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ERNST DÜBI
1884—1947

When a man of importance is remembered by posterity for an outstanding and lasting achievement, his other works run the risk of being forgotten.

The name of Dr. Ernst Dübi has been and remains closely linked with the peace agreement which, since it came into force in 1937, has become a blessing and a source of constructive strength to the Swiss engineering and metalworking industry. In the eyes of history, Dübi will always be the man who, as representative of a free market economy fully conscious of its social obligations, concluded a peace agreement in faith and trust with the spokesman of the workers, National Councillor Konrad Ilg.

But an act of this nature was only possible against a background including a high intellectual level and a broad-minded view of social questions. The high esteem already enjoyed by Dübi in his sector of industry was also an essential factor. When this and the influence he exerted on the repute of the Von Roll company and the engineering and metalworking industry in general are made clear, it can be seen that the milestone in social and economic policy represented by the agreement was set in the solid foundations of his other achievements and was for Dübi the culmination of the life's work he had approached in so many different ways.

The man in the making

Ernst Dübi's life was shaped by his father to a far greater degree than is usually the case. A note on his father, Johann Dübi (1850—1934), will therefore not be out of place.

Johann Dübi was the son of a carpenter of Aetingen, a parish in the Buchegg hills of Canton Soleure. His father died when he was three, and as they had no money his mother took a job in Soleure and left the boy in charge of a relation, the schoolteacher and farmer Urs Stuber of Lüterkofen. Johann Dübi was lucky enough for his talents to be noticed by people of good will who took his education in hand. This comprised a commercial apprenticeship in the cloth firm of Steiger-Kupferschmid at Burgdorf, and a stay of several years in Paris, where he worked as a bookkeeper. On the death of his mother (1873) he returned to Switzerland and in the same year joined the Ludwig von Roll'sche Eisenwerke as a bookkeeper. He quickly worked his way up the ladder. In 1875 he became cashier and office manager, in 1877 attorney holder, and in 1893, twenty years after joining the firm, commercial manager. He had compensated for his lack of advanced education by intensive home study.

In 1883 he married Rosa Fankhauser from Trub, who bore him two sons, Ernst and Otto, and a daughter Fanny. At forty-three, thanks to his complete dedication and all-round efficiency, he was at the head of the company. While in this position he contributed a great deal to the financial stability of the firm and laid the foundations for its many social amenities, as Walther Stampfli (later Federal Councillor) testified in an obituary. It was on his initiative that the welfare fund began, and by 1934 it was worth more than the share capital of the company.

Johann Dübi could never understand or get over the fact that during the General Strike of November 1918 the workers locked him out of his premises. He retired in 1918 when 71, became a member of the Board of Directors and passed the evening of his life at Spiez.

Johann Dübi's elder son Ernst was born on April 4th, 1884, at Biberist. He spent his youth among his family at Gerlafingen. Ernst was a quiet youth, rather introspective, but never averse from a joke or a prank, even if he was never the initiator. Together with his comrades he made the daily journey to the Cantonal school at Soleure on the Emmental Railway, at that time still drawn by its unhurried steam locomotive. Ernst Dübi's love of steam engines surely sprang from his boyhood experiences. Many life-long friendships started at the Cantonal school, through the classical side of which Ernst Dübi passed without trouble, and in the 'Ruppigonia'. This was a school society which took great pride in the derivation of its name from the word 'ruppig', or crusty (although it could also come from the Latin 'rupes',

a rock). The Ruppigonia was not sanctioned by the State and the school authorities forbade open meetings under pain of expulsion. The pupils were forced to hold their meetings in secret. The air of romantic tension thus occasioned strengthened the bonds of friendship and generated a spirit of idealistic individualism throughout the society — which later formed the basis of a society called 'Dornachia'.

Ernst Dübi would have been glad to devote himself to an academic career, for he had an unusual love of philosophy and the sciences. In addition, he had a faculty for abstract thought, theoretical comprehension and constructive intellectual synthesis. But his father wanted Ernst to join the Von Roll company. The boy honoured his obligation, and after matriculating chose the career of an engineer. After one semester at Lausanne he entered the Federal Polytechnic at Zurich in 1905, where he completed his studies in 1909 with a diploma as mechanical engineer. His leanings towards science were, however, so pronounced that he followed the advice of his respected teachers Prasil and Stodola and continued with research into hydraulic problems, producing a thesis which won him a doctorate of Technical Sciences at the Federal Institute of Technology in 1912.

As schoolboy and student he was characterised by penetrating application and a determined striving for depth and perfection. Dübi regarded it as due to his talents to be first at everything, and as he was a good mixer his schoolfellows and co-students acknowledged his ability without envy. But he did not join a students' society at the Institute.

In the Summer of 1912 he took a practical foundry course in the Von Roll works at Klus and Olten. After this, a period in England gave him the chance to continue his training as a designer in a drop forge factory. During the first half of 1913 he worked for Messrs. Pilkington Ltd. at Bamber Bridge near Preston and at Liverpool.

Then, in 1914, he entered the service of the firm he was later to lead with such success. During such part of 1914 and 1915 as his active service as an Artillery captain left him, he worked in the design office of the Klus factory and the works office at Gerlafingen. In 1916 he took over the management of the Rondez works near Delémont and held this post for ten years until the firm entrusted him with charge of the Klus works and later called him into the General Management at Gerlafingen.

In 1917 he married Anna Munzinger, the eldest daughter of Councillor of State Oskar Munzinger, who at that time was Chairman of the Board of

Ludwig von Roll'sche Eisenwerke. This happy union brought him a son and two daughters.



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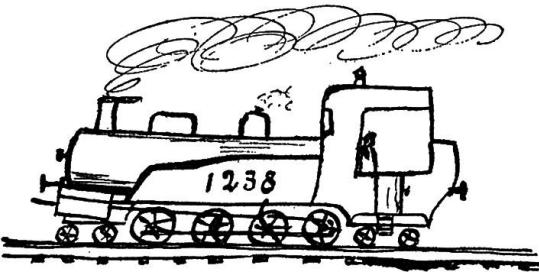
HOTEL ROBLIN
6, Rue Chauveau-Lagarde
Telgr: HOTELROBLIN-PARIS
PARIS 16^e

Paris, 7. Oktober 1930.

Mein liebes Walterli,

Gestern morgen bin ich mit einem langen Zug nach Corbeil gefahren. Du kamst bald besser. Es waren etwa 40 Wagen dorthin gezogen als der Pap. i.

Die Lokomotive war eine schwere Tendermaschine, sie sah etwa so aus:



Extract from a letter from Ernst Dübi to his eight-year old son Walter.

Metallurgical expert and researcher

In our modern technological civilisation, iron is by far the most-used metal. Without iron, our contemporary way of life would be unthinkable, and only by visualising what would happen if the stuff was not there can one realise why even the scanty iron ore deposits in Switzerland were exploited. The process demanded (before coal deposits were found) large quantities of charcoal. We refer to this fact for two reasons — in the first place the Von Roll company maintains the centuries-old tradition of indigenous iron mining, with which the Klus, Choindez and Rondez works are closely connected, and secondly there is an historical reason for the location of the Gerlafingen works.

It was here that the Soleure councillor Ludwig von Roll (1771—1839) set up a forge in 1813 to refine the charcoal raw iron produced in the blast furnaces of those days at Gänsbrunnen and Klus. Here the iron was forged into commercial forms or end products with the aid of water-powered tail hammers.

It was possible to raft logs down the Emme to Gerlafingen from the heavily forested areas of the Emmental, and they were then trapped in a catchment and converted to charcoal. But often timber was also brought from the Saanen district, where today the Von Roll company still owns extensive forest land, the rafts following the Saane and Aare to the neighbourhood of Soleure. As the use of coal for iron smelting spread and it became easier to transport both coal and iron by rail over long stretches, charcoal was abandoned except for special fields where it remained supreme. But coal and the railways cheapened iron production so much that by the 1870's it was hardly worth while operating blast furnaces in Switzerland. Processing was therefore mainly confined to imported raw materials.

