever you see, see it not only with your eyes and with understanding, but see it also a little with your hearts. You will then perhaps discover a new Germany, sprung from circumstances which have been altogether special. Cast down by fate into the deep of misery, doubt, lawlessness, internal strife and lack of freedom, the German people have once again been raised up by a magic hand to the towering heights of dignity, honour and freedom; have discovered once again their pride in the traditions of past centuries, proud likewise of the present, they hope to feel still prouder when the future shall have been fashioned in accordance with their desires and with the ideals of freedom and peace. From this high eminence of restored prosperity, may bridges of mutual understanding be thrown between the peoples. We have assembled at this Congress in intellectual contest, to win scientific knowledge and to establish the results of careful research. But it is my conviction that to all of us the highest aim and most important problem will be to rivet the bonds of the spirit which bind the peoples of the earth peacefully together.

Dr. Ing. F. Todt,

Generalinspektor für das deutsche Straßenwesen, Berlin.

Präsident des Deutschen Organisationsausschusses.

Ladies and Gentlemen!

Two months ago the youth of the world met in Germany in the rivalry of sport; participants and spectators alike were moved at this eleventh Olympiad by the great idea of that French genius, Baron de Coubertin, which has brought the peoples together — in rivalry indeed, but rivalry in contention for the peaceful laurel. Day by day we saw competitors tenaciously racing side by side, and then, a second after the decision had been reached, shaking one another by the hand as comrades. Our inward experience in the course of this sporting meeting of the world's youth was an understanding of a higher meaning for the development of mankind.

Two months have passed, and once again the members of thirty-seven civilised countries meet in Germany for a kind of intellectual Olympiad. This time the nations have sent to Germany not their athletic youth but their most experienced men of science and practice in the great technical field of bridge and structural engineering.

Bridges serve for communication, bridges join separated banks, bridges have at all times been monuments of the civilisation of their age. To perceive in the bridge engineer only the specialist of a branch of technology is to miss the real meaning of his vocation. Every bridge has a cultural significance. For the bridge builder, technique is but the means to the end of carrying out his high cultural task.

In every country the prototypes of bridge engineering are something great, something huge. Every country represented at this Second Engineering Congress has bridges thousands of years old, impressive monuments of an earlier civilisation, means of communication with thousands of years of stability and value behind them. And just as the problems of bridge construction reach back to the earliest times in the history of each people, so will these problems retain their permanent significance for future ages also.

The cultural meaning of the bridge is eternal. In course of time the technique of execution changes. Technical and scientific knowledge enable progress. New materials take their place beside the masonry which continues in use. Continued improvement in the materials enables further development, greater spans, bolder designs. The traditional knowledge of the old masters has been justified and enlarged through precise scientific study. The function of the bridge builder with his collaborators in neighbourhood fields of science is a beautiful and a grateful one; for in the light of the ever improving, ever widening scope of technical knowledge, he creates works destined to be eternal in their cultural significance.

This second Congress of the International Association for Bridge and Structural Engineering has begun its labours in Germany. The honour of first

addressing it falls to me, but I shall not occupy this first hour with technical or scientific questions. As the representative of the country which offers its hospitality, I propose to offer you a wide survey of those attainments in the field of bridge construction which National Socialist Germany has made in the course of the last few years. In doing so, I shall confine myself mainly to those structures which are associated with the great task which has fallen to myself to carry through, namely the construction of the Reichsautobahnen. In the course of the Congress you will yourselves have opportunities of coming to know many of the works on the Reichsautobahnen, including bridges. My paper to-day follows the itinerary of our journey from Berlin through Dresden to Munich, and then returns through the western part of the country to Berlin.

(The most notable of the numerous lantern slides here thrown on the screen are reproduced below.)

