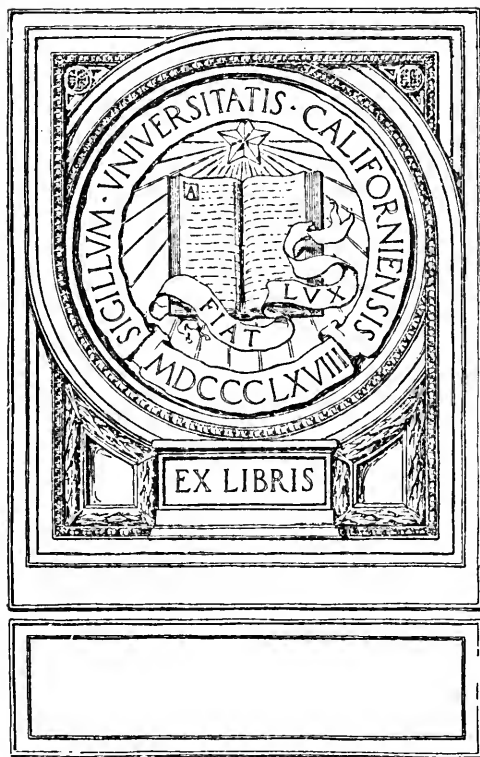
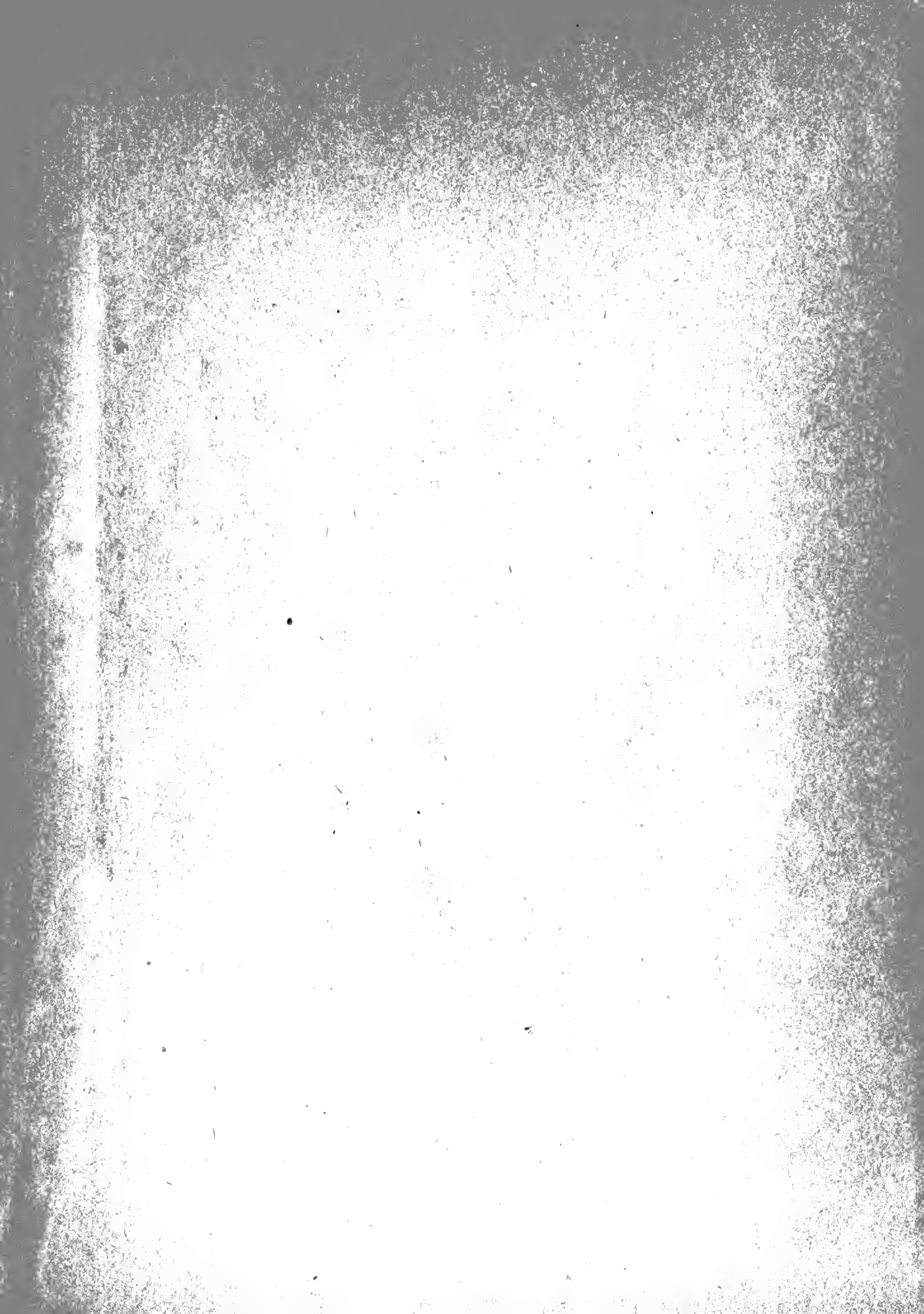


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INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Compulsory Education for Belgian War Cripples

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France

A Paper presented at the International Conference on Rehabilitation of the Disabled, Section XVI,
New York, March 18 to March 21, 1919

The reduction of the labor supply of the belligerent countries and the enormous demands of national reconstruction seem to plead for the principle of compulsory re-education. However, inasmuch as the state has not been able to make work obligatory with its citizens, it cannot properly compel disabled men to undergo re-education, in spite of the advantage that they themselves would draw from it. What induced the Belgian Government to make re-education compulsory for all disabled soldiers was that we were in a foreign country, and that soldiers invalidated out of the army, not being able to return to their homes, would have become a charge on public or private charity.

On leaving the hospital, disabled Belgian soldiers are sent to a re-educational institution. If they object to being re-educated, a committee composed of the heads of the different departments of the institution examines into their

ability to resume their former trade or a branch of it. If the committee's decision is in the affirmative, the men receive a certificate and are allowed to leave as soon as suitable employment has been found for them. If it is in the negative, they are kept in the re-educational institution.

Men who left the hospitals to enter directly into civil life, before the promulgation of the decree making re-education compulsory, are summoned before an advisory committee, composed of working men, who decide on the need for training.

The fourth stage of apprenticeship, which is really devoted to the acquirement of a higher degree of skill, need not necessarily be passed at the institution.

At present the Belgian legislature has under consideration a new law, which will doubtless do away with compulsory re-education.



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INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Methods of Training

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France



Discussion at the International Conference on Rehabilitation of the Disabled, Section XIV,
New York, March 18 to March 21, 1919

The whole life of the Port-Villez Institute is inspired by one principle, that of 'integral' re-education. I admit that this is but a word; it is what this word implies, however, that we strive to put into practice everywhere, and in the fullest measure.

Integral re-education means that before we invite the man to choose his vocation, we study him from all aspects, carefully and minutely; to be able to guide his choice, we have to know his soul as well as his body.

Integral re-education means that we wish to be in a position to offer instruction in any trade that is sufficiently remunerative, to meet any predilection, and to take advantage of any aptitude.

Integral re-education means that we endeavor to give our pupils the opportunity to learn their trade in all its details, and to enable them to return to their place in the struggle for life with their handicap reduced to a minimum.

Integral re-education means that while training the hands, we give food to the spirit. What is a skilled worker without knowledge, without judgment? We carry on simultaneously mental education and manual training; we believe, moreover, that the time devoted to this task is not wasted.

It is this principle that has guided us ever since we started our work, and we have never had to regret it. I know there are some who assert that in the re-education of the disabled, time is the element of first importance. But my opinion, after an experience of about four years, is still the same: it is quality that counts above

everything, and no obstacle we may have to overcome in order to attain it in the highest degree should turn us from our goal.

"Let us render unto Cæsar the things which are Cæsar's." The idea that has guided us in carrying on re-education in this manner was, if not actually inspired, at least strengthened by the reading of a splendid book in which Omer Buysse, one of our best authorities on vocational education, treats of 'American Methods of Teaching'. M. Buysse, who has made a close study of your teaching institutions of all kinds and of all grades, points out on every page of his fine book how constantly anxious you are to develop the whole personality of the children and adolescents who attend your schools. What is true for the education of the young generation appeared to us just as true with regard to the social restoration of the victims of the war, and that is how your own theories are now, through me, brought back from the old continent to this land of innovations and experiments.

Our re-educational school is grouped into four large divisions: the School of Trades, the Agricultural Department, the Section of the Blind, and the School of Clerks for Government Administrations, Commerce, and Industry.

In the School of Trades are taught all the manual trades and certain other occupations which are directly connected with industry. The following is a list of the trades in which apprenticeship has been organized:

Machine Work: Machine-fitting, drill-press operating, blacksmithing, milling, machine operating, planing, welding (oxy-acetylene), turning.
Butchery and meat-packing.
Baking.

Brush-making: trimming, assorting, boring, sawing, drawing with wire, planing, pitching.
 Cane-work, veneering.
 Engraving.
 Barber's trade: parlor attendant, artificial hair-maker.
 Shoe-making: making of new shoes, repairing.
 Civil engineering: draughtsman, overseer, superintendent.
 Mechanical drawing: tracing, designing.
 Diamond-cutting: polishing, cutting, setting.
 Electrical work: Installing, winding, wiring.
 Tinsmithing.
 Fur and skin trades.
 Motor-car driving, motor mechanics, vulcanizing.
 Clockmaking (repairing).
 Printing, stereotyping, linotyping.
 Lithography.
 Carpentry, tool-sharpening, cart-wright's work, cabinet work, planing, sawing, cooperage, turning.
 Mould-making.
 Modelling: plaster, staff, carton-pierre.
 Decorative painting, imitation of wood and marble, decorating, letter and sign-painting, china and glass.
 Photo-engraving.
 Photography.
 Polishing and varnishing.
 Book-binding, gilding.
 Wood-carving, stone-carving.
 Saddlery and harness-making.
 Tailoring; making of the body of a garment, cutting, makings of caps, trousers, vests.
 Upholstery, linoleum laying.
 Basket-making: willow work, rattan work, fancy work.