Ernst Dübi grew up in the traditions of the Soleure iron industry, and while still a boy was initiated by his father into the technique of iron production with its many ramifications. But his earliest interest was in hydraulics, and he concerned himself with high-pressure conduits and their associated valves, slides and similar closure devices. When Dr. Dübi took over the management of the Rondez works in 1916 at the age of 32, he was also entrusted with the supervision of the mining operations associated with the works.

The ores extracted there were smelted at the associated plant at Choindez. At Rondez, and even more so at the Klus works, the management of which he accepted in 1925, he occupied himself with the problem of grey cast iron, as the trade calls iron cast with graphite flake. Thanks to his scientific methods, he made some important discoveries in this field leading to improvements in the quality of grey cast iron and earning considerable praise from experts in Switzerland and elsewhere. When strongly magnified, cast iron is seen to be a heterogeneous material, the basic mass of which contains deposits of graphite and microscopic traces of sulphur and phosphorus compounds. It is essential to restrict these components to the correct amount and to form them in the optimum manner to attain the mechanical characteristics required of cast iron. Improvements in cast iron were an urgent need of the engineering industry, which demanded not only increased

strength but also the elimination of fatigue and the attainment of greater precision.

Dübi rapidly recognised that the quality of grey cast iron did not depend only on the chemical composition of the material but also on the way the cooling process was carried out. In this, wall strengths are of material importance. The task was now to establish the laws governing the process and then so control cooling that the castings took on the features desired. The young manager Dr. Dübi asked the Board for the large credits required for these extensive and lengthy research operations. These were granted, and in Albert Collaud he found the right man to carry out the systematic investigation of the entire field, at first under his supervision and later independently. When Dübi became General Manager in 1929 and went to live in Gerlafingen, he could no longer take an active part in the research, but to make up for this he encouraged Dr. Collaud in his work and took a lively interest in his achievements.

Dr. Dübi named the laws he investigated and discovered in collaboration with Dr. Collaud *the hardness characteristic of cast iron*. This designation has passed into the terminology of iron technology, marking Dübi's great services to cast iron metallurgy. The results of the decade-long research to which Dr. Dübi had provided the impulse were summarised in a diagram incorporated in 1959 into the Swiss Standard for grey cast iron published by the Association of Swiss Mechanical Industrialists and today known internationally as the 'Collaud Diagram'.

In a lecture in 1939 on industrial research he referred to the progress made in improving cast iron in Switzerland — without mentioning by a word how closely he himself had been associated with it — as 'unsurpassed anywhere in the world'. The features he mentioned were increased strength, resistance to corrosion, heat resistance and resistance to fusing at high temperatures. 'The special suitability of the material', he goes on, 'in conjunction with the exemplary precision of the work has won important successes for our machine tool industry.' The layman will understand this reference when he considers that a precision machine can only operate with the desired accuracy when even the base of the machine, usually of cast iron, is precisely built.

Dübi kept the specialised world constantly informed of the results of his researches into grey cast iron. He was in contact with Professor Mirko Ros of the Federal Institute of Technology and served for several years as Presi-

dent of the Grey Cast Iron Committee of the Swiss Association for Technical Materials Testing. When this Association held an international congress at Zurich in 1930, Dübi spoke for Switzerland on grey cast iron. Even before this, the head of the German Refined Castings Association had recognised the value of Dübi's work and invited his collaboration, and this was particularly operative at the Dusseldorf Congress of 1933/34. People abroad valued not only Dübi's technical knowledge but also the clarity of his language and his human qualities.

Later Dr. Dübi turned to research into high-quality steels, but he was compelled to leave the detailed work in this field to his staff, in particular to the head of the steelworks, Dr. phil. Hans Bünzly.

It would be a grave omission not to refer in this connection to Dübi's successful efforts in the field of *materials testing*, since as an active member of the Committee he was one of the main sponsors of the Federal Materials Testing Institute (EMPA). The processes and methods he had himself developed for the testing of cast iron were later adapted to other fields. When on April 4th, 1944, the Federal Institute of Technology in Zurich awarded him the title of honorary Doctor of Technology, it did so 'in recognition of his outstanding achievements in research into cast iron and his active promotion of scientific work in engineering construction, particularly in the field of materials testing, and of the scientific and technical development of indigenous extraction and processing of iron and steel'.

Before receiving this honour he had also been nominated a member of the Swiss Educational Council, the governing body of the FIT.

Another significant event in his career was the reception held for the British Iron and Steel Institute at Soleure in June 1947. Here it emerged in full clarity how great was the esteem in which Dr. Dübi and his researches were held in international expert circles.

The Von Roll Company under Dübi's management

In an obituary to Dr. Dübi it was written, 'Under his management the Von Roll Works went through a period of remarkable success'. Dübi would probably have parried a statement of this kind with a reference to his predecessors and his staff. But the history of the Von Roll Company during

the 32 years he worked there shows a significant expansion that is largely attributable to his initiative. Parallel to the development of the production plant, however, went the promoting of research, especially the building and equipment of the testing institutes at Gerlafingen and Klus. The big new hydraulic engineering research laboratory at the Klus works inaugurated by Dr. Dübi on June 17th, 1947 — three months before his death — was the final highlight of his life's work.

From 1925 to the end of 1927 Dübi was manager of the Klus works, before taking over the technical management of the Gerlafingen plant. When, two years later, the then technical director, Eduard Ruprecht, died, the Board selected Ernst Dübi as General Manager and supported him with two outstanding managers — Walter Bloch for financial and administrative matters, and Dr. Walther Stampfli on the commercial and welfare side. At the beginning of 1942, after the death of Councillor of State Dr. Rober Schöpfer, the Board — a member of which he had been since 1935 — elected him its Chairman, so that Dr. Dübi now combined the roles of Chairman and General Manager. He held this dual position for five years. In 1946 he resigned from the General Management, but remained Chairman of the Board until his death on September 16th, 1947.

In 1928, when a short-lived boom took place in the iron trade, Dr. Dübi, in collaboration with the then manager of the Choindex works, von Anacker, made great efforts to use the old blast furnace at Choindex to smelt the ore stocks that had been lying at Rondez for years. Soon after the Wall Street 'Black Friday' of October 1929 came the slump that within a few months had developed into the world economic crisis and caused unemployment in Switzerland. This crisis led to such a drop in the price of raw iron that in 1933 it became impossible to continue economic operation of the coking furnace in Choindex. With heavy heart, the company decided to extinguish the furnace.

At the same time, however, Dübi had proposed to the Board an innovation that was as bold as it was costly. What he suggested was no less than the demolition of an old rolling mill and the execution of a great project in its place — construction of a new ingot and plate-rolling train where ingots from their own steelworks could be rolled and the heavier commercial types of iron produced more rationally. These plans were carried out between 1932 and 1934, at a period of acute shortage of work. In retrospect it is easy to say that nothing could have been more obvious than

to adapt obsolete plant to the latest technical conditions during a period of unemployment and deflation. But to do so required not only an extraordinary measure of courage and capacity to accept responsibility; it also demanded conviction and assurance to build installations worth millions at a time when opinions were genuinely divided as to the economic prospects for iron in Switzerland. But developments soon proved the confident party right. During the war years it would never have been possible to meet civilian requirements for iron bars, extrusions and concrete reinforcement if the new rolling mill had not started up production just at the right time, for it would have been inconceivable to build plant of these dimensions during the war, if only because many of the components would have had to be imported from abroad.

Apart from the rolling mills, the hammer mill was also renovated, mainly by the acquisition in 1937 of a second drop hammer with a pressure of 1800 tons which enabled the pieces for 105 mm Bofors cannon to be forged. Then, in 1937 and 1939/40, two additional electrical steel furnaces were erected. To these were added in 1941 another two electric furnaces, specially for the production of low-carbon steel from indigenous scrap, and in 1943, a low shaft furnace at Choinez. The latter was built on a Norwegian pattern — the electrical section was supplied by Messrs. Brown, Boveri & Cie. of Baden — and was started up in 1943, in the middle of the war period.

For these expansion plans timorous doubts were thrust firmly into the background; in Dübi's eyes what was at stake was not only the advantage of the company but also the overriding interest of the country, and for this purpose only the best of high-grade, efficient technical equipment was good enough.