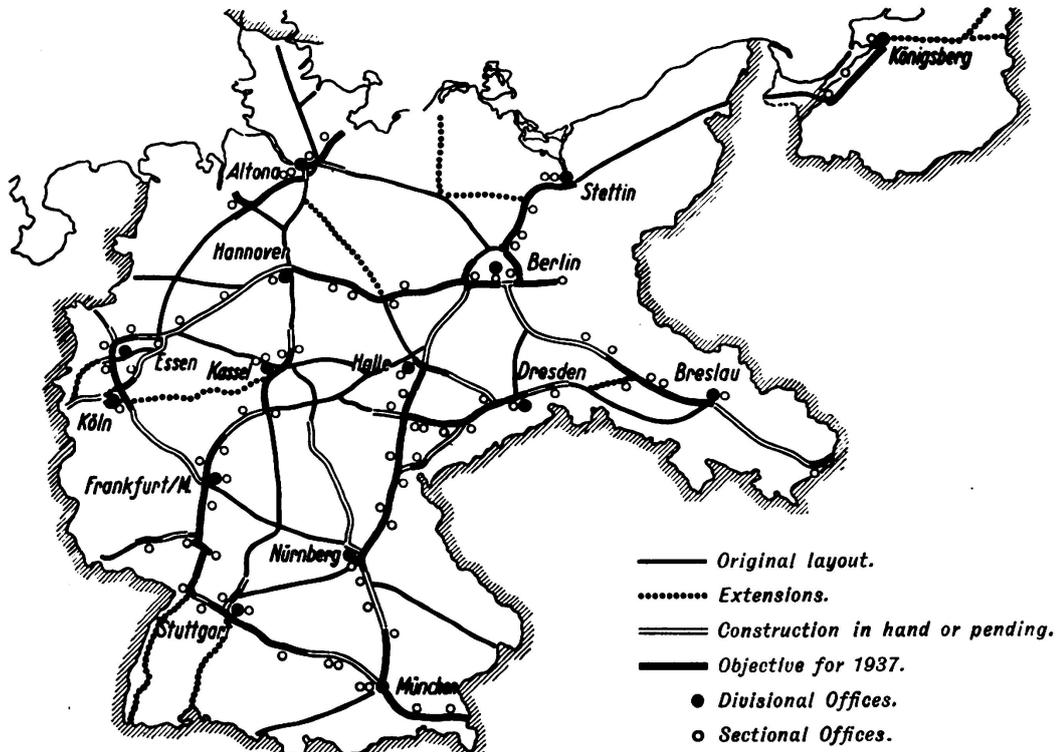


Fig. 1.

Layout of the Reichsautobahnen, 7000 km in length, with the first of the proposed extensions as planned. Total width of carriageway 24 m comprising two tracks each 7.5 m wide.

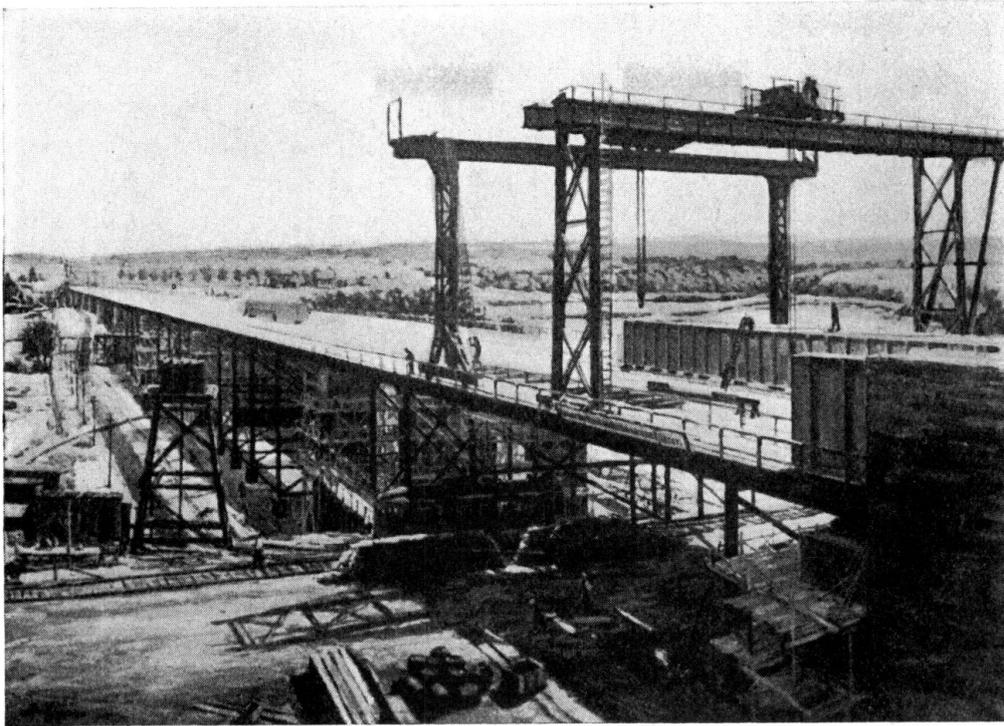


Fig. 2.

Erection of steel girder bridges on massive piers near Rüdersdorf
on the Berlin Ring Autobahn.

Spans: $44.0 + 5 \times 61.2 + 2 \times 42.0 + 4 \times 61.2 + 47.0$ m. Height 19 m.



Fig. 3.

Elbe Bridge at Dresden on the Chemnitz—Dresden—Breslau Reichsautobahn.

5 spans of $51.0 + 73.0 + 130.0 + 73.0 + 51.0$ m.