You have noticed, ladies and gentlemen, that the list which I have just submitted to you contains, beside the trades, further subdivisions of trades. If, in certain specific cases, we have to choose a special subdivision of a trade, this does not contradict the principle which I enunciated in speaking of integral re-education, namely, that "the pupils must be given the opportunity to learn their trade in all its details." Re-education is not confined to a subdivision of a trade except in a case where the following two essential conditions are present: (1) The capacities left to the disabled man are insufficient for satisfactory training in a complete trade; (2) the economic conditions of the region of which the disabled man is resident assure him remunerative occupation in the branch in which he is training.

The trades are grouped into sections. At the head of each section there is a chief, who is directly responsible to the chief of the technical service, and who serves as an intermediary between the latter and the shop foreman.

The shop foreman gives his opinion on the advisability of accepting or refusing orders, calls attention to the necessity of acquiring raw materials and tools, forms groups of pupils and appoints their monitors, distributes the work among the several groups, attends to the maintenance of order in the shop, and sees to it that all efforts are coördinated to assure the progress of the apprenticeship. He notes the progress of the pupils and gives to each one monthly marks of which we shall have more to say later.

Frequently, it is the shop foreman who has to give all or part of the theoretical instruction in his section. It is clear, therefore, that the shop foreman must combine many valuable qualities, of a vocational and technical nature, of an intellectual nature and of a moral nature. The shop foreman means everything for the pupils. We have seen shops that in all respects left much to be desired, where no eagerness for work could be found, where disabled men were obviously wasting their time, and we have seen them change in a short time into centers of activity, of joy and of productive work, and all this thanks to the fact that it was possible to get hold of a man endowed with the right qualities.

The instructors and monitors who are constantly directing the efforts of the pupils must also be able and conscientious craftsmen or workmen; above all, they must like their trade and make their pupils like it.

At Port-Villez we use the productive method of apprenticeship, that is, every operation of a pupil is directed towards producing or helping to produce an object having a commercial value. Production is not and never can be the aim of the work of the pupils, but it is an excellent means for stimulating their interest, for confronting them with the difficulties with which they will have to cope later in carrying on their trade, and for helping them gradually to become familiar with the commercial aspects of the trade.

That does not mean that the work which is entrusted to the pupils is determined by chance. This is by no means the case. The different operations in a system of methodical apprenticeship are fixed in all their details, and they are performed in a strictly prescribed order. For every trade we have drawn up a definite program of apprenticeship, which states not only the order in which the different operations are to be studied, but also the normal time that is to be devoted to each operation. There are no fixed rules, however, regarding the object on which every elementary operation shall be carried out, and it is left to the shop foreman to choose and to distribute the orders in such a way as to have, at every moment, some interesting work for everyone of his pupils whatever their stage of advancement.

Complete vocational training includes four stages. In order to pass from one stage to another the pupil must submit to an examining committee some work which has commercial value and on which, in addition, he has not spent more than three times as many hours as a skilled workman would have required for the job.

The fourth stage may, as a general rule, be considered as a period for giving the training its finishing touches, and may be passed either in the school or with an employer. The latter method is permitted so as not to keep too long at the Institute those men who for some particular reason have to re-enter civilian life as soon as possible.

Every month the shop foreman makes out a report showing the progress of all his pupils; he notes for every man the exact point which he has reached, and, whenever necessary, observations relating to his progress. These reports are submitted to the chiefs of the technical, educational, and placement departments, who, when necessary, exert their influence upon a lagging pupil or look for proper means to overcome the difficulties of others. It is useless to add that the disabled man always knows what his marks are, and from that derives the necessary courage for keeping up or increasing his efforts.

I said above, ladies and gentlemen, that we are working simultaneously both for the manual training and the intellectual development of our

disabled men. This aim is attained by a double system of instruction: general courses and technical courses.

The general courses are given two hours a day; they are compulsory for all those who before the war had not completed this primary schooling; they include instruction in arithmetic and in the two national languages. If the pupil passes the final examination he is given a certificate and is excused from following these courses any longer.

The purpose of the technical courses is to teach the theoretical matter, the knowledge of which is necessary in certain trades; for every trade they condense into a certain number of lessons those theoretical ideas which, as a whole, form the technology of the trade. These courses, which are given by the shop foremen and instructors, make up for the necessarily short period devoted to the apprenticeship of the disabled; the latter are here given the opportunity to benefit by the experience of their teachers.

I shall not abuse your kind attention, ladies and gentlemen, by dwelling any longer on this somewhat special subject. It is a subject, however, in which I take a particular interest. I have had the honor of presenting at the Inter-allied Conference, and in the *Revue Interalliée* my personal views on the matter, and on the manner in which the Port-Villez Institute has been applying these views in practice. There are a few more points which I want to cover, and by dwelling any longer upon this special subject I would run the risk of exceeding the limits of the time that has been assigned to me.

AGRICULTURAL RE-EDUCATION

I now have the honor, ladies and gentlemen, to state briefly how our institution has conceived and organized agricultural re-education.

Many of the belligerent countries have been alarmed at the sight of the destruction wrought by the war in the ranks of the agricultural population. As a result, an urgent appeal has been made to disabled peasants to remain on the land.

Although the scarcity of agricultural labor did not threaten Belgium to the same extent as our big neighbors, yet we have been fully aware of the economic interest which requires that agriculture should not be deprived of elements

still capable of productive work. In our well-equipped farm schools, we offer to our farmers and farmers' sons a complete course of vocational instruction.

We have in our stables animals of our best breeds, and our pupils are thus enabled to put into practice the theory of rational cattle-breeding which they are taught in the technical courses. There has also been installed a fully-equipped dairy farm.

The land available is of sufficient variety to permit the creation of experimental stations in all general and special branches of agriculture that are known in our country. The area of the several plots is too small for the use of tractors, which, moreover, are not of great value for Belgian agriculture, owing to the predominance of small holdings. However, the pupils take advantage of every opportunity to observe experiments in the use of agricultural machinery on the adjoining large estates.

The training course for farm managers is reserved for the most intelligent and industrious pupils in the section; its duration is two years. The theoretical courses consist of two lectures of one and a half hours every day; the teachers are agricultural engineers, graduates from special schools, and they direct also the practical work.

Less gifted peasants are restricted to elementary instruction, which lasts one year only and consists of practical work without any scientific basis. This instruction will result in detaching many among these simple folks from the conservatism which has been their principle rule, and will enable them to improve their methods of farming. Agriculture in our country has made considerable progress, and the average yield before the war was superior to that of any other European country. Yet we were far from using everywhere rational methods of cultivation and cattle-raising, and we believe that technical instruction will be of help in enabling the disabled men in our farm schools to make up for physical handicaps, even if these are very serious.

While we urge those who have farms of their own to return to agricultural work, even if they are seriously injured, we admit that the situation is different for farm laborers. The supply of agricultural labor in our country is still too large

to permit a seriously disabled man, one, for instance, who has had a limb amputated or paralyzed, to hope to gain a living in his old occupation. To men of this class we offer the occupation of shepherd, or some branches of horticulture, or poultry- and rabbit-raising.

The horticulture section trains horticulturists and gardeners. The latter attend theoretical and practical courses during one year, while the former complete their training in two years. Without omitting any course of the section, the pupils may specialize in one of the following branches: vegetable forcing, horticulture, or fruit-growing.

Notwithstanding the fact that much attention has been given to providing this section with all the equipment necessary to assure a complete vocational training, there are still certain details which can only be learned by practical work under a specialist. The horticulturists of France have been very generous in giving our pupils opportunities to complete in their establishments the training started at our school. Quite a number of seriously disabled peasants—cases of trephined skulls, of shell shock, of disarticulation of the shoulder—who cannot or must not learn a trade, are being initiated into poultry- and rabbit-raising. We have installed for their use twenty-four incubators of the best design, a chicken-yard where 2,400 young chickens can be raised, and also in one of our farm schools, what you would call a 'poultry farm'. These poor men are becoming familiar with all the details of poultry-raising; and this work is for them both a wholesome distraction and the initiation in a trade which will assure them substantial earnings, while permitting them to live in the open air.

In addition to the raising of different kinds of poultry, these men are also trained in the raising of rabbits, especially of rabbits valuable for their fur, of which we have the best breeds in our hutches.

Finally, our bee-hives afford the men of this section an opportunity for training in apiculture, which may be not only an interesting but a lucrative addition to the knowledge of men engaged in one of the lighter branches of agriculture.

The aim of our poultry-raising department is to provide an easy and lucrative occupation to a whole class of unfortunates who have not the physical powers required for the practice of any trade.

THE SCHOOL OF CLERKS

There are other disabled soldiers who ought not to enter upon apprenticeship in a trade and whose interest one can best serve by directing them to more or less advanced intellectual training. For their benefit, we organized the 'School of Clerks for Public Administrations, Industry, and Business' (*École des Auxiliaires des Administrations publiques, de l'Industrie, et du Commerce*). The school existed in an embryonic state at Port-Villez as early as 1915; in February, 1916, it was established at Mortain as an autonomous institution, and in September of the same year it was annexed to the Port-Villez Institute.

The purpose of this important department of the Institute is as follows:

First, to give to young men who had commenced their secondary studies before the war an opportunity to pursue them further. Intermediate studies of the first grade and higher studies are pursued at Paris, where disabled Belgian soldiers live in a university home.

Secondly, to permit men whose injuries compel them to seek a 'small post' (with the Government) or whose highest aspiration is to become a bureau employee to acquire the necessary knowledge for performing worthily the duties of the position; also so to equip them that they shall not be held back in the normal process of advancement by the insufficiency of their previous schooling.