As far back as the years immediately preceding the second World War, the iron market had begun to become tight. Raw iron, which in neighbouring Germany had already been under Government control for a long time, began to become scarce, and the Swiss engineering and metalworking industry increased its efforts — as it had also done at the time of the first World War — to exploit as far as possible the small deposits present in the country. In 1941, Von Roll joined with Sulzer Bros. (Winterthur), Georg Fischer (Schaffhouse), von Moos (Lucerne) and the Würenlingen-Siggenthal Portland Cement Works to form the 'Jura Bergwerke AG', a consortium which exploited the ore deposits at Herznach in the Fricktal.

This completes the outline of Dübi's achievements with Von Roll as far as they will be of interest to outside circles. The initiated know that the company repeatedly broke new ground in various fields of iron production.

In the service of National Defence

The military career of Ernst Dübi shows him to have been a militia officer outstanding by reason both of his knowledge and of his powers of leadership. As a captain he commanded 25th Field Artillery Troop, as a major 5th Field Artillery Battery. Promoted to lieutenant-colonel in 1926 he was put in command of 3rd Field Artillery Regiment, drawn from Canton Neuchâtel. This appointment was a little unusual, but the French language caused him no difficulty.

When he became a full colonel in 1932 he commanded 3rd Artillery Group for a short time, shortly afterwards taking over the 2nd. In 1937 the Federal Council appointed him CCA of the 1st Army Corps, his Corps Commander being the subsequent General (Commander-in-Chief) Guisan. In 1939 health considerations forced him to give up his military career. Thenceforward the problems of weapons technology for which he was now responsible took up all his energy.

Even as a young officer Dübi had taken part in discussions on Artillery techniques, especially the improvement of so-called indirect fire. In bygone days artillery could only engage targets visible from the gun positions. The investigations of mathematical ballistics, more precise understanding of charge strengths and increased accuracy of map definition gradually enabled targets invisible to the gun-crews and even to the observation officers to be engaged successfully. In modern warfare artillery as a rule engages only invisible targets.

Roughly at the same time as Ernst Dübi became General Manager in Gerlafingen, the Federal Council arrived at a decision of far-reaching importance to the future of the Army and of the country. Up to that time, the Confederation had been buying its guns from abroad. The 75-mm recoiling-piece field gun (1905/06) and the 120-mm field howitzer (1910) originated from Krupp of Essen, as did the medium 150-mm field howitzer introduced in 1916. About 1929, the view of the then head of the Military

Technical Department (KTA), Col. Robert Fierz, that ordnance should be built by indigenous industry, if necessary under foreign licence, achieved acceptance.

To deal with the problem which thus arose, the Defence Ministry set up an Artillery Commission as advisory body, and a number of officers from outside the Ministry were unofficially co-opted to this. The Minister, Rudolf Minger, appointed Lieut.-col. Dübi to the Artillery Commission in February 1932 on the proposal of the Senior Artillery officer, Division Commander Gustave Bridel. The other non-official members were Col. Alfred Büchi (a manager from Sulzer Bros., Winterthur), Max Fertig (Orbe) and the mathematics professor Rudolf Fueter (Zurich). Dübi remained a member of the Artillery Commission until 1944.

National defence demanded a hitherto unparalleled effort from those Swiss firms capable of participating in it. Von Roll were charged with the manufacture of the pieces and additional accessory parts from heavy forgings. From time immemorial artillery pieces had been products of such high quality that their manufacture had been confined to a very few foreign firms. Such steelworks could call on the know-how of decades. But for Von Roll this field was new. The KTA desired manufacture to be put in hand quickly, at least in respect of the smaller calibres. The main problem was to combine the high rigidity demanded of the steel of the piece with maximum toughness at muzzle and breech ends. Although the composition of the steel and the smelting process were known from a licensing contract with the Swedish firm Bofors, the metallurgical production, the method of forging and the thermic treatment of the steel had to be established by means of extensive experiments. In addition, the existing installations were inadequate for the forging of heavy blocks and the heat treatment of the steel.

For these reasons the large drop forge already mentioned and a new installation for thermic treatment had to be set up. This work, of such great importance to national defence, had been put in hand and pushed ahead at Von Roll through Dr. Dübi. The first order from the KTA was for 47-mm infantry gun pieces. Then followed orders for pieces for the 105-mm gun, the 75-mm anti-aircraft gun and the 150-mm fortress-defence-gun, as well as the 105-mm howitzer.

The collaboration between the heads of these large firms, who were at the same time high-ranking military officers, and the procuring and super-

visory authority, may be described as typically Swiss. Every expert and businessman places his abilities, his knowledge and the capacity of his firm at the disposal of the Fatherland, and it is for each man a matter of conscience to bring the question of business advantage into a suitable relation to patriotic duty. What was at stake was not the execution of profitable orders, but in the first place the performance of a duty bound up with great personal responsibility and an often extensive business risk. This did not apply to the large firms only, such as Von Roll, who forged the artillery pieces, or Sulzer Bros., who made the breech blocks. It applied also to innumerable smaller firms and sub-contractors who had a part in providing military materials, from precision weapons and optical instruments to uniforms. The proper allocation of orders was one of the main tasks of the KTA.

The military efforts made by the country during the first and second World Wars were — in addition to the sheltering hand of Providence — the means by which the country remained largely shielded from military operations. It was the great good fortune of Switzerland to possess men who placed their technical knowledge and ability and the capacity of their firms in the service of the defence of Democracy.

The dignity of labour

Industrial and social development has left the word 'wage' only its material sense of money for work done. Originally this word also had a higher meaning, with a spiritual or moral increment. A third element must be present in addition to work and wage if the human being who works and is paid for doing so is to find inner satisfaction in his life's task. Let us call this third component the dignity of labour.

It was one of Dübi's most fervent wishes to restore the dignity of labour, which had been violated variously in the course of time, and to find forms for it consistent with the conditions of modern industry. He first attempted this within the Von Roll organisation by encouraging the traditional workers' committees and by promoting a working atmosphere in which employees could see his intention of removing their sense of being the underdogs or 'inferior'. During a lecture he remarked, 'I find it difficult to utter this word'. For he saw the human being and citizen within even the lowliest of his staff. He consistently subscribed to the principle of social

responsibility of the employer, not in any desire for popularity but in the simple belief that as a rule the economically better-off have better access to cultural sources and thus an obligation to assist their weaker partners to develop their personalities. He was concerned with ennobling mankind as such. The outstanding practical expression of this was, however, necessarily an ethical-based relationship between a man and his work.

When, in 1932, Dübi became Chairman of the Employers' Association of the Swiss Engineering and Metalworking Industrialists in succession to Dr. h. c. Heinrich Zoelly, he was the right man at the right time, for he was well known as one who fought only with the cleanest and noblest of weapons, and for his carefully thought-out, clearly-oriented opinions dictated by humane considerations. It had long been clear to him that disputes and strikes were of no value to anyone and only caused damage by widening the already existing gulf between the social partners. A strike might at the time look like a demonstration of power, but on close examination could be seen to be economically futile both for employers and employed. When he remembered that in the ten years between 1927 and 1936 880,154 working days had been lost in Switzerland through strikes, it was obviously right and necessary to seek a way out of the impasse. Of those lost working days, 29,056 affected firms of the Swiss engineering and metalworking industry who were members of the Association. In 1932 the Association suffered 6627 and in 1934 as many as 8192 such lost days.

Subsequent losses dropped, until finally reason and understanding led to signing the peace agreement.

The initiative to negotiations came from the employees' organisations. In early Spring 1937, the Central President of the Swiss Metalworkers' and Watchmakers' Union, National Councillor Konrad Ilg, informed the President of the Employers' Association, Dr. Ernst Dübi, that he would like to talk with him. This meeting can no longer be reconstructed in detail. It may well be that Dübi went to the meeting with a feeling of surprise and tension, and he realised that in such a novel, even revolutionary matter he could not speak for his Association before his members had discussed the matter and approved it. But Dübi listened to Ilg's proposals with growing interest, and the more he considered them the more he regarded the objective of a labour peace pact, if it could be arrived at on a basis of good faith, as worth working for. The two men quickly felt themselves in agreement. But Dübi feared that his colleagues in the Employers' Assoc-

ation of the Swiss Engineering and Metalworking Industrialists would be suspicious of so unexpected a proposal. He realised that it would be for him to use his influence to convince the Association of Ilg's honesty.