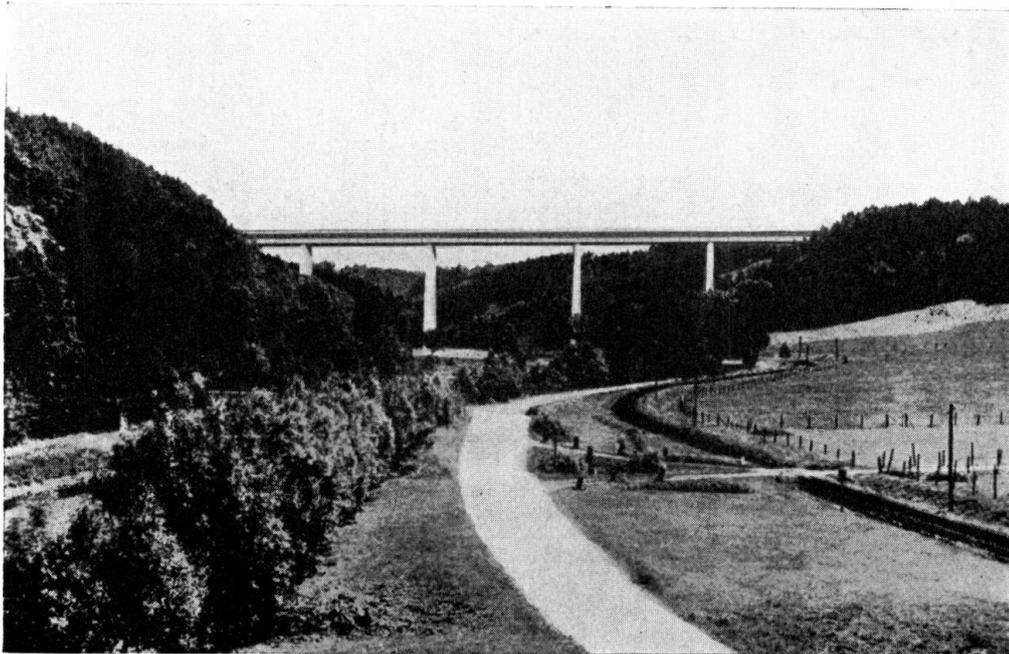


Fig. 4.

Siebenlehen Viaduct on the Dresden—Chemnitz Reichsautobahn.
6 spans of $56.1 + 61.2 + 71.4 + 81.6 + 71.4 + 61.2$ m.
Height 70 m.

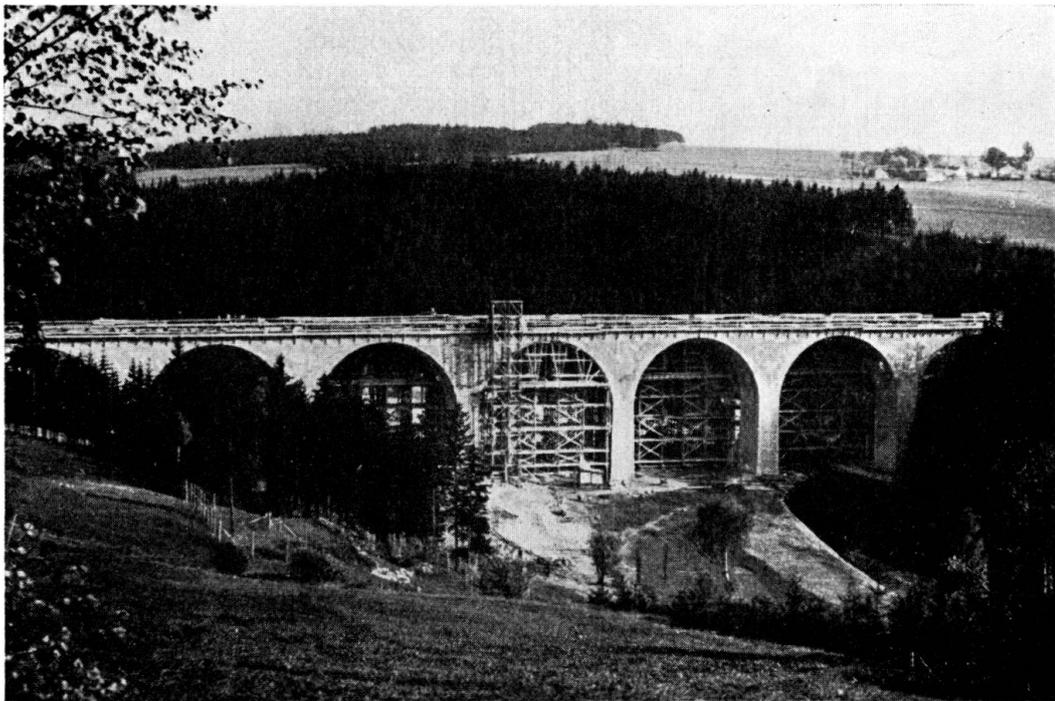


Fig. 5.

Saale Bridge at Lehesten, on the Berlin—Munich Reichsautobahn.
8 spans of 27 m each. Concrete with granite lining.