Thirdly, to provide workmen in the public or private administrations who have been disabled for their former jobs and who have sufficient intelligence to take up a higher grade of work with the knowledge necessary to enable them to become office employees, inspectors of works, or gang foremen.

Fourthly, to give additional schooling to men who wish to establish themselves as small merchants.

The School of Clerks comprises primary, normal, administrative, and commercial departments.

Primary instruction is divided into three terms of four months each. It serves the double purpose of a complete course for men whose aspirations are limited to becoming a lower grade clerk or small shopkeeper and of a preparatory course for those who have the desire and the ability to climb higher.

The Normal Department, in three terms of four months each, prepares young men who are intellectually qualified and who from childhood have looked forward to teaching as a vocation for the state teachers' examinations.

The program of the Administrative Department corresponds in the main to that of intermediate schools of the second grade. Like the other departments it is divided into three sections, in each of which the pupils pass four months. The course prepares men for the examinations for positions as clerks in the state, provincial, and city administrations.

Finally, the Commercial Department, subdivided into a course for bookkeepers and one for correspondents, prepares young men to become office clerks in business or industry. Its three terms are also of four months each.

A class in wireless telegraphy and one in navigation, annexed to the commercial courses, are intended for sailors who are incapacitated for their former labors, but do not want to give up the sea. In these classes they can fit themselves to become wireless operators or marine officers.

A department of intellectual re-education, like the School of Clerks, is incontestably a necessary part of a re-educational institution. At Port-Villez it is attended by three hundred pupils, almost one-third of the total number in the Institute. Yet not infrequently we are obliged to oppose the inclinations of disabled soldiers who, tempted by the seeming ease of a clerk's existence, demand admission to the school. This must be our course when they have no marked aptitudes for clerical studies and could attain satisfactory efficiency in a good trade. The number of disabled men who are obliged to seek a means of existence in the 'small post' is unfortunately so large that we cannot permit men

capable of succeeding in other lines to fill up this already crowded field.

In view of the imperious need for saving time, we have been obliged to neglect the purely educative features of our courses of instruction and to eliminate from the programs all which does not bear directly on the desired end. Except in the normal course, where the element of education plays the dominant role, we have given to all our instruction a utilitarian stamp. We have thus been able to reduce the time to a half or a third of that ordinarily required for similar studies. Yet the competence and devotion of our teachers joined to the zeal of our pupils have permitted us to enjoy really brilliant results. Men but slightly educated raise themselves to a level on which they can taste the pleasure of study, and they give themselves to it with exemplary ardor.

LIFE IN THE SCHOOL

Those of you, ladies and gentlemen, who have visited a re-educational school have surely noticed that disabled soldiers are not as a rule morose. They love joy like all young men of their age, and they also love liberty exceedingly.

The interior regulations of the Institute of Port-Villez, though they have a military basis, are contrived to satisfy as far as possible this love of liberty and to provide sufficient recreation and amusement to maintain the morale of the inmates. The discipline is military; the men are formed into companies under officers and non-coms. At the same time the relations between superiors and inferiors are impregnated with kindness and affection and not based on the authority of rank. Peccadillos which in the regiment would incur punishments, are followed here by fatherly reproofs and kindly exhortations; grave infractions of the rules are extremely rare.

Work commences after the early breakfast at seven a. m., is stopped for a half hour from half-past eight to nine, and then continues until noon. From noon to half-past one, dinner and rest. From half-past one to four, work, and then again a half-hour for rest, followed by work until six. After that the men are free until nine o'clock in winter, until ten in summer.

The technical or theoretical courses are given from seven to half-past eight in the morning and from half-past four to six in the evening; the regular courses between nine a. m. and four p. m.

The week ends Saturday at noon, and anyone who wishes to visit relatives or friends may obtain a leave until Monday morning.

Every Sunday evening from half-past six until nine, the men gather in the great hall for an entertainment of some kind. There are singers, actors, and musicians on the staff of the Institute, and they gladly give their services for the pleasure and artistic education of the soldiers. With the unselfish help of visiting artists they have put on operas, operettas, comedies, vaudeville, and dramas. All who take part in these performances say that they find in the enthusiastic applause of the unfortunate men in the audience an unforgettable reward.

Moving-picture films generally complete the program of the Sunday evening entertainments. The Wednesday evening entertainments consist solely of moving pictures.

Various musical societies have been organized and with their rehearsals fill the leisure evenings of a good many of the men. The brass band especially adds excellent numbers to the programs of the Sunday concerts. The choral societies also have attained a high degree of perfection. In the good season, these musical societies go on excursions and take part in charitable or patriotic entertainments. They are not a little proud of having had the honor of appearing at large concerts in Paris, Versailles, Rouen, Havre, etc.

A symphony orchestra and dramatic club complete the list of organizations at Port-Villez, and satisfy the innate craving of Belgians to belong to some society. Our peoples' mania for societies of all kinds has often been the subject of good-natured raillery, and you see, ladies and gentlemen, that even when they are disabled, Belgians remain faithful to the spirit of association. One may say of this tendency that it favors the growth of sentiments of fraternity and cohesion, which are precious elements in the development of solidarity.

In addition to forming these societies whose aim is amusement, our disabled soldiers have realized that it is to their interest to understand

all general questions concerning invalided soldiers and to form a union for the defense of their rights. They have accordingly organized a so-called Study Circle (*Cercle des Études*), in two branches, French and Flemish. Each branch holds a meeting every two weeks to discuss questions related to re-education, pensions, protection, etc. Occasionally the circles present scientific or moral lectures with excellent effect. They also publish two fortnightly papers which are organs for inquiry, instruction, propaganda, and

claims. The tone and the appearance of these papers have been praised more than once by the great Paris dailies.

The remaining intellectual needs of the community are supplied by a library, to which is joined a reading and writing room. Here the men can come in their leisure time and find relaxation in reading books, newspapers, or magazines, or they can give themselves up to the pleasure, dear to all soldiers of this war, of writing to their dear ones.

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APR 18 1919

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Methods of Training; Belgium

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France



Discussion at the International Conference on Rehabilitation of the Disabled, Section XIV
New York, March 18 to March 21, 1919

The true teaching method is what I call the productive method, which consists in so planning the work that each operation carried out by the apprentice is designed to produce or to contribute toward producing a real salable article and not to reproduce any kind of model.

Production is not the object of such instruction, although the result of the method may be to reduce the cost of apprenticeship, to contribute in a certain measure to the economic productiveness of the country, and to avoid the loss of raw material. The real object is to stimulate the interest of the pupils, to confront them with the difficulties which they will meet in the actual practice of their trade, to habituate them to utilize wisely the waste products of manufacture, to teach them to calculate the sale price of articles they have made, and to enable them to value rightly the importance of rapid execution.

In the application of this method, in order that chance shall not determine the order in which different kinds of work are taken up, it is necessary to lay out detailed programs of ap-

prenticeship, indicating the logical succession of the various operations. The foreman of the shop should accept only orders which are useful in teaching, and he should distribute the orders among the apprentices in a thoughtful manner.

It is useful at regular intervals—once a month, for example—to record the progress of the pupils in a manner which denotes exactly each man's status of advancement. Graduation from one stage of apprenticeship to the next should depend on the examination of one or several articles in which the apprentice has applied the elements learned in the stage he has just completed. The articles should be of a salable standard, and the time spent on them should not exceed a certain limit—perhaps three times what would be required by a skilled workman. In schools where small sums are paid to the apprentices as encouragement to work, it is a good idea to increase the remuneration in proportion to the advancement of the pupil, so that a pecuniary stimulus will be added to the interest in acquiring a trade.

GIFT
APR 18 1919

Gift of Red Cross Institute

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

National Organization of Rehabilitation of the Disabled; Belgium



L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France

An Address at the International Conference on Rehabilitation of the Disabled, Section I
New York, March 18 to March 21, 1919

The treacherous attack of which Belgium was the unhappy victim in August, 1914, caught the country off its guard. Organized for intensive economic activity, our land was utterly unprepared for war. Therefore, when the countless hordes of the enemy had beaten the remnants of our army back upon the Yser—our last stand—nothing was ready, no provision had been made to shelter the wounded of the first battles.

The primary task of our government was the supply of arms, ammunition, uniforms, and provisions to our brave soldiers, who were entrusted with the responsibility of covering the Allied left flank and of barring the enemy from access to the Channel ports; and this task our government accomplished with a courage and determination that gained universal admiration.

To be sure, hospitals were speedily established, but not one of them was organized for the care of those wounded whose lesions had healed or cicatrized. God knows that the ever-growing stream of victims from the terrible battle of the Yser compelled the hasty evacuation of the wounded who were on the road to recovery.

Had we not been dwelling in exile, the domestic fireside could have served as an asylum for the healed and the convalescent; but, for all her hospitality, noble France could not, during the critical autumn of 1914, withdraw her attention from the crushing task of withstanding the enemy. Nor were the generous efforts of individuals sufficient to provide shelter for our disabled; and thus it came to pass that the late Monsieur Schollaert, Minister of State, moved by the sight of these poor wretches aimlessly

dragging themselves along endless roads, established in November, 1914, at Sainte-Adresse an asylum for wounded Belgians. This home soon became a center of occupational and functional re-education.

The generous philanthropist's first thought was to provide food and lodging for the unfortunate victims. However, from the very first days of the 'Home' M. Schollaert realized that many of his guests would not be able to resume their former professions and that all must find in work a remedy for the demoralization to which they would soon be a prey; he therefore installed a few shops which formed the nucleus for vocational re-education and Sainte Adresse soon became the most important center for this work.

In this way the receiving station for cripples, called later the Institute of Sainte Adresse, included in one institution the permanently disabled given over to vocational re-education. The temporarily disabled who could recover by the special treatments of physiotherapy the use of their ankylosed or paralyzed limbs to become later fit for service in the army auxiliaries.