This step represents a great hazard in Dübi's career, for he knew well that the attitudes on his side had long been rigid. It required the full weight of his personal prestige in discussions with his individual colleagues, and later when a meeting of the inner committee was called to discuss the matter. He was gradually successful in persuading the waverers that the path indicated by Ilg was bound to lead to industrial peace. What was involved was not a collective employment contract, as many believed, but a mutual obligation to overcome all the difficulties that arose, loyally and by means of peaceful negotiation, and if necessary by resort to arbitration. This was the basic concept of the agreement.

In preparation for the General Meeting due to take place in Zurich on July 9th, Dübi convened the Committee of the Employers' Association to a session in Ouchy from April 11th to 13th, and there, in an extensive and creative exchange of views, all the details of the draft were thrashed out. At the subsequent General Meeting of the members, who at that time numbered about 140, Dübi brought all his powers of persuasion to bear in favour of the peace agreement with the trade unions, with the result that he was unanimously commissioned by the General Meeting of the Association to sign the 'peace treaty', as it was then called.

On the evening of July 19th, 1937, after the signing of the peace agreement, he said to one of his closest associates, 'This has been the finest day of my life'.

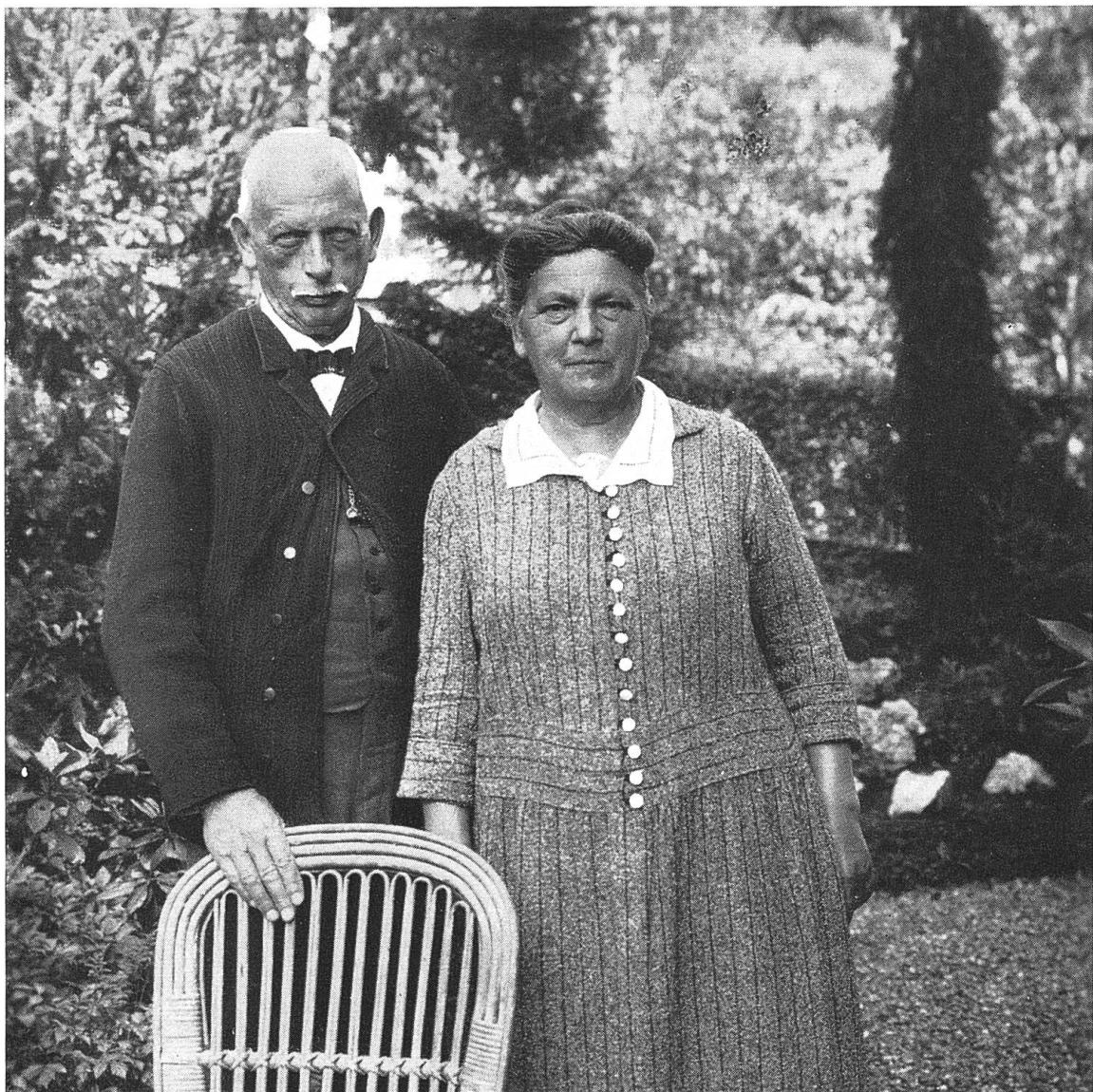
In retrospect, everyone who was in a position to follow events at short range recognises that the peace agreement was largely the personal achievement of the two men who, while on opposite sides of the fence, had in common their anxiety for the welfare of an important branch of the economy and those working in it, and were thus impelled to work together.

Thus labour was given back its dignity. Dübi's views on compromise may be regarded as justification for the peace agreement. Three years later he wrote, 'Everyone who has principles is sometimes annoyed by compromise. Yet the life of a man, made up as it is of compromises between the head and the heart, is not far removed from the ideal. It is not feasible to enjoy the boons and blessings of extensive freedom and at the same time hope to claim all the rights and advantages for oneself. A freedom sur-



Ernst Dübi.

Ernst Dübi
Dipl. Ing. ETH, Dr. sc. techn., Dr. sc. techn. h.c., Dr. rer. pol. h.c.
1884—1947



His parents: Johann Dübi and Rosa Dübi-Fankhauser in the garden of the Spiez house where they spent their retirement.



Dübi's birthplace
at Biberist
(photographed
in 1965).

As a pupil of the
Cantonal school,
wearing the
“Ruppigonia”
colours.





Dr. E. Dübi with his wife in the garden of their holiday cottage at Hertenstein on the Lake of Lucerne (1946).



Garden snapshot from Rondez (Aut. 1921) with his wife and daughter Helen.

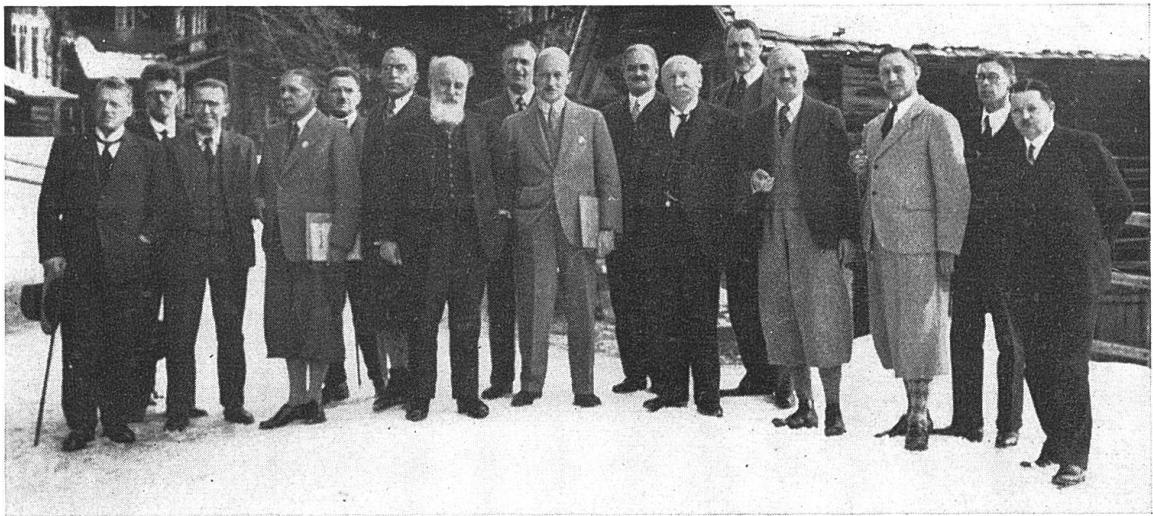


Wearing the rosette of the official orator at the 20th Soleure Cantonal Gymnastics Festival, August 16th, 1942, at Gerlafingen.