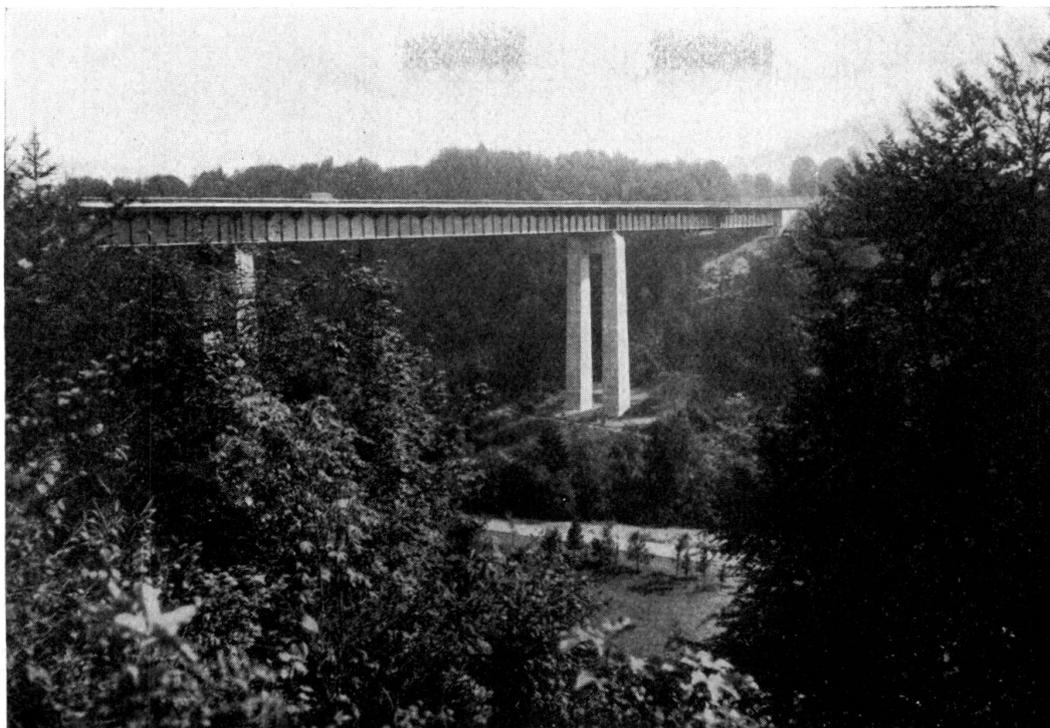


Fig. 6.

Mangfall Bridge, on the Munich—Frontier (Salzburg) Reichsautobahn.
Spans: $90 + 108.0 + 90$ m. Height above river bed 68 m.

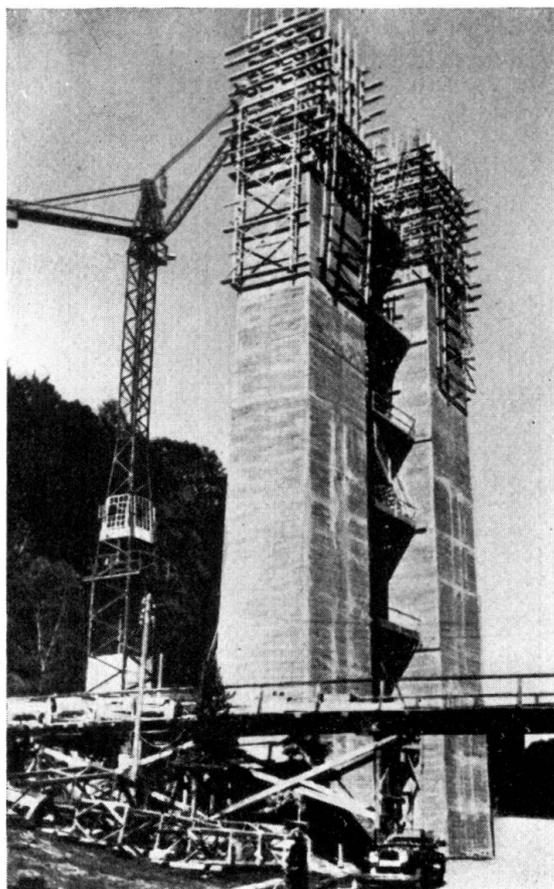


Fig. 7.

Piers of Mangfall Bridge.
Reinforced concrete walls.