Without going into the details of the organization I will merely call attention to the fact that, while not being official, it was subsidized by the Government, which allowed 1.25 francs per day to the institution for each man admitted for re-education or treatment. Of this sum the soldier received as his pay 25 centimes per day; the rest was spent for food.

Naturally this allotment was insufficient to defray the general expenses of the Institute; good management in the shops brought in

considerable profit; the expenses were met by individual gifts and by donations from the private fortune of the President of the work, Secretary Schollaert.

Little by little, the total of disabled increased and the hope of a short war vanished. The President of the *Conseil de Ministres*, Monsieur le Baron de Broqueville, called the attention of the state to the imperious duty both of providing the disabled with a mode of livelihood and of conserving for the economic life of the state the productive power latent in our many *mutilés*; he entrusted to the head of his Civil Cabinet, Monsieur L. de Paeuw, the task of organizing a school of vocational re-education.

In this work, Monsieur de Paeuw found an opportunity for giving free rein to his talent for organization and for putting into practice his ideas—the fruits of a long study of the problem—on the subject of education.

A landed proprietor offered part of his woodlands for the site of the Institute—in the beginning it was not thought necessary to provide quarters for more than two or three hundred men—and toward the end of June a detachment of engineers began to clear away the undergrowth and to cut down oaks for the construction of the wooden barracks that were to serve the disabled as lodgings and as workshops.

On August 21 of the same year the first contingent of fifty *mutilés* arrived at Port-Villez; this number increased weekly and soon amounted to a thousand, the figure about which the population of the Institute generally fluctuates.

The question of re-educating the *mutilés* had at that time scarcely been broached in the belligerent countries, and public opinion could as yet devote but little attention to the matter. As for the unfortunates who first came to us, embittered by suffering, demoralized by idleness, they were generally skeptical about the promised outcome of their activity in this new center. "Work?" they said. "What, do you expect us to work again? What trade can we carry on with only one arm, one hand? It is not possible to learn a trade at our age!"

Every kind of persuasion had to be made use of to induce them to attempt an experiment with

which, at the end of a few weeks, they declared themselves delighted.

The zeal of newcomers was heightened by the sight of the progress made by their seniors, and the Institute had not been functioning more than two months before the results obtained convinced the organizers of the enterprise of definite success.

There is piquant interest in the fact that it is a little state which has undertaken the experiment of a great central re-educational school, whereas our great Allies have in general adopted the principle of decentralization. It is not my intention here to venture into the pros and cons of the system; I shall confine myself to the statement that the inauspicious circumstances resulting from our exile have nevertheless permitted us to enjoy the advantages of a single great institute without submitting us to all the inconveniences that might be involved.

On the other hand, because of our exceptional situation, we had recourse only to the army for the necessary administrative and instructorial personnel; that is why, during all our long sojourn in France, the I. M. I. O. continued dependent on the Minister of War. As has already been indicated, the general direction was first entrusted to the creator of the enterprise, the head of the Civil Cabinet, and a teacher of renown. After a temporary connection with the *service de santé* of the army, the Institute again became autonomous, under the direction of an equal number of manufacturers and of men in political life, all acting as delegates of the Minister of War; I mention Senator Thiebaut and the late Deputy Boval as the actual heads of the school.

INSTALLATION

The organizers of the Institute for Disabled Belgian Soldiers justly attached prime importance to the choice of a site. Excellent hygienic conditions, remoteness from crowded centers with their abundant temptations to pleasure, opportunity for the pursuit of agricultural activities, all these desiderata were found in perfect combination on the plateau of Notre Dame de la Mère, where the Belgian center established itself.

A good road, seven and a half kilometers in length, leads from the establishment to the sta-

tion at Vernon, the nearest town. From the edge of the wood which had been set aside for our uses, an admirable panorama opens out on the valley of the Seine, the bed of which sprawls at the foot of the hill. In the opposite direction lies a vast agricultural region of fertile soil, affording all the resources necessary for the establishment of farming schools and of market gardens. The neighboring woodland offered its ample resources of lumber for construction and wood for fuel—a most important consideration at a time when the transportation crisis forbade us to count on plentiful revictualing—and at the same time afforded the disabled the opportunity for invigorating and restful walks.

To be sure, nothing was in readiness on this site for the establishment of an important colony. A single building, which had been used as a barn, and which soon became our carpenter shop, stood on the land placed at our disposal; the rest was forest and underbrush. However, I do not hold this state of affairs to constitute a disadvantage, for the adaptation of existing structures to new uses tends generally to shackle initiative.

The clearing of the woodland was speedily accomplished; auto trucks brought transportable barrack parts from the station at Vernon; the concrete blocks that were to do duty as foundation-piles were poured on the spot, and construction progressed so rapidly that in less than two months after the first tree had been felled, the establishment was ready to receive and house more than three hundred men.

The hospital buildings are set up in three rows, spaced eight meters apart. Good roads were built, some giving access to the camp, others occupying the intervals between the rows of barracks.

The buildings, uniform in plan, are variously used as dormitories, classrooms, workshops, infirmaries, etc. In all, they provide quarters for about two thousand men, of whom twelve hundred are *mutilés* undergoing re-education, and the rest soldiers detailed to general duties, or assigned as teachers and occupational instructors of the former.

There is only one stone structure: The refectory, which does duty also as assembly hall and as chapel for religious services. This large edi-

fice, eighty-five metres in length, sixteen metres in width, can accommodate the entire population of the Institute during meal hours, festival occasions, or religious exercises. One end of the hall is laid out as a church choir, and is ordinarily curtained off; the other end is laid out as a spacious stage, allowing for dramatic entertainment, for concerts, for moving-picture shows; a large glass-enclosed hall skirts the side of the building opposite the Seine, dominating the magnificent valley and serving as canteen and recreation-room.

A plot of three and a half *hectares* (about eight acres) has been transformed into a garden for purposes of horticultural re-education; one part of this plot is set aside for the diversion of the men, the rest is laid out as a field for the experiments and labors of the student gardeners.

Agricultural workers are installed in two farms two kilometers distant from the camp, both fully equipped with the tools necessary for agricultural re-education. A third farm serves the re-education of shepherds.

A water mill has been lent us to serve the double purpose of grinding the wheat destined for our own consumption and of training those of our invalids who wish to become millers.

In the same way, a slaughter house and meat-dressing establishment was installed in an unoccupied building, and simultaneously serves to keep the Institute supplied with meat and to teach those who wish to become butchers.

The *saboterie*, installed originally as an apprenticeship in one of the camp buildings, was soon compelled to find larger quarters because of the enormous quantities of sabots needed by our soldiers to preserve them from the muck of the Flanders trenches. A saw-mill in Vernon was lent us, and by equipping it with a variety of mechanical appliances we were able to supply the army with twelve thousand to fifteen thousand pairs of sabots a month.

This factory has not been without great benefit in a re-educational way, for it furnished an opportunity for schooling our charges in the management of machines scarcely known in Belgium and capable of developing considerably the sabot industry.

By way of completing this enumeration of the installations at Port-Villez, let me mention the

branch at Moisson, housed in some hangars which formerly sheltered dirigibles, and situated about fifteen kilometers from the camp. After various uses, this annex to the Institute has finally been developed as a "sorting station," which receives all our new invalided soldiers upon their discharge from the hospitals and before they are released either on furlough without pay or to the re-educational school.

This enumeration, dry as a catalogue, is incapable of furnishing a just notion of the impression made by the Institute at Port-Villez. Nevertheless, this list is necessary for an understanding of the multifarious service permitted by the complex organization of the undertaking.

THE DEPARTMENTS OF THE INSTITUTE *

At the head of the Institute is a *Directeur Général*, appointed by the Minister of War. He is unhampered in the administration of the school and its various annexes.

A noteworthy detail is the fact that this administration is not confined by the rigid figures of a budget. In an establishment the framework of which is so elastic, the population variable, the needs in equipment and raw material unforeseeable, it would be inconceivable that progress and development should be arrested by budgetary prescriptions of a kind that would paralyze initiative and tend to reduce an organism which should remain essentially alive to a purely administrative condition. The public treasury should be generously open to the needs of the re-education of our *mutilés*; and an enlightened but fearless, a prudent but enterprising administration cannot consent to see its expenses fettered by limits fixed in advance. Of course, state funds should never be squandered; but, with a book-keeping system that takes note of all minutiae, and with every guarantee of a rigid control, and with the security afforded by a business administration, the goal of which is not profit but the best use of the means placed at its disposal, the government cannot be niggardly in endowing the re-education of *mutilés* with the funds needed for the most extensive, most complete organization possible.

The powers delegated to the *Directeur Général* by the Minister of War have lifted the Institute

well out of the bureaucratic mould—both the errors and the crimes of which are apparently equally unknown to you in this happy land—and have made certain the complete autonomy of this organization. The result is an unrestricted liberty, a precious independence which makes a sort of Under-Secretary of State of the *Directeur Général*, responsible to the Minister, but not to his bureaux.

All the departments of the Institute are dependent upon the *Directeur Général*; and in the first instance there is the military administration, which is entrusted to a military director having subject to his orders the complement of officers and non-commissioned men necessary to the smooth running of the military organization of the Institute.

As has already been pointed out, only the army, as a result of our four years of exile, was able to supply the administrative and instructional personnel needed by our school. Besides, so large a number of men gathered together at the same center makes a rather rigid discipline imperative. This is easily secured by preserving the military status of the disabled during the whole duration of the re-education process. Is this measure the one best adapted to the interests of the civil re-education of *mutilés*? This is surely a debatable question; but we had no choice in the matter and so the régime was inevitable.

Certain minor disadvantages result therefrom; but I do not hesitate to say that we have often found in the paternal but firm military rule the means of insuring the observance of certain general rules of conduct made necessary by a great number of pensioners.

The military administration is responsible for all that concerns the material life of the men: Nourishment, clothing, lodging, pay, rewards, and punishments. It keeps in close touch with the administrative and the re-educational departments of the Institute, so that it may be not a hindrance but an aid toward the essential aim of the school.