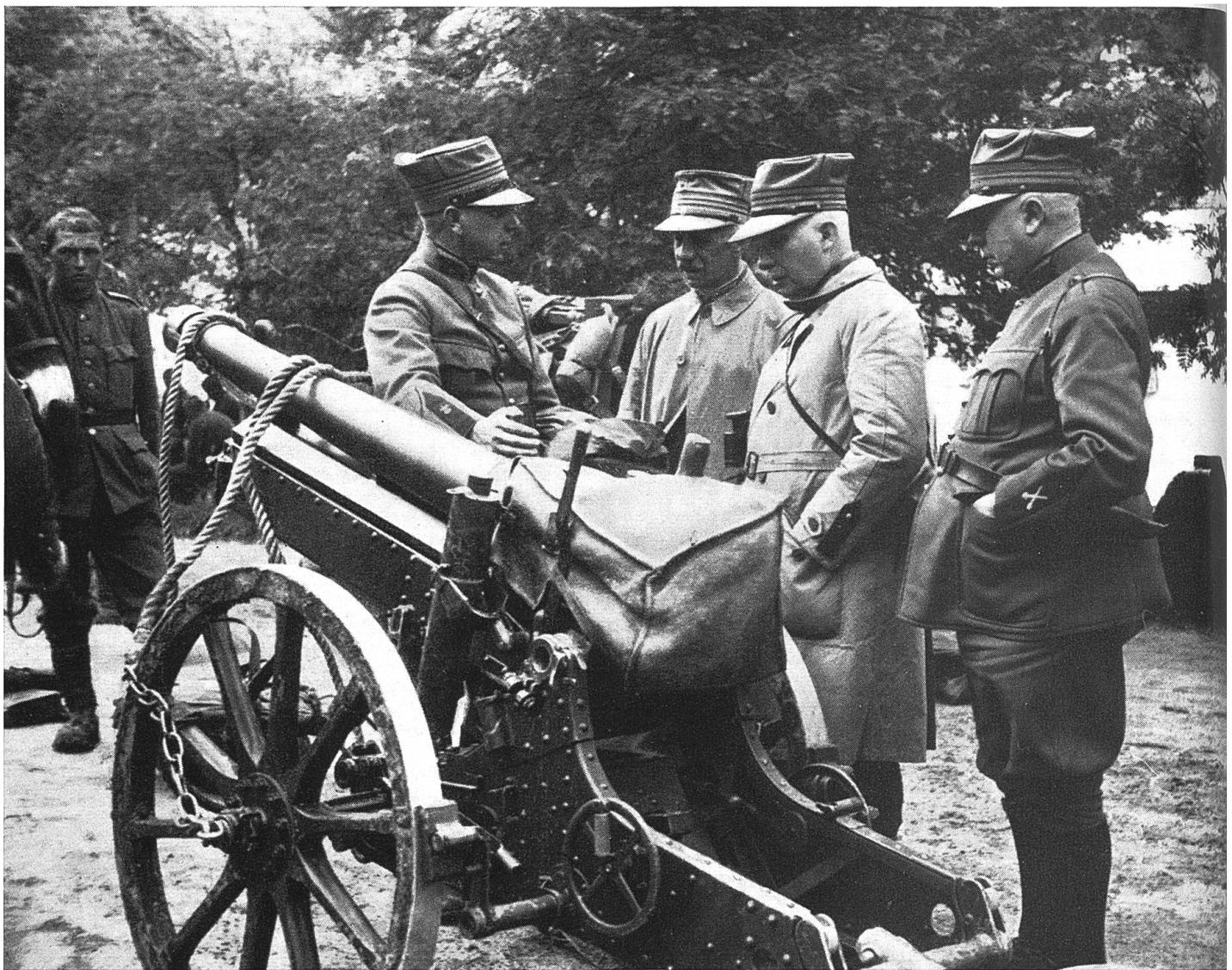
Right: view of the Von Roll hot rolling mill at Gerlafingen. In the foreground the ingot rolling mill, behind it the No. 450 finishing train. Built 1932/34. ►

Dübi's home at Gerlafingen. Today it houses Von Roll offices.

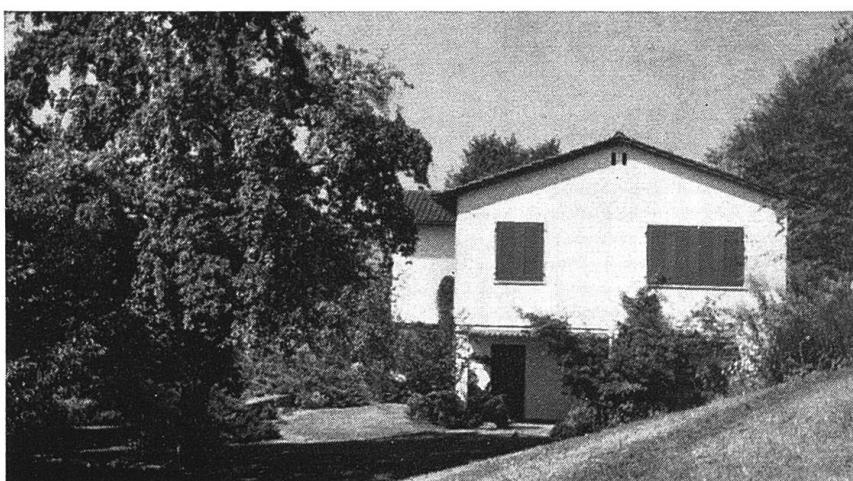


The Federal Ministry of Economics' Sub-Committee II for Economic Policy meets at Mürren in January 1937: left to right Dr. R. Péquignot, Departemental Secretary, Dr. Max Holzer, Sub-Committee Secretary, Prof. Dr. Eugen Böhler, Dr. Ernst Dübi, National Councillor Dr. Josef Scherrer, Cantonal Forestry Inspector Bavier, Coire, Prof. Dr. Ernst Laur, Dr. J. C. Cagianut, President of the Swiss Master Builders' Federation, Dr. Carl E. Koechlin, President of the Basle Chamber of Commerce, Dr. Pahud, Price Commissioner, Dr. Bernhard Jaeggi, President of the VSK (Swiss Co-ops), Minister Dr. Hans Sulzer, Attorney Paul Renggli, Chairman of the Committee, Prof. Dr. Paul Keller, Prof. Dr. Max Weber, Secretary of the Swiss Federation of Trade Unions, National Councillor August Schirmer, President of the Swiss Craftsmen's Association.





Talking shop: The Artillery Commission inspecting guns (June 1933).



The holiday cottage at Hertenstein where Dübi was overtaken by death in 1947.

The creation of a Holiday Centre for the Von Roll apprentices where they could rest, play games and learn their duties as citizens was an aim dear to Dr. Dübi's heart. The house was built at Undervelier, site of ancient Jura ironworks. After Dübi's death a plaque was erected there in his honour. The inscription reads, "To the man who helped and protected the youth of his trade, Dr. Ernst Dübi, in deep gratitude, the Von Roll apprentices".





Ernst Dübi's gravestone in the Soleure cemetery, a ferryman theme in grey Soleure marble
by Walter Peter.

rounded by trammels and demands of this nature renders all communal life impossible.'

A vindication of quite another kind may be seen in a statement in the 'Metallarbeiter-Zeitung' on the occasion of Dübi's death. In his obituary in this highly-regarded trade union paper, Dübi's initiative towards the peace agreement is considered and his character referred to as an essential prerequisite of the success of the agreement. 'At every material period we were confronted by an intellectual well-equipped and clean-thinking representative of the employers in the Swiss engineering and metalworking industry, and the fact that the Employers' Association kept him at its head for so many years is evidence that they knew him as one who stood up for their interests with skill and perseverance. Yet his methods of negotiation were always on a high plane and his attitude was always marked by a great sense of duty. He knew that he had to bear a great responsibility not only towards his own Association, but also towards the country as a whole. This attitude accounts for the fact that he was never one to aggravate differences, but a mediator full of humanity who well understood that peace nourishes, while discord devours.'