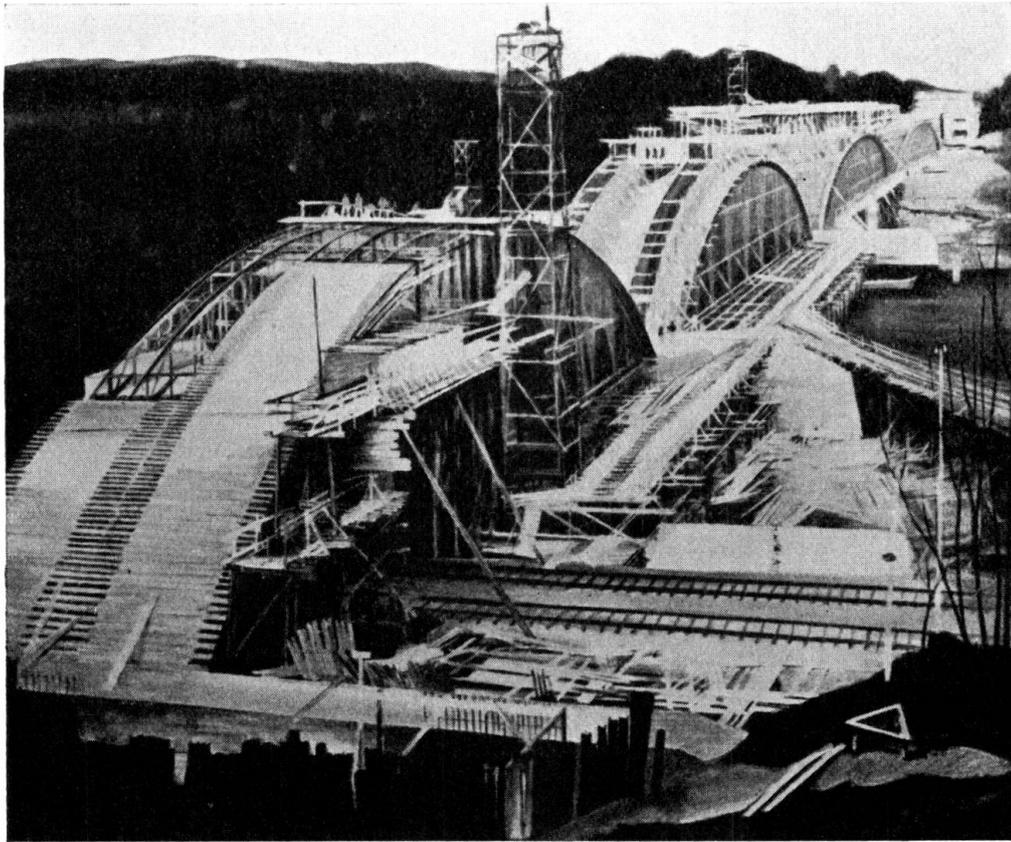


Fig. 8.

Danube Bridge at Leipheim, on the Stuttgart—Munich Reichsautobahn. Four reinforced concrete arches each with three hinges. Spans: $71 + 81 + 81 + 71$ m. Falsework as shown in a painting by Protzen.

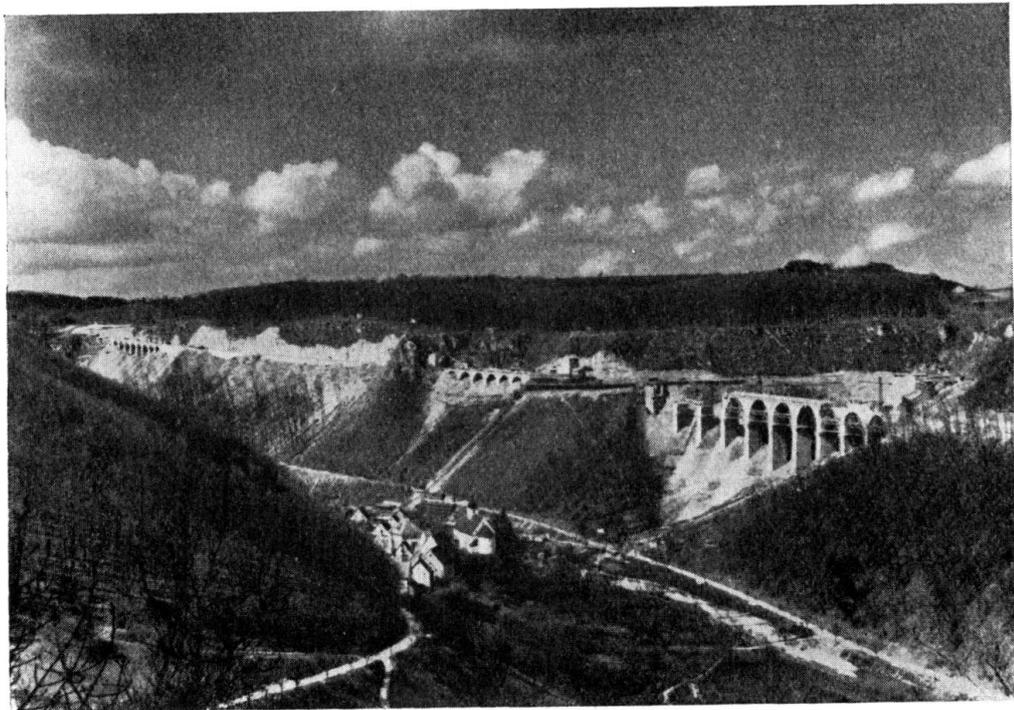


Fig. 9.