One of the most important branches of every re-educational center is incontestably the medical service. Apart from the care demanded by cases of illness, there is frequent need for the

treatment of the consequences of lesions, with the necessity for surgical intervention, sometimes urgent, which it is to the interests of all to have performed on the spot, so that apprenticeship or study may suffer as little interruption as possible.

Further, the medical service is of prime importance as a guide in the occupational orientation of the *mutilés*, for it alone is able to determine the physical or mental capabilities of the individual; it should preside over the study of orthopedic appliances and of the special equipment demanded by particular cases; during the progress of re-education it should point out the measures desirable for the amelioration of the working conditions of the disabled, for the elimination of the fatigue consequent upon certain movements, for the stimulation of certain muscles by means of exercise, for the discovery of muscular or mechanical substitutions.

The medical service at Port-Villez consists of a chief physician and three other practitioners; it has at its disposal a testing laboratory, orthopedic workshops, infirmaries, operating rooms, a dental office, and a radiographic laboratory.

The organizers of the school for the disabled at Port-Villez believe that the re-education of the *mutilés*, like the education of youth, must obey certain pedagogical principles which apply wherever the ensemble forms the basis of instruction. Thus it has given a favorable place, in the machinery of its organization, to the pedagogical department—a branch which I have had the honor of directing since the foundation of the Institute, and whose business it is to supervise all that concerns the instruction and the moral interests of the inmates of the establishment.

In the first place, the pedagogical service organizes and directs the theoretical instruction, concerning which I shall presently say a few words. Further, it determines, in agreement with the technical service, the details of the apprenticeship programs, and supervises the judicious application of method during the entire period of re-education.

It examines newcomers with regard to their intellectual abilities, so that it may collaborate in the work of occupational orientation. Finally, the pedagogical service assumes the task of maintaining the moral level of the disabled at such a

height that re-education may bear all its fruits, and it works toward this end by means of individual and group conferences, and administers the library and the reading-room, and in short, interests itself in all the details of the intellectual and moral life of the men in the camp.

The record and placement service is concerned with the task of assembling all the data, both from without and within the Institute, of a general or a specific nature, relative to the problem of re-education. It establishes an individual file for each of the disabled wherein are preserved all pertinent estimates of each individual: military, medical, intellectual, and moral; this varied data serves to enlighten the C. O. P. and with a short note on the economic situation of the locality or the region in which the individual concerned is at home furnishes all the information of use in the choice of the most advantageous occupation.

The record service keeps account in the files of the progress made in re-education and of the observations and remarks which it has been able to suggest to the appropriate departments.

When the men can dispense with re-education or when they terminate it, the placement service finds them employment of a sort most suited to their condition and to their abilities and keeps in constant touch with those it has placed, and with their employers, so that they may always be in a position to obtain the best working and living conditions.

Upon the technological service devolves the task of organizing and directing the various workshops, of supplying them with necessary personnel, equipment, raw materials, of recording the progress made by the apprentices and of regulating their pay.

The agricultural service does for the agricultural occupations what the technological service does for the trades: It takes care of the crops and of the stock and does all that is necessary to make this care the most practical training possible for the skilled *mutilés* in this section.

An engineering department looks after the construction and maintenance of roads and buildings, the cleanliness of the camp, the fire prevention service, and also after the practical instruction of the students of the design and construction of civil works.

Finally, the accounting and commercial department conducts the commercial life of the Institute.

Such, in its bold outlines, is the skeleton of this complex organism; the operation and intimate coöperation of the several departments or services gives it life; the zeal of all concerned produces the fruits which ripen under the best conditions possible, thanks to the variety and the number of the channels through which courses the enlivening sap of activity.

A third institution was established at Mortain for the purpose of mental re-education. This department operated only for a few months, the needs of the Sanitary Corps compelled the use of the property where it was installed as a hospital, and this re-educational unit was joined to the I. M. I. O. at Port-Villez under the name of 'School for clerks in administration, commerce and industry'.

I shall have the pleasure in a second lecture of studying this organization in greater detail; today I can only be concerned with the general aspects of the question.

The organization for the re-education of cripples would not have been complete had it concerned itself only with the manual trades and the preparation for administrative work. Many young men gave up graduate studies at the time of their enlistment, and it would not have been right to have abandoned to their fate those who came out crippled from the battles; it was for the latter that the 'Home for the Belgian university company' was opened at No. 40 avenue Saint Mandé, Paris.

Young students who had been obliged to interrupt their courses in the humanities have the opportunity of taking courses in the great *lycées* of Paris; others go to the great university schools of Paris to carry on their graduate studies. Others are completing their education in the arts, in the schools of painting, sculpture, or at the Conservatory of music.

All are well pleased with the solicitude of the government in their behalf, and many among them astonish their professors and fellow students by their ardor for work. If these brave men have left some of their flesh and blood on the battlefield, they have found in the brilliant and

intellectual life in beautiful Paris, new riches which will make their future work fruitful.

It may be concluded from what I have said about the measures taken for the re-education of the cripples, that the Belgian Government, in spite of the painful and hard circumstances resulting from its exile, has done its full duty to procure for all cripples the means of recovering to as large an extent as possible their social value.

The principle of the obligation of the vocational re-education of cripples has been the subject of long discussions; the opinion that in this matter they could not proceed by constraint has almost universally prevailed. The decree of April 5, 1917, on discharge for disability establishes the principle of the obligation of re-education for all Belgian soldiers who cannot resume their former professions through disability.

If our government did not follow the general rule, it was not because we like to chain liberty any more than any other country, but special reasons imposed upon us decisions which sentiment might disapprove. We had been living in exile since October, 1914. Soldiers leaving the hospital with injuries or affections of such a character that they could definitively be demobilized had no homes to welcome them. Moreover, the formalities to be complied with in demobilization through discharge for disability are too long to let the cripple hope to receive before many months after his leaving the hospital the pension which the law allows him. And so the application of the principle of liberty would have meant for all those who did not understand that it was to their interest to be re-educated. The necessity of seeking employment, possibly beyond their strength, is always dangerous and living on public or private charity is always humiliating.

The nation and the individual are certainly both interested in the restoration of war cripples, but I am convinced that when the country can take measures under normal condition, our legislators will abandon the principle of constraint which cannot fail to offend the spirit of independence of those whose bodies have been sacrificed on the altar of liberty.

Until now the cripple can obtain his discharge

for disability only if his own interest does not require his being kept in a unit for re-education. The result is that the wounded soldier, on leaving the hospital or appliance unit, is sent to the I. M. I. O. at Sainte Adresse or Port-Villez. There his special case is studied; if he needs to learn a new profession he is kept at the Institute, but he is given entire freedom to choose what apprenticeship he will serve. If a new training will suffice to re-adapt him to his former trade, the cripple can either devote himself the necessary length of time to this re-adaptation at the institute or return directly to civil life. If he needs neither re-education nor re-adaptation, he may choose to be sent to the shop of his trade in the Institute or else take employment in private industry. The man leaving the I. M. I. O. is granted a provisional discharge without pay and the preparation of his papers for discharge with half pay are immediately begun.

If the organization of re-education presented such serious difficulties for the Belgian Government, which was in a foreign country, it is true; but in a friendly and hospitable country; what a discouraging problem it must have been for those in the invaded regions.

The glorious but bloody battles of Liège, Haelen and Antwerp had confined to their cripple beds unfortunate victims who could not be removed at the time of the rapid invasion of the hostile armies. Were they going to be abandoned to their sad fate?—Oh, no, the Belgian Red Cross was watching over them. In spite of all the vexations and hypocritical persecutions at the hands of the invader, who did not even allow our compatriots to take any active interest in the fate of the crippled wounded, the Red Cross founded at Woluwe, near Brussels, a unit for vocational re-education. A short time before the arbitrary measure which resulted in the dissolution of the Red Cross, the latter had taken the prudent step of placing the work at Woluwe under the care of the national committee which assured the survival of the institute of Woluwe after the wreck of the Red Cross.

We shall only know later and possibly we shall never know the miracles of devotion which the material needs of attending to re-education and

the moral protection of the cripples required. These miracles of solicitude and sacrifice can be understood when it is known that the work was under the presidency of a most noble woman, the Countess de Mérode. When food was lacking, the cripples of Woluwe were well fed; when almost all the shops were idle through lack of raw materials the cripples of Woluwe worked. Ingenious means were devised to make them comfortable, healthy, and cheerful.

The work at Woluwe consisted of two distinct parts, a home for those of the cripples who could not live in their own homes—they were even delicate enough to reserve a building for the wives and children of the cripples for three days at a time at regular intervals—and the apprentice shops. A part of the latter were housed in the institution itself, others were organized in private shops in the city of Brussels not far from Woluwe.

I have not as yet had the pleasure of seeing the work at Woluwe, but what I have been told and what I have read, allow me to state the following: on either side of the barrier, without any possible means of communication, without even knowing of each other's existence, the schools at Port-Villez and at Woluwe have followed the same principles, employed the same methods, and adopted the same programs.

This is indeed worthy of note, for in no school that I have visited up to the present time, have I seen such similarity with the 'Work' such as we understand it.

Wherein the Belgian Committee has surpassed us, is in the permanent protection offered the cripples. In spite of all the obstacles which the enemy placed in the way of communicating with the interior of the invaded country, this work had district affiliations which received directions from the national committee and furnished the latter with reports. It had a corps of inspectors who visited the vocational schools where the cripples were admitted for re-education and the committee was thus assured of an indispensable uniformity of aim. The local committees were charged with giving moral help to the cripples and their families, visiting them, assuring them employment, procuring assistance in case of need, and distributing subsidies. In short, they

acted in the same way as the 'Local War Committees' in England with which you are undoubtedly familiar and which have rendered great service. We had planned as soon as peace was declared to advocate the organization of similar committees in Belgium, and we have been happily surprised in finding the work already done. An example was not needed for those generous people, who had devoted themselves to our cripples during the occupation, to accomplish under the most painful circumstances a work of wonderful extent for the well-being of the cripples.