The esteem Dr. Dübi enjoyed among the workers was well-earned and genuine, and was of many years' standing. A story is told of the time of the General Strike of 1918, when he was manager of the Rondez works. A number of workers disregarded the strike call and entered the factory. Some of them got up steam on the works locomotive and drove around on it. When Dr. Dübi came, an outside worker tried to attack him and was at once given a box on the ear by his foreman.

Inside the firm, Dübi was always in favour of improvements in the working atmosphere and the position of workers and staff members. But the amount of consideration which he gave to all the practical effects of any measure is shown by the discussions on family allowances in 1935. Dübi was opposed to family allowances, which employers were to pay in the form of an increment. He was afraid that some employers might as a result go over to giving preference to workers without families. To make the idea workable, he proposed solving the problem at Association level. The Employers' Association created a joint fund into which the employers paid a certain percentage of their total wage bills. The family allowances were paid from this fund, thus placing neither employers nor employed at a disadvantage.

He was always accessible to his men, whether of high or low degree. Nor did he ever turn away a stranger who came with a request. He displayed understanding and open-handedness for any positive endeavour. He was in particular attracted to welfare, cultural and patriotic causes. This meant that his days were always full into the late evening.

He hardly ever found it possible to refuse a request, although sometimes he was terribly taken advantage of. But the respect he showed every one of his fellow men and his sense of high social purpose strengthened him in his faith in right and in his duty to promote it. One favourite project that he succeeded in realising was the apprentices' holiday home at Undervelier.

A special pleasure of his were the long-service employees' excursions, to the first of which, in 1945, he invited workers and staff members with upwards of 40 years' service, together with their wives. He took part in two such functions. The third veterans' excursion, with the Bürgenstock as objective, fell on the day of his decease. Death overtook him as he was in his holiday home at Hertenstein preparing the speech he intended to make on the Bürgenstock.

Captain of Industry

As President of the largest employers' federation in Switzerland, he was not only interested in raising the status of the human being in the labour process. A major objective of his was finding a just mean between the interests of employers and employed.

A second problem, just as grave, besetting private enterprise was the interference of the State in economic matters. It was continually necessary to re-emphasise the boundary between State and Business.

During the years when Dr. Ernst Dübi was at the head of the Von Roll Ironworks, the Great Depression and its grave consequences had often made State intervention in economic life unavoidable. The question arose, where and how were Politics and Business to find their meeting point? Were they to destroy one another in defence of abstract principles? This was something that Ernst Dübi could not accept. He was convinced that with good will on both sides a way could be found to justify the demands of the State for a supervisory role while taking account of the distaste of private enterprise for State control. For him it was a matter of finding the happy

medium between the State with its political tasks and Business with its conditions dictated by the market. At the same time, he regarded it as a matter of course that only a well-managed free market economy could serve the general interest in the long run.

In connection with the procurement of work at the time when unemployment was at its worst he wrote, 'Money for work and work for money is all very well; but it must be work that can be justified and shown to be necessary economically'. And later, 'Let us remember that every good and well-managed private undertaking brings advantages and profit to the State as a whole and that in the long run these cannot be maintained by means of State subsidies, but only by remaining naturally competitive on the market. Leave business in the main to people who know their way about in it and are prepared to think and act in accordance with its laws'.

Nor did he wish to see the State as a welfare organisation. 'I have repeatedly said that I would not wish to remain head of an undertaking at a period when the State acts as a welfare organisation without in reality being one, leaving us only the responsibility, the work and the burdens. That must not happen, for it would seriously unbalance the ethics of humanity and undermine all innate love of work.'

Idealisation of the State during the period when a large part of Europe was governed by dictatorships was an unmistakable danger in Switzerland too. The philosopher Friedrich Wilhelm Foerster saw a direct connection between overestimation of the value of the State and the brutalisation and de-spiritualisation of mankind, and to this Dübi once referred. The cause of this connection he regarded as the elimination of personal conscience in daily activity. Thus the State was capable of being a danger not only to business, but also to culture and to mankind as a whole. Fears of this nature Dübi also found in Hölderlin's 'Hyperion', for instance in the passage that reads, 'the State was made into a hell by Man wanting to make it into his paradise'.

During the second World War, when business in the dictatorships had been completely regimented, the problem of State control of the economy also reared its head in Switzerland. Dübi wrote, 'State direction of the economy should never be an end in itself, but should only be built up to the extent proved necessary, viewed from the standpoint of business and not from that of the State or politics, it being a matter of course that all public interests involved be taken into account. The latter are increasingly a com-

ponent of business itself, and it will be advantageous to leave their protection to the Federation, who in any case have a considerable educative role.'

Summing up, he allots the State a supervisory but not an executive role in the economy. 'The major task of the State in economic matters remains the smoothing of the ways and the maintenance of communications as between country and country; it may then be left to industry and the personal contacts and friendships that of necessity arise to make use of them.'

Many of the Presidential addresses that Dr. Dübi delivered to General Meetings the Employers' Association have since been published. He used to refer to them as 'Thoughts and Observations', but applied his own brand of clarity to topical problems, particularly questions of labour ethics and business thinking. He often hit upon happy phrases, as for instance the sentence that the wealth of a nation consists in the work it has performed.

On one occasion he summarised economic activity into three principles. They are these:

1. As a general principle, be truthful to yourself and others.
2. Recognise the great value of personalities and private enterprise, and stop the moaning carried on by some workers against capitalism as such. The concentration of capital at particular points is as necessary as the regulation of gradients in our watercourses if work is to be performed. But deliberate misuse of capital is inexcusable and indeed culpable.
3. As an employer, respect human beings and cultivate a sense of social purpose.

The Presidency of the Employers' Association of the Engineering and Metalworking Industrialists was to Dübi the key position from which he could radiate his future activities into numerous fields of the Swiss economy.

He had already long before lent his co-operation to the subsidiary companies of Von Roll and various other undertakings in the Soleure area, such as the Oensingen-Balsthal Railway and the Emmenthal Railway. But as time went by, his activities began to extend to additional fields, as firms such as the Bally Shoe Factories in Schönenwerd, the Swiss Bank Corporation, the Société de la Viscose Suisse at Emmenbrücke, Sulzer Bros. at

Winterthur, the Société Genevoise d'Instruments de Physique in Geneva, the Vereinigte Drahtwerke of Bienne, the Eidgenössische Versicherungs AG and the 'Neptune' Transport- und Schiffahrts-AG of Basle invited his participation on their Boards. He devoted his conscientious attention to every task of this nature that he accepted, and his opinion carried no little weight wherever it was requested.

We may close this chapter with the solemn words written by Professor Max Huber to Dübi's family when he died:

'His importance as a business leader lay not in his outstanding positions in industry and in federation work, but in his elevated intellectual level and the high ethical plane of his personality.'

'You don't destroy things like that'

When the manager of the Emmental Railway, Karl Braun of Burgdorf, met a request by Dr. Dübi to bring the obsolete locomotive 'Langnau 3' to Gerlafingen, thinking it was to be used for scrap, Dübi told him, 'You don't destroy things like that'. Stimulated by the Deutsche Museum at Munich, he had long previously begun to collect all kinds of old machinery, including locomotives, automobiles and early direct and alternating current electric motors. In the 'Von Roll Werkzeitung', the works news sheet, he announced in January 1945 the acquisition of a collection of artistic objects from Germany by Von Roll. The articles concerned were products of the old Royal Ironfoundries at Berlin and Gleiwitz, dating from the first half of the 19th century. These were art castings of outstanding creative and technical value of a kind not subsequently to be found. In addition, it was Dübi's intention to preserve the old equipment from the orewashing plant, the conveyor installations and other machinery previously used in the ore mines in the Jura. Naturally, original designs of importance from the company itself were to be kept from destruction, among them the mechanism of the Wetterhorn lift cabin built by the Bern foundry of Von Roll in 1904—08, the first aerial passenger cableway in Switzerland. This railway had been dismantled during the first World War. In the article referred to, Dübi summarised the efforts being made to present to posterity, in the form of visible examples, the origins of technology and indeed of the economy as a whole.