Drachenloch Bridge in the Stuttgart—Ulm Reichsautobahn in the descent from the Swabian Alp. Reinforced concrete. Spans 9×15.5 m. Height above ground line 42 m.

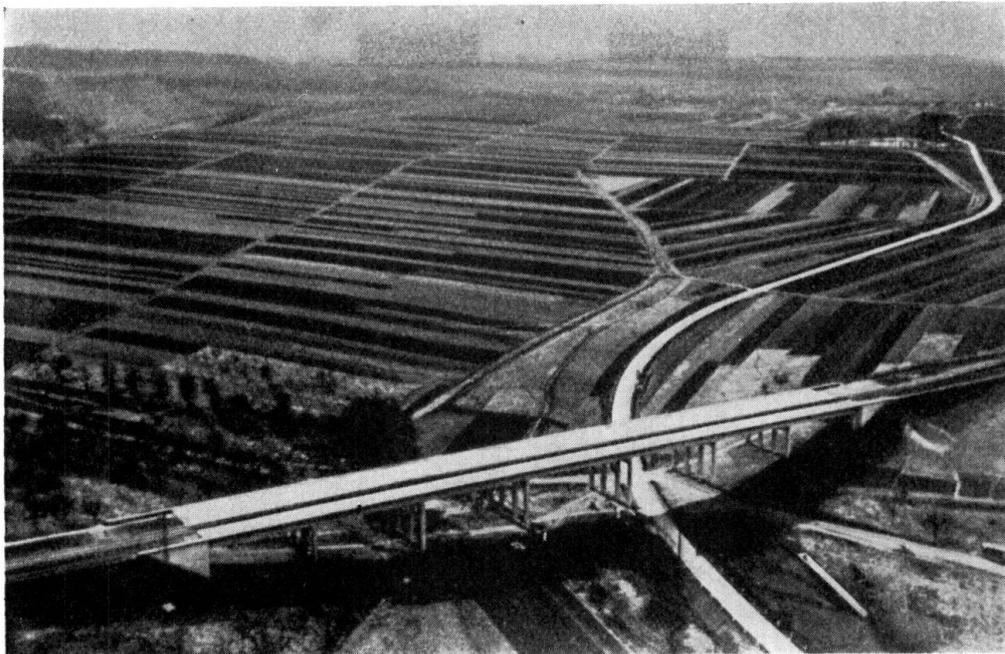


Photo by the Hansa-Airline Co., By permission of the Air Ministry. No. 2525/38.

Fig. 10.

Denkendorf Viaduct on the Stuttgart—Munich Reichsautobahn.
Reinforced concrete,
7 spans: 24.75 + 26.25 + 27.0 + 30.0 + 27.0 + 26.25 + 24.75 m.

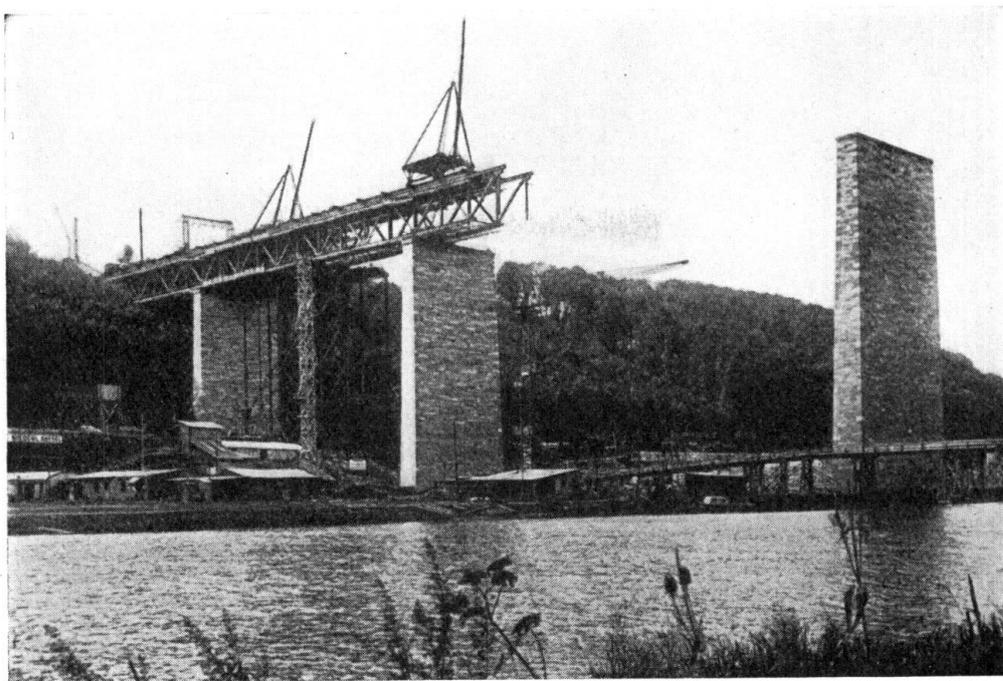


Fig. 11.