A bill, considered at the beginning of this year, proposed most reasonably to give a legal form to the organization begun during the war and to establish under the title of 'L'Œuvre nationale des Invalides' (National work for cripples) a department with a civilian personnel upon whom would fall the honor and duty of taking full charge of the interests of the war cripples. There is no doubt that this bill will be favorably received by our legislators and the 'National Work' will be the official sanction of the marvelous efforts accomplished by charity and personal devotion during the long and painful period of the occupation of our territory.

I am intensely grateful to you, Ladies and Gentlemen, for the kindly attention you have given me. Your continued patience bears witness to your interest in the burning question of the rehabilitation of the brave men whose blood

has been shed, whose limbs have been maimed, whose health has been sacrificed in defense of Justice and Liberty.

Perhaps my national pride does not misguide me in leading me to believe that your presence here is one more gauge of the kindness and affection which great and noble America has so often and so strikingly evinced toward our poor little country. Belgium knows and will never forget what she owes to the generosity of the United States. She will remember always that when famine was threatening her unhappy population, it was an American committee which allayed their sufferings; she will remember that in the exactions and bickerings with which the surly and barbarous invader afflicted her, she found a refuge and aid in the representatives of America. She knows, finally, that after her own heroic if feeble resistance, after the glorious and invincible efforts of the immortal French *poilu*, after the tenacious defense of the Britishers, she owes the preservation of her independence to the afflux of your young, uncounted army, of a courage to make veterans marvel. We know that America after having pitied our sufferings, after having dressed our deep wounds, gave us back our liberty. And we know further that her beneficent assistance is promised to us in the reconstruction of the desolate ruins which cover our land. That is why I translate with enthusiasm the cry which springs from every Belgian breast:

America Forever!

GIFT
APR 18 1919

Gift of Red Cross

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Placement of the Disabled in Employment

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France



Discussion at the International Conference on Rehabilitation of the Disabled, Section XXVII,
New York, March 18 to March 21, 1919

I shall have finished my task, Ladies and Gentlemen, as soon as I have told you a little about the way the men, on the completion of their re-education, are returned to civil life.

The placement office of which I have spoken follows, as I said, step by step the progress of the apprentices. As a man draws near the end of his apprenticeship, the office makes inquiries among employers and trades unions on the demands for workmen in the trade, and on the wages paid and the living conditions. When it has discovered suitable employment, it makes the offer to the apprentice, and discusses with him the advantages and disadvantages of the position in question. If the man accepts, the placement office makes the employer sign a paper which stipulates the working conditions and the wages.

At Paris the generosity of certain philanthropists has made it possible to provide homes where disabled men who have gone to work can enjoy the good lodging conditions and the small attentions required by their conditions. The placement office endeavors to secure admission into these homes for as many as possible of the graduates of the Institute who are working in Paris.

On his departure from the school of re-education a man is on temporary leave without pay until the formalities of discharge have been gone through with. When that has been done, he ceases to be a soldier. He then receives a civilian

suit and other articles of clothing to the value of 150 francs, 50 francs of which are contributed by the Government and 100 francs by the American Red Cross. The Institute gives him a set of tools of a value not in excess of 75 francs.

Even now the Institute does not lose touch with him. At intervals the placement office addresses to him and to his employer requests for information concerning the results of his work, his life, and his wages. By open inquiries, the office keeps track of the conditions controlling work in the locality and trade, and if the man is not getting the pay to which he is entitled, we endeavor to obtain justice for him by application to the employer. In this way a former pupil, without his making any complaint to us, may sometimes obtain a raise which is justified by a comparison of his wages with the normal scale.

The protection which we give to our men who have been placed is, we admit, far from ideal. But we are not at home, and in the various regions of France and England where our graduates are working, we have not at our disposal the services of persons who could form committees of protection for the disabled. That fact constitutes our excuse. One of the first measures for the Government to take will be to organize such committees in our country; we can then say that the task of rehabilitation is carried through to the end.

Provision for the Blind in Belgium

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France



Address at the International Conference on Rehabilitation of the Disabled, Section XXII,
New York, March 18 to March 21, 1919

There remains for me to describe, ladies and gentlemen, a department which arouses perhaps more interest than any other by reason of the misfortune which has overwhelmed its pupils, the section for the blind.

Happily the number of blinded Belgian soldiers is not great. In addition to some scattered cases in the institutions of France and Belgium, the Institute of Port-Villez contains twenty-eight.

In the early days of the war, the Army Medical Service established a small special school for the re-education of the blinded at Amiens. As a matter of fact, there is no reason why the blind should be assembled with other wounded. The method of their re-education is absolutely different, their recreations are different, and their treatment is different. But when in March of 1918 the sudden advance of the enemy on Amiens put that city in danger, there was no course open to the Government but to receive the poor fellows at Port-Villez. It goes without saying that they were welcomed there as brothers. Thanks to the generosity of the "Relief Fund for Blind Soldiers," separate pavilions could be put at their disposition for lodgings and work-shops.

At Amiens were taught only the traditional trades for the blind—basketry, brush-making, and chair-repairing. At Port-Villez we added to the list massage, a trade which is certainly meant especially for the blind man who has the intelligence and the persistence for long and

patient study. We have not thought that the practical results obtained in other trades, such as carpentry and shoemaking, justified us in making an experiment with our blind in those lines. For to the blind more than to any other class of the disabled, failure means cruel despair. It is easy enough to work under the eyes or the attentive directions of a teacher, but it is a different matter—and we must look ahead to that time—when the blind man is thrown upon his own resources.

It has been proved that the blind man can support himself at brush-making and basketry, and these two trades are sufficiently important in our country to provide work for blind labor. We have made them, therefore, our chief reliance.

Of course reading and writing according to the Braille system are taught to all the blind. The more educated among them learn also stenography and typewriting.

The visitor to this section, as for that matter, the visitor in any school for the blind, is struck chiefly by the good spirits which prevail among the inmates. They find a real satisfaction in work, and you never see loafing here as in other shops. While working without cessation, they talk, sing, or whistle, and give the impression of being perfectly happy men.

Their sighted comrades gladly lead them on walks in leisure hours, and the association of variously wounded men allows one sometimes to see realized the vision of the fable writer—the blind man and the paralytic.

Provision of Artificial Limbs and Prostheses

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France



Discussion at the International Conference on Rehabilitation of the Disabled, Section VIII,
New York, March 18 to March 21, 1919

The honor of speaking before this distinguished assembly embarrasses me because I am not equal to the task.

I am passionately fond of everything which is concerned with the re-education of the disabled, but I have not the oratorical ability worthy of the audience gathered in this hall. Nor am I the physician or the technical expert that is usually considered as especially competent in matters of this kind.

At this very moment I deeply regret that I am not a physician, for the first object that I am to show you, an appliance for disabled Belgian soldiers, is essentially medical in character.

You will be kind enough to excuse the omissions of a scientific nature which will not fail to be evident in my lecture, and allow me to refer those of you who are interested in the subject to works where complete scientific information, which I can only touch upon, may be found.

The Medical Corps of the Belgian Army could not call upon private industry to manufacture appliances of prosthesis. Was it fortunate or unfortunate? I will not discuss this question but circumstances separated us from almost the whole of Belgium and prevented us from having recourse to national practitioners in prosthesis and orthopedics. It was therefore through the means at its own disposal that the medical corps had to organize shops for prosthesis, and I have heard foreign specialists on several occasions state that the corps has admirably acquitted itself of its task.

The first Belgian center for appliances was established at Rouen, near the hospital unit,

then called the Ango-Belgian Hospital, now the Hôpital Belge de Bon-Secours.

The Unit at La Panne, an annex of the Hôpital de l'Océan, was organized a year later.

The fact that our appliance units were established in hospitals seems to indicate on the part of the Medical Corps a foresight as to the part to be played by therapeutics; it was also either through good fortune or a happy inspiration that a young man, patient in research, bold as an innovator, and passionately fond of science was placed at the head of each one of these units. Difficulties did not dishearten these organizers: they had no shops, they would set up some; they had no specialized workmen, they would train some.

Dr. Martin, Director of the appliance unit at La Panne, was one of the promoters of provisional prosthesis; not merely a prosthesis preparatory to the permanent appliance, but a precocious prosthesis allowing the functional use of the stump. The studies and observations of Dr. Hendrix brought him almost at the same time to the same conclusion, viz.—that the disabled must be given appliances from the very first, without ever waiting for the healing of the wound of the operation.

The best way of presenting the status of the matter of therapeutic prosthesis in Belgian appliance units is, I believe, to sum up the publications of Dr. Martin of the Hôpital de l'Océan at La Panne: *La prothèse du membre inférieure*¹ and an article in the "Archives médicales belges" (April, 1918) and one by Dr. Hendrix of the "Hôpital militaire de Bon-

¹ Masson, Paris.

Secours": *Les principes fondamentaux de la prothèse orthopédique du membre inférieure.*²

Dr. Martin came to experiment in hastening the use of the stump after amputation on noticing how the old system of absolute rest brought on muscular atrophy and articular stiffness. The first attempts confirmed the conjectures of the physician: he had the joy of seeing the stumps treated by the intermediate appliance form rapidly, and moreover he perceived that the disabled soldiers regained their courage on being convinced of their ability to use the new limb. This last consideration is of the greatest interest, for it is important that the disabled soldier should not become accustomed to the loss of the use of the limb.

If the intermediate appliance is very useful for an upper limb it is all the more imperatively so for the lower limb, for it results in discarding crutches, the unfortunate effect of which reacts on so many poor victims.