The plan he set forth in the works news sheet in January 1945 was none other than the setting up of a works museum at Gerlafingen. It was based on far earlier projects of Professor Pràsil and Stodola and of the founder of MFO, P. E. Huber-Werdmüller. But this project was conceived expressly as an emergency measure to relieve the expected post-war unemployment. The crisis did not however arise; on the contrary, there supervened an unprecedented level of full employment, boom and super-boom, so that for the time being the plan to add a museum to the Gerlafingen works had to be dropped. In the meantime, the Swiss Transport Museum in Lucerne was founded, and the management of the Von Roll company came to the conclusion that they would be acting within the wishes of their Chairman and General Manager Dübi if they restored five locomotives and presented them on loan from the Ernst Dübi Foundation to the Transport Museum. The vehicles remain the property of the Von Roll company, but are accessible in suitable surroundings to all interested and enjoy lively attention from young and old.

The following machines from the Ernst Dübi Foundation are located in the Lucerne Transport Museum:

1. *The three-phase electric locomotive No. 2 of the old Burgdorf-Thun Railway*, built in 1899 by Brown, Bovary & Co, Baden, and the Schweizerische Lokomotiv- und Maschinenfabrik, Winterthur.
2. *The steam locomotive 'Langnau 3' of the Emmental Railway*, built in 1881 by the Schweizerische Lokomotiv- und Maschinenfabrik, Winterthur. This locomotive is used today to haul the Swiss Federal Railways jubilee trains.
3. *Locomotive No. 11 of the St. Gotthard Railway*, which was already in operation when the tunnel was being built, was transferred to Von Roll in 1890 and used in the Klus ironworks until the end of 1933.
4. *The locomotive 'Gnom' from the Ostermundigen quarries*, one of the earliest rack and adhesion locomotives in the world, built in 1870 by Niklaus Rigggenbach in the workshops of the Swiss Central Railways (SCB) at Olten.
5. *Locomotive Nr. 7 of the Vitznau-Rigi Railway*, also by Rigggenbach, a vertical boiler type built in 1873, the first locomotive produced by the Schweizerische Lokomotiv- und Maschinenfabrik Winterthur.

6. A 'Turicum' automobile, built 1907, designed in Zurich by Paul Vorbrodt, who died in 1965 at the age of 93, and Marcel Fischer, the inventor of magneto ignition. It has an 8-hp four-cylinder engine with automatic inlet valves and a stepless friction transmission. Its top speed was 50 km per hour. Dübi acquired this piece in 1937 from a veterinary from Biberist named Stuber and stored it away. It was restored and made roadworthy by Von Roll.

In addition to these, the Ernst Dübi Foundation and the Von Roll company own a number of other locomotives and minor machinery, including another Rigggenbach machine built in his Aarau workshops in 1876 and named 'Elfe'; a 200-hp Sulzer diesel engine dating from 1905 and various early electric motors, mostly Swiss, by Brown, Boveri and Alioth.

Now that five important locomotives and an automobile out of Dübi's collection are on show in Lucerne and properly looked after, and a Swiss Museum of Technology is being formed in Winterthur, the question arises whether Dübi's idea of setting up a memorial institution in Gerlafingen can still be realised. There is no doubt that the efforts by the present generation to preserve this venerable cultural heritage and display it to the public are in line with Dübi's views. It will remain a permanent tribute to him that he preserved these examples of Swiss inventiveness and enterprise from being scrapped.

The thinker

Dübi's thinking, as encountered by readers in his written works, mainly circles mankind and what has been achieved in harnessing Nature. The central figure is always the human being as explorer of Nature and her laws, as social animal and as citizen. The eternal theme of the interrelation between man and his technology occupied him in every possible form. His bookshelves are stocked with the works of Messerschmidt, Hermann Weineich, Rudolf Diesel, Robert Weyrauch, Theodor Lüddecke and the like. Dübi read them pencil in hand, immersing himself thoroughly in their content. He worked over the text, here and there marking passages that he wanted to be able to find again, and filled the margins with notes and references.

His method of research and procedure was to consider all the possibilities available and then to select with unerring grasp the one closest to the roots of the problem. In Dübi's essays, over and over again and in the most various connections, an appeal is made to the reader to 'believe in what he knows' — evidence of his conviction that faith is the stronger partner. There is a saying that faith begins where knowledge leaves off. But here faith is regarded as a dynamic force, and knowledge as the static comprehension of reality as it exists. Knowledge, so to speak, is the sum of existing things, while faith is the force which man attaches to his acts. This faith is also the origin of scientific and technical research. Research, writes Dübi in his *Opinions*, is that field of technology and science in which human existence — to use the words of Ralf Kornmann — is elevated into a spiritual exercise.

Nor could a combined view of social, economic and technical problems have any point save with the incorporation of the individual human being and from the standpoint of humanity. Mankind must be and remain the real object of thought. Technology, in the advanced stage achieved by the splitting of the atom and the application of nuclear energy, may be a mortal danger to the human race unless there is an ethical approach demanding upgrading of the human personality at all stages of technical and economic activity. The more technology relieves man from working, the greater are the demands made on his moral powers and the more important his will and spirit become.

Dübi was acquainted with the problem of the relation between man and technology from other angles than that of the writing desk. His practical experience as an engineer and industrialist accustomed him not only to philosophizing but also to men who invented machines or who had to work with them. To him, the problem of man and his technology was a practical reality. One of his latest essays, perhaps his last, and one that may be regarded as his spiritual testament, is entitled 'Technology and Philosophy'. It appeared in July 1946 in the magazine 'Prisma, Monatsschrift für Natur, Wissenschaft und Technik' and represents Dübi's reply to a book 'Mensch und Technik, Grundzüge einer Philosophie der Technik' (Man and technology, principles of a technological philosophy) by Prof. Donald Brinckmann (published by Francke AG, Berne), excerpts from which Brinckmann had quoted before the Töpfer Association in Soleure. Dübi does not acknowledge Brinckmann's concept of a special philosophy in respect of

technology and its application in life, but demands that the same ethical standards should be applied to it as to human activity in general.

It will remain an external truism for technicians that technology bears a heavy burden of tragedy. 'This must not be regarded as an impediment; it must instead serve as a stimulus to engineers and technicians to strive to shape their own lives as individuals in modesty, with decency, with reverence, responsibly and from the spirit within them without compulsion from outside. It is a matter of great good fortune that they have been granted the requisites to this to a remarkable degree, since scientific technology allows them to recognise the veritable wonders revealed by modern physics, the basic structure on which all technical thinking is founded.'

Thus man has no need to fear the vacuum which many a contemporary philosopher believes he can sense on behind the revelation of Nature's secrets. 'Extensive knowledge on the part of the human race', he writes, 'can only increase wonder at the work of creation which will always transcend whatever Man can attain.'

'I am convinced', he confesses, 'of a deeper significance to human life. Respect for human life must and will be maintained; to disregard it will prove in time a major wrong. Even those who are unfortunate enough to have to wage war will be well advised to return to a faith in the meaning of life as soon as circumstances permit.'

'Failure to do so will sooner or later cause a State to break, just as solidified water frozen to lifeless ice breaks its pitcher. The soul of a nation can never consist of laws and decrees, but is an amalgam of the entirety of the people who make it up.'

He made many references to Switzerland and her vital problems. During the second World War, when Switzerland was encircled and threatened from all sides by Hitler's armies, his wise and courageous words were directed to encouraging loyal perseverance — and also spiritual purification. Many of these thoughts have a validity far beyond his own period, as for example, 'We must find the courage to have faith in what we know. Then we shall realise that Switzerland will keep her soul just as long as she succeeds in upholding the idea of true democracy, or in other words as long as her people show themselves worthy of democracy and do not abuse it.'

The key words to Dübi's maturity are introspection and reverence. These leitmotivs show through everywhere in his thinking, as reflected in

his 'Gedanken' (Thoughts) published by the Vereinigung Oltener Bücherfreunde in 1944, an aphoristic, deep, unexaggerated and crystal clear work. It is the only one of Dübi's publications aimed at the general public. Its succinct, noble phrases bear a wealth of truth derived from his reflections.