Werra Bridge on the Hannover—Frankfurt a. M. Reichsautobahn.
5 spans of 64.0 + 80.0 + 96.0 + 96.0 + 80.0 m.
Height of roadway above water level 61.0 m.

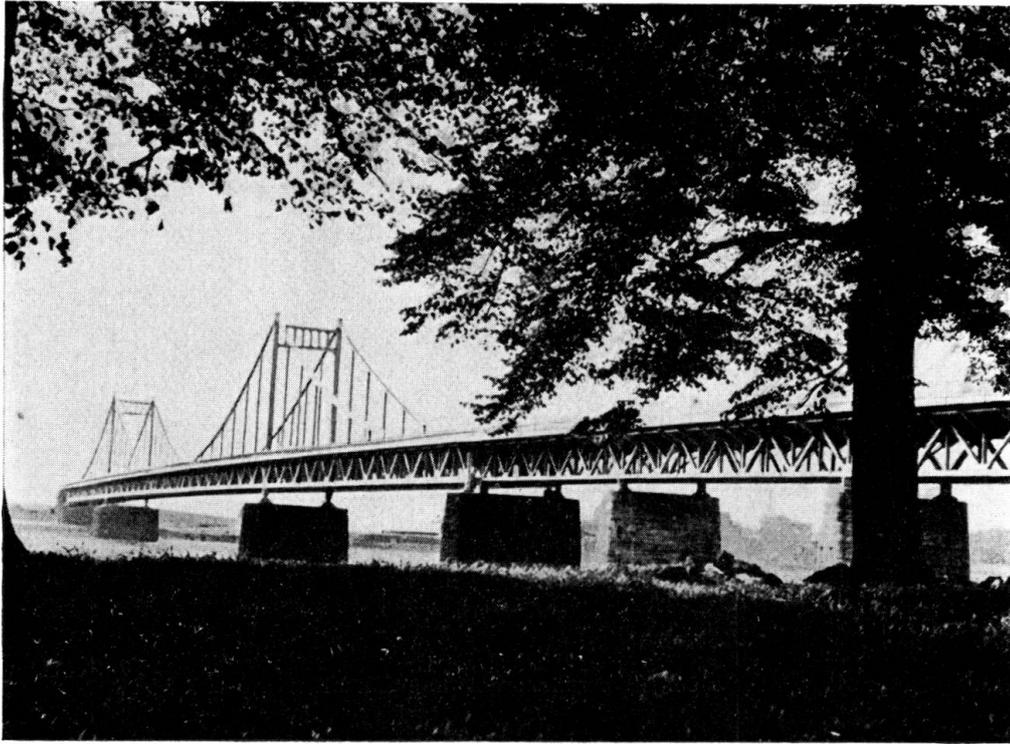


Fig. 12.

Adolf Hitler Bridge over the Rhine at Krefeld. Spans $125.0 + 250 + 125$ m.