At the Hôpital de l'Océan the physician calls the attention of the prothesist to those disabled soldiers who are fit to receive a provisional appliance and that within eight to thirty days after the operation. This prosthesis is immediately prepared, it is composed of plaster bands which mould the stump perfectly without, however, resting on the bony parts or coming in contact with the wound of the operation: two sticks of hoop-wood are set in the body of the socket and the lower ends are brought together to hold the peg or tool holder, this appliance is prepared in a few moments and is very inexpensive. It is essential that the appliance be fitted accurately to the stump, and so the physician carefully follows developments and replaces the appliance as soon as it fails to fit closely.

As soon as the patient is provided with this appliance, he uses it to walk or exercise certain working motions prescribed by the physician, the length and intensity of these movements are implicitly specified by the physician who supervises the exercises and notes carefully their effect.

One who has lost an upper limb begins by working with a short pliable file, for which is soon substituted a long and hard file.

² Maloine, Paris.

After the file comes the saw, and sometimes two armless patients, seated opposite each other manipulate the saw together. Then exercises with a mallet for working wood with a gouge produce the most salutary effects. At the beginning, the disabled soldier feels pain caused by the shock, but after a few days he experiences the satisfaction of becoming more skillful and of realizing a decided improvement in the condition of his stump. Those who have suffered amputations at the wrist, but whose pronators have been saved, do special exercises with the screw-driver and gimlet.

As a general rule the work does not exceed an hour the first day, two hours the second day, three hours the third, and later four and five hours. A condition essential to success lies in the persistency and continuity of effort. The physician watches all efforts most attentively, corrects positions, indicates the exact direction and scope of the motions, and encourages the patient whose morale is benefited by these coördinated drills as much as his physical condition.

Evidently the purpose of therapeutic work is not for industrial production and the physician's service is merely that of prescribing and guiding without concerning himself with re-education.

The results are encouraging: not only does the stump develop more rapidly and more favorably, but the healing is also accelerated because of the more active circulation resulting from exercise.

Precocious prosthesis is probably one of the most fortunate innovations resulting from the war, it hastens the cure of wounds from operations, it tones the muscles, makes the joints supple, enables the victims to regain their confidence, and it prepares the way for vocational re-education. It is a joy for us to know that Belgian physicians are among the first and principal promoters of this prosthesis.

PERMANENT PROSTHESIS

The units of Bon-Secours and La Panne have had the same preoccupations and follow the same principles in the application of provisional prosthesis but they differ in the manufacture of permanent appliances.

Both Drs. Martin and Hendrix have combated vigorously empiricism and have found the basis of their systems in observation and the laws which govern science. They have arrived at widely divergent conclusions in matters of detail, but their results seems to be equally satisfactory since the cripples wearing the artificial leg Bon-Secours do not want to exchange it for an appliance La Panne and vice versa.

Dr. Hendrix has adopted the leg of the American type, characterized by the choice of the bony projections of the body as the principal points of support; the fleshy parts serve only as a secondary support, the fitting is absolutely exact, allowing the sheath of the socket to exert a slight pressure on the fleshy parts of the stump without compressing the bony parts.

The artificial legs of Bon-Secours are made out of mountain willow and the mechanism of the knee joint is of the 'Hanger' type.

The director of the unit at Bon-Secours maintains the principle that the rules governing the anatomical constitution of the lower limb are the same for all individuals. The thigh and the leg are not in the same frontal plane: the former protrudes beyond the latter. The axis of the knee and tibia-tarsus are parallel to each other and to the ground, and the centers of these two axes lie in the same vertical. Lastly Dr. Hendrix has the longitudinal axis of the lower limb pass through the head of the femur, the middle of the axis of the knee, and the middle of the axis of the ankle.

In accordance with these data, the artificial leg Bon-Secours is planned as follows:

1. A straight line passes through the larger trochanter near its anterior surface, through the ends of the axis of the knee and ankle, and determines the position of the limb in the frontal plane.
2. A straight line passes through the front of the femur, the center of the knee and ankle joints and determines the position in the sagittal plane.
3. The transversal position of the foot and therefore of the knee is obtained by having the pieces subjacent to the thigh-piece turn outward $18^{\circ}5$.

The foot being slightly clubbed, the artificial leg is 15mm. shorter than the natural leg. The foot is set up according to the Hanger type;

in the relaxed position it forms an angle of 100 degrees with the longitudinal axis and thus allows an extreme flexion of from 30 to 50 degrees and an extension of 20 degrees. Thanks to this system limping is considerably reduced and the walk approaches the normal.

Dr. Martin has made a new type of artificial leg known as the Belgian type; he uses wood shavings, which he claims allow the stump to be moulded very accurately and the fibers to be arranged according to the lines of force of the appliance. The shavings are made to cohere by the use of a special substance insoluble in water and capable of withstanding the action of moist heat. The maker at La Panne accepts a thesis diametrically opposed to that of his colleague at Bon-Secours when he affirms that for each individual there is a special type of statics for the lower limb. The construction of the artificial leg is therefore determined by an anatomical study of its healthy mate with which it must be symmetrical.

While the axis of the knee is horizontal, according to Dr. Martin, this is not the case with the axis of the ankle, the direction of which is obliquely backward, downward and outward. Moreover, these two axes are not, he says, in the same frontal plane, for the former has an inward-backward direction and the latter an inward-forward direction. Lastly, the axis of the thigh and the axis of the leg form an angle opening outward, the amplitude of which varies between 174 and 164 degrees, and the vertical of the external extremity of the ankle comes between the vertical of the edge of the greater trochanter and the external end of the knee.

By taking into consideration these general principles and also their application to the anatomy of each individual, Dr. Martin makes the artificial limb according to the data derived from the natural limb.

The artificial limb of the Belgian type possesses the articular mobility of the natural leg: moreover, because of its articular mechanism of gim-bals, the foot has besides its movements of flexion and extension, lateral movements which are, according to the inventor of the appliance, absolutely indispensable to realize a perfect walk on level ground.

Dr. Stassen, Chief of the Medical Corps of I. M. I. O. at Port-Villez, who has observed numerous disabled soldiers equipped with the Bon-Secours or the La Panne appliance, states that both types are superior to the appliances used heretofore; he thinks that practical experience and long observation of the disabled soldiers are necessary to enable one to determine which one is better fitted for the anatomical and aesthetic exigencies of the prosthesis of victims of amputation.

The artificial leg as we have described it still remains an appliance for dress only and despite all prosthesis, the wooden peg is the appliance for work. The majority of the soldiers who have suffered amputations of the lower limbs have a Belgian Mascau peg manufactured by the appliance unit at Bon-Secours.

The fitting is made of willow, with a parchment skin covering that fits the stump perfectly. The peg is jointed and its simple and solid mechanism is very satisfactory.

Those whose limbs have been amputated at the thigh or disjuncted at the hip are given an artificial leg and a jointed peg. An amputation above the knee entitles one to two artificial legs.

You will be kind enough to allow me, ladies and gentlemen, before leaving this subject of appliances for the cripples, to say a word concerning the 'adjusting arm', invented at the school at Port-Villez by one of the instructors.

The pincers of this appliance for work are somewhat like the 'Amar' pincers. There is one difference: special openings allow the tool of the workman to be used in different planes, front, side, or even obliquely, according to the thickness of the tool handle.

There are no screws in this appliance and the different elements are held together in desired positions by means of bolts; the different positions are obtained by having at the end of a joint, a disk, the center of which receives the mobile axis of the other joint; the edge of the disk is provided with holes which hold the stop bolt when the appliance has been put into position desired by the worker.

The complete appliance for one who has lost an arm has five joints of this kind which allow either singly or by combinations the following movements: rotation of the wrist, flexion and extension of the wrist, lateral motion of the pincers, flexion and extension of the elbow, drawing the pincers away.

The 'Verbruggen' arm is completely satisfactory for those who have had an amputation of the upper limb; it is strong, allows one to make all the necessary motions for working and in all directions, requires no effort and takes very little time to change positions or to change a tool.

Those who are especially interested in working arms can find a detailed description of the 'Verbruggen' appliance in a pamphlet which the Institute at Port-Villez has published on the subject.

My presentation may not have the necessary clearness and certainly lacks scientific documentation but you will allow me, ladies and gentlemen, to draw the conclusion from the facts given, that Belgium is putting forth every effort to give the unfortunate disabled soldiers the best appliance of prosthesis. Her duty does not stop there; like all other victims of the war she must re-educate them, and in this matter our country is equal to the task.

GIFT
APR 18 1919

Institute

Provision of Artificial Limbs and Prostheses; Belgium

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France



Discussion at the International Conference on Rehabilitation of the Disabled, Section VIII,
New York, March 18 to March 21, 1919

Prosthetic appliances, or artificial limbs, are furnished exclusively by the artificial limb centers established by the Medical Service at the hospitals of Bon Secours, near Rouen, and La Panne.

Drs. Martin and Hendrix, the directors of these centers, have been among the first and principal advocates of the early preliminary appliance, for the arm as well as for the leg. These provisional limbs are made of plaster-covered bandages which are a perfect mould of the stump, but have no contact with the operated wound. They are renewed as the stump changes. Two thin flat metal rods fixed in the plaster socket support the peg leg or the rudimentary tool-holder. This apparatus is put on from eight to thirty days after the amputation.

As therapeutic exercise for the arm, Dr. Martin prescribes successively work with the file, the saw, and the mallet. He has apportioned the exercise—which has nothing in common with trade training—into one hour the first day, two hours the second day, three hours the third, and so on until it is continued for from four to five hours a day. These exercises are extremely useful in that they prevent the man from acquiring the habit of doing without the limb he has lost and at the same time give him confidence in the substitute. They also give tone to the muscles, prevent stiffening of joints,

and hasten stump changes and the cicatrization of the operated wound.

For cases of leg amputation, the center at Bon Secours furnishes artificial legs of the American type, but with modifications based on a study of the anatomy and physiology of the natural leg.

Dr. Martin has devised a new artificial leg which he calls the Belgian model. It differs from the leg made at Rouen by certain anatomical principles, notably, by the application of the axiom that the legs of every individual have certain peculiar statics, absolutely alike in both legs.