Ernst Dübi / Gedanken



Cover of Ernst Dübi's book: "Gedanken".
Drawing by Gunter Böhmer

Even technology, in fact technology perhaps more easily than anything else, can show a man the way to his inner soul and to reverence for all those great things we glimpse as soon as we begin to look beyond the surface.

But there is room, too, for simple truism. 'The object of life in the final analysis, however we look at it, is to draw nearer to death not only chronologically but also spiritually.' Or the perfection of the simple phrase, 'Goodness in life becomes peace at death'.

The man

Dübi wrote a great deal, though not about himself. The subjective element is almost completely absent from his attitude. His thinking was directed not towards his ego but outwards, towards his fellow-men and inanimate objects. This explains his objective attitude, not only to things but also to himself.

Not even in his writings on weather susceptibility, which would have been unthinkable without powerful subjective sensitivity in fact, is there specific mention of the strain on his own nerves and spirit which Dübi laid at the door of the weather. He makes only a single reference to a patient 'who suffered from irregular heart activity under certain weather conditions'; and there is reason to believe that this patient was himself. For Dübi often had heart disturbances when the pressure of the southerly winds pouring over the Alps built up into the condition known locally as 'Föhn', and on such days he was wont to withdraw for a short rest, especially before difficult meetings.

When preparing his work on weather susceptibility, he turned his attention not to his own feelings but to the evidence of weather charts and observation of the sky. He subscribed to the daily weather bulletins issued by the Central Meteorological Institute in Zurich and kept the current one constantly on his desk.

The researches he carried out, particularly between 1925 and 1935, were mainly connected with questions of atmospheric electricity and mechanics. In accordance with his scientific leanings, he kept open every channel of approach which was not closed by conclusive evidence. From his investigations, which Dübi constantly compared with those of Dr. Mörikofer, the then Director of the Davos Physical-meteorological Observatory, the following factors emerge: the effects of atmospheric electricity; the rapidity of fluctuations in air pressure; weather situations with evenly distributed pressure; wind speed and directional change at various heights; and spiral currents or turbulence. The conclusions he drew amounted only to a definition of the problem and an indication of the area to be researched. But his procedure may be described as a perfect example of scientific thinking and endeavour.

The same principles are recognisable throughout his life and personality — the effacement of the personal in favour of the objective, the standing

aloof from emotional impulses of all kinds, the search for permanent scales of values and reliable standards. At the close of his observations on weather susceptibility he declares, 'Here we have a field of science which it may never be possible to explore fully using the processes of thought alone.' By leaving the boundaries of thought he can only mean that intuition must play a part — what he elsewhere calls 'intuitively perceptive recognition'. The subject of the weather attracts many amateurs who strive to prove their private hypotheses by means of science. But in Dübi's case this was not so.

With the aid of the electrician Hugo Wyss he had determined experimentally that atmospheric electricity exerted only a marginal effect, if any. That so clear-sighted an intellect could be forced to be satisfied with the hope of having narrowed the field of enquiry instead of having obtained definite answers speaks for the unprejudiced nature of the true science he strove to follow.

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It is said that Dübi was more than once invited to stand for election for one or another high office in Federal politics. But this he would not do. In spite of his lively interest in public matters, he confined himself to his business, technical and cultural activities and kept out of politics. He counted himself a 'Freisinniger', a sort of Liberal-Tory mixture, and adhered loyally to the principles of that party, but he was not inclined to play a part in the rough and tumble of political life. He was not sufficiently a man of the people for that, nor did he have the ruggedness of spirit a successful politician must possess. Dr. Ernst Dübi never occupied a political office even at parish or cantonal level, although he certainly enjoyed sympathy in wide sections of the population. His remaining aloof from politics may have had, unconsciously, a deep-seated reason. Technology, business and his military service gave him responsibility of the kind he sought.

Dübi respected mankind and loved people, but he kept out of the local pub when he could. His introverted, academic nature leaned towards the quiet of his own room rather than the noise of the market-place. Although his innate courtesy and good manners allowed him to avoid the slightest appearance of autocracy, he was none the less the born leader and arbiter — but a leader and arbiter whose decisions were drawn from solitude and

conscience. In his eyes, this position was only tenable on the basis of natural superiority and the voluntary acknowledgment of that superiority by his associates.

His love of order dominated in his domestic as in his industrial life. He was hardly capable of passing a pair of untidily placed shoes without putting them straight. In the works bays, which he regularly inspected to see how things were going, a broken window would call forth a rebuke, for it would give a bad impression to those outside.

Those who surrounded him cannot remember a single unconsidered, indiscreet or inconsiderate word passing his lips. He spoke little in general, and always reflectively. He was good-humoured, never moody, never fatalistic. He was strict with himself, but prepared to indulge others. He was never afraid to acknowledge one of his own mistakes.

His restrained temperament and his obvious good health corresponded to his way of living. His life was mainly devoted to his duties. He lived in a restrained, moderate manner and set little store by pleasures. He seldom went out of an evening. At home, he spent more time in the library than in the living room. He went to bed early and rose betimes. He took part in no sport, unless one counts the solitary walks he took in the country and which he loved so much as a means of giving his thoughts free rein. He did not like travel, and when it was necessary preferred trains to cars. He could never get used to typewriters.

Success in any field he saw as the fruit of thorough preparation. This also applied to his daily work. In the office, he often dictated quite lengthy texts in one flow, and they did not require revision. But his speeches he wrote at home, continually altering the phrasing. Style and sentence construction were most important to him. In correspondence he used a really personal, friendly vein, avoiding stereotyped routine phrases.

His respect for language is associated with his love of the masterpieces of German literature, especially Adalbert Stifter's 'Nachsommer' and Goethe's 'Gespräche mit Eckermann', both works of many-sided, deep wisdom, full of life and complete human maturity, at once demanding and exemplary in language and content. The rosebower in Stifter's 'Nachsommer' was always recurring in his conversation.

His leisure, if he may be said to have had any, was spent in reading and the cultivation of beauty. Art meant much to him, especially painting. He adorned both house and office with works by contemporary artists, especi-

ally paintings by Cuno Amiet, who was a close friend of his. The pianist Edwin Fischer was also invited by him to play at Gerlafingen.

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To round off these observations of the inner being of the man that was Ernst Dübi, let us quote the judgment of a colleague and friend, Professor Dr. Robert Durrer, who subsequently succeeded Dübi as Chairman of the Von Roll Board. Durrer wrote, '... The important thing about Ernst Dübi was his humanity. Technological and business successes, however immense they may be, are mortal and thus ephemeral. The magnitude of the spirit in Ernst Dübi which guided the Von Roll community and gave it its special stamp is not tied to the earthly, and will therefore live on. It is this that we shall all cherish, and in this Ernst Dübi will remain with us.'

Hans Rudolf Schmid

Chronological table of Dr. Ernst Dübi's career

1884	(April 4th) born at Biberist
1904	Classical matriculation at Soleure
1905	Artillery lieutenant
1909	ETH (FIT) Diploma as mechanical engineer
1912	Doctor of technological science
	Trainee at the Klus and Olten works
1913	England with Pilkington Ltd., Bamber Bridge
1914	Joined the Ludwig Von Roll'sche Eisenwerke
1915	Captain commanding 25th field troop
1916	Manager of Rondez works
1917	Married Anna Munzinger
1921	Major, commanding 5th field artillery battery
1925	Manager of Klus works
1927	Lt-col., commanding 3rd field artillery regiment
1928	(January) Technical manager at Gerlafingen
1929	General Manager
1932	President of the Employers' Association of Swiss Engineering and Metalworking Industrialists
	Appointed to Federal Artillery Commission as lieut.-col.
1933	Colonel, commanding 3rd artillery group, then 2nd artillery group
1937	CCA, 1st army corps
	Signature of the peace agreement with the Swiss Metalworkers' and Watchmakers' Union
1939	Retired from military command for health reasons
1941	(end) Chairman of Von Roll Board
1942	Member of Swiss Educational Council
	(November 21st) Honorary Doctorate of Berne University
1943	(November) Moved to Soleure
1944	(April 4th) Honorary Doctorate of FIT
1946	Retirement from General Management
1947	(September 16th) died at Hertenstein by Lake Lucerne