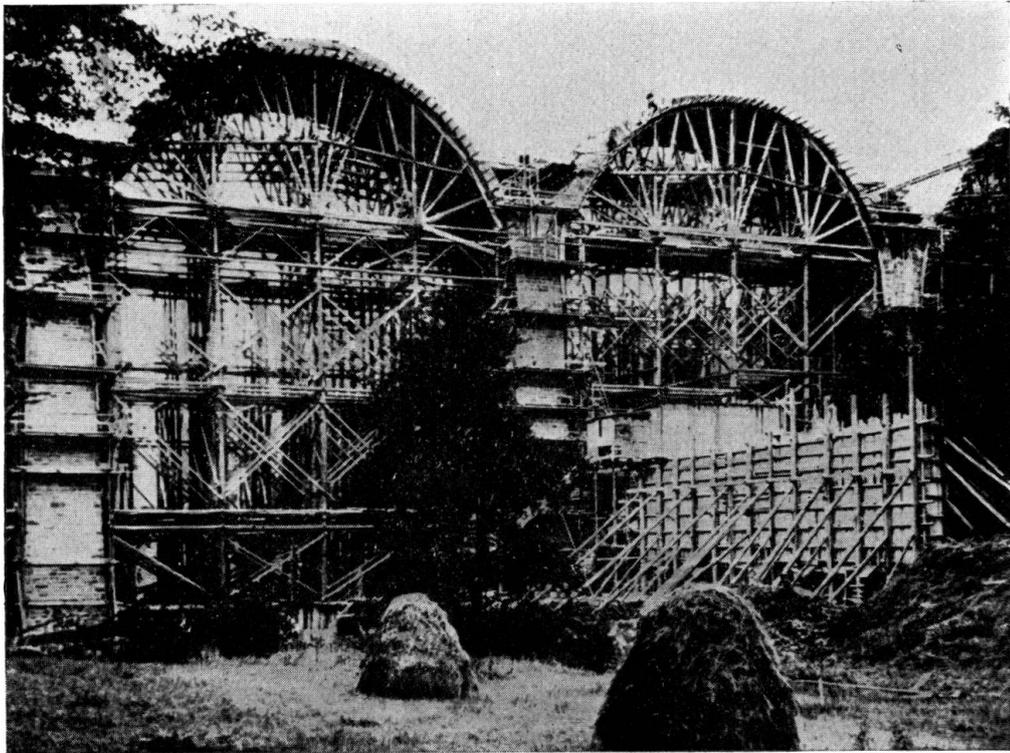


Fig. 13.

Bridge over the Lambertsmühlental on the Cologne—Wuppertal Reichsautobahn.
5 spans of 23.56 m each.

Brickwork arches on concrete piers with graywacke admixture.



Fig. 14.

Admiral Graf Spee Bridge over the Rhine at Duisburg—Rheinhausen.
Spans: $153.45 + 255.75$ m.

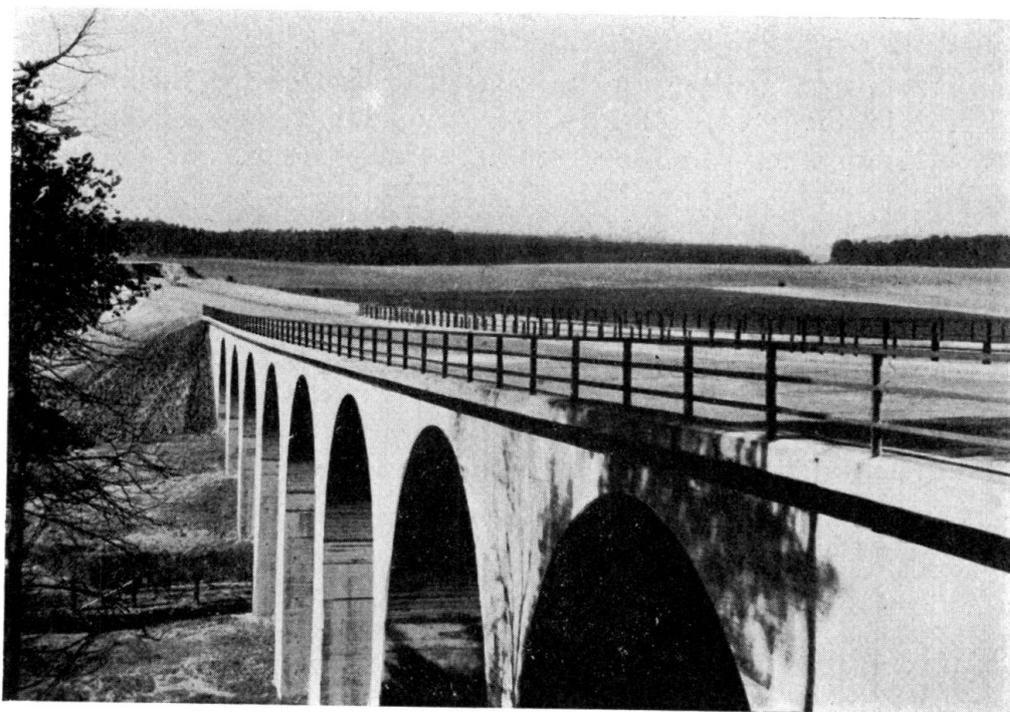


Fig. 15.

Viaduct at Helmstedt on the Berlin—Hannover Reichsautobahn.
8 openings each of 12 m span. Reinforced concrete.



Fig. 16.

River and flood bridge at Magdeburg.

River spans: $79.7 + 154.0 + 93.0$ m.

Thus, in accord with the will of our Führer the Reichsautobahnen which we designate as the "Führer's Highways" stand as a work of peaceful construction: a new network of communications which we have created to utilise the latest technical developments in motor vehicles.

This German work rests upon the rich knowledge of the technicians of the whole world in the field of bridge and structural engineering and has been brought to fruition through the collaborative diligence of our German fellow citizens.

It is our conviction that these highways of the Führer which the visitor from abroad will encounter at every frontier of our country will simplify travel, improve safety and increase enjoyment in such a way as to promote international communications and thereby of contacts, and will thus, in the field of transport, yield their contribution to the growth of understanding between neighbouring peoples.