Both Dr. Hendrix, and Dr. Martin have described their methods and their appliances in works published respectively by Malouane and Masson at Paris.

An instructor in the Institute of Port-Villez has constructed an interesting working arm for mechanics. Its pincers are a modification of the Amar pincers, but the construction does not require the use of screws to block or fix the articulations. This is effected instead by a system of bolts. The appliance is capable of all the movements in all directions required of it by a working mechanic. It is described in a booklet entitled, 'The Verbruggen Arm', published at the Institute of Port-Villez, and will be sent willingly to persons particularly interested in the working arm.

GIFT
APR 18 1919

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Relations of Pension Compensation or Other Allowances to Rehabilitation; Belgium

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins de la Guerre, Port-Villez, France



An Address at the International Conference on Rehabilitation of the Disabled, Section XVI, New York, March 18 to March 21, 1919

Before the Great War, the granting of pensions of half pay to wounded soldiers was regulated in Belgium by laws which were already antiquated and which, while being sufficient for officers, gave a ridiculous scale for non-commissioned officers and privates.

The absence of any duly constituted legislative power did not allow the government to elaborate, while the war was in progress, a definitive law on the subject; and nevertheless the interests of many cripples would not allow a postponement of the settlement of the problem until after the cessation of hostilities. And so the King on the advice of his cabinet established April 5, 1917, a temporary law provisionally establishing the rights of soldiers discharged for disability to a pension.

I insist on the temporary character of our present organization with regard to pensions, and my presentation is of doubtful interest in view of the fact that even now our legislature is considering the definite solution of this weighty problem.

The amount of a pension granted to officers discharged for disability is dependent upon the rank, number of years of service and the nature of the injury for granting the discharge. I shall merely cite the extremes as shown by the scale appended to the law of May 25, 1912.

1,000 francs per annum, minimum pension granted to a second lieutenant not having had more than 20 years' service and merely unfit for active service.

13,200 francs per annum, maximum pension granted to a lieutenant general afflicted with

blindness or having suffered a double amputation.

Pensions granted to widows and orphans extend according to rank, from 800 francs for a second lieutenant to 2,730 francs for a lieutenant-general.

The law of April 5, 1917, did not alter the situation but it will probably be changed in the new law.

I consider it useless, ladies and gentlemen, to present to you the condition of pensions for non-commissioned officers and privates according to the laws of 1838, 1840, or even 1912.

This legislation could neither foresee nor govern the terrible afflictions which have overwhelmed the unfortunate victims of this war and was applicable in times totally different from ours.

The law of 1917 establishes in the first place that the disability to entitle one to a pension on discharge must have been caused by the emergencies of war, hardships, accidents or risks in the military service and must have resulted in at least 10 per cent. disability and the probable duration of disability at least one year.

In any case, the Secretary of War can grant the 4/5 of a normal pension for disability contracted during the service but not merely through the fact of service if it can be proved that the disability was the result of the soldier's wilful conduct.

The cripple must prove that his disability is a result of the service. As frequently happens the soldier cannot furnish this proof because the witnesses of the accident have disappeared, he

may in this case affirm under oath the conditions in which he was wounded or contracted his disease.

If it is proved that the disability existed previous to the war but has been aggravated by his presence in the army the committee on pensions calculates the difference between the percentage of his disability at present and the percentage before the war. The pension is then based on the difference between these figures.

If the disability is incurable the pension cannot be reduced, it may be increased, if the condition of the discharged soldier is aggravated by the injury. When the revising committee deems the condition of the disabled soldier not permanent, it can then discharge him for a year, and the Secretary of War grants him a temporary pension subject to modifications resulting from any change that may occur in the soldier's condition and it may be even completely stopped in case the disability disappears or falls below 10 per cent.

Since the law of April, 1917, has been in force, the requests for disability pensions are initiated automatically. When the medical corps of a hospital deems that an injury will entail for a wounded man or a patient permanent disability for military service, the certificate indicating the cause of the disability is drawn up and all the necessary papers for the granting of a pension for disability follow. The cripples to whom these new measures could not apply, request a disability discharge of the Secretary of War. The permanent revising committees made up of three superior officers and three physicians, one a specialist in surgery and another a specialist in industrial accidents, sit at Paris, Port-Villez, Le Havre and London. They call before them the disabled soldiers and determine, on the basis of the disability percentage, the soldier's right to a pension. If the soldier wishes to be discharged without being admitted or remaining in an establishment for re-education, he must appear before a consulting committee, instituted by the Secretary of War. This committee studies the question as to whether the man's interest would lie in the direction of his being re-educated. Papers containing the opinion of the consulting committee and the decision of the revising

committee are then transmitted to the Secretary of War, who issues this order for discharge and determines the pension rate, if the case calls for it, by applying the scale to the disability percentage furnished by the revising committee.

As you can well imagine, all these formalities take a good deal of time. And so the man must not wait for the Secretary's decision to leave the army. He may be granted a furlough without pay if he can furnish a certificate of employment. The arrears of his pension due for the period between his leave or furlough and his definite discharge will be given to the disabled soldier but only at the close of hostilities; nevertheless, in case of need he may obtain sums on the account due him.

The result of these arrangements is that the demobilization of Belgian cripples has to pass through many formalities, the suppression of which the cripples themselves eagerly desire. Under normal conditions the obstacles placed in the way of prompt discharge of those permanently unfit for military service would be justified with great difficulty; but the great care of the government was not to abandon to themselves those unfortunates who did not even have the means of returning to their families, and the forms required for discharge combined with the obligation of re-education have but one aim: to keep as long as possible in the care of the state those cripples who could not make their living.

Now that normal conditions have returned, new legislation will undoubtedly accede to the legitimate request of the cripples to know as soon as possible the pensions to which they are entitled and to be discharged as soon as they wish.

The law of April 5, 1917, provides that the revising committee shall determine the disability for work caused by the infirmities from which the patients are suffering. This would then result in a different indemnity for the same injury depending upon the kind of work done by the cripple. In the meantime the revising committees use the scale of disability in use in the French Army, and this scale only takes into account physical disabilities, that is to say, the nature of the injuries; but in practice a sufficient

margin is left to slightly increase the per cent. if the specialist in industrial accidents considers the wound or the disease particularly disabling in view of the soldier's profession.

The Belgian law for the establishment of the scale of pensions relies on the principle of difference in rank.

Taking as a basis the pension granted for a certain infirmity to a private, the pension for a corporal will be 1.17, for a sergeant 1.33, for a sergeant-major 1.50, for the adjutant 1.66.

The disability percentage is reckoned in fractions beginning with 10 per cent., increasing by 5 per cent. until 100 per cent. is reached. This maximum corresponds for the present to an annual pension of 200 francs for the private. I do not need to add, ladies and gentlemen, that legislators will be eager to raise this figure which was sufficient for the scale of life that obtained before the war, but which does not meet the present requirements.

The law of 1917 does not take into account the granting of extra pensions in case of extra disability, that is to say, those cases where there is added to the total disability the need of aid for the vital relations with the outside world.

Likewise, the pension is not increased because of the fact of dependent relatives; but until the end of hostilities the soldier discharged for disability continues to receive his allotments of 1f25 for wife and of 50 for each child, whatever may be the degree of disability.

Finally, let me add that the law of April, 1917, does not mention pensions to be granted widows of soldiers who died from the effects of the war. The law of May 24, 1912, grants an annual pension of 300 francs to a private's widow and 650 francs to the adjutant's widow.

By virtue of the same law, orphans are entitled altogether to an annual grant equal in amount to the mother's pension. But this law has not been in force during the war. Widows and orphans of soldiers killed since the beginning of the war receive not the pension but the remuneration for militia duty (456f25 for the widow and 182f50 for each orphan plus commutation of quarters).

Allow me again to insist on the fact that I am presenting neither model nor permanent legislation. We are perfectly aware of the imperfections and omissions of the law which actually govern this matter. The government on presenting this law to the King expressly limited its application until the time when our country being delivered and the hour for great reparations having struck, a law would definitely regulate the military pensions resulting from this war.

I have every reason to hope that our legislators will legally recognize the debt contracted by the country toward her sons who have sacrificed themselves for her deliverance, and that they will generously pay the indemnities due the cripples, the widows, and the orphans of this war.

You will allow me to conclude that, notwithstanding the limited means at its disposal, our government has generously done its duty with regard to the victims of the war, and I may add that we are delving abundantly in the sources of information furnished by allied and friendly nations to perfect such work as already exists. I firmly hope that the present conference will enable me to return with precious data capable of giving a new impulse to the departments charged with the physical and social restoration of the brave men who have paid with their blood for the liberty, justice, right, and peace of the world.

APR 18 1919

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Should Vocational Re-education Begin in the Hospital?

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France



Discussion at the International Conference on Rehabilitation of the Disabled, Section XIV,
New York, March 18 to March 21, 1919

I answer squarely: No.

The medical treatment should exclusively absorb the attention of the hospital authorities and of the patients. Undoubtedly, very useful occupations can be prescribed for the wounded even when they are in bed—intellectual instruction, for example, and work which has therapeutic value—but these occupations cannot pretend to be at the beginning of nor a preparation for vocational training, and the doctor alone should recommend them and prescribe the amount. Vocational training, once it is begun, demands all the energy of the disabled man; from the outset he must accustom himself to work all day, to put forth continuous efforts, and to live in an atmosphere of real work.

Furthermore, if the re-educational schools

find it hard to obtain a competent teaching staff, how can the hospitals hope to obtain such staffs in duplicate?

The unity of method and the continuity of instruction necessary for good results cannot be guaranteed when work begun at the hospital is pursued under other teachers at the re-educational school. Often the time which one thus hoped to save is simply wasted.

There is, however, something which the hospital can do to further re-education: it can influence the patients' attitude toward the question. It can instil in disabled men the conviction that they ought to take training and that success is within their reach. I shall not develop this point further here as it will be taken up in detail in the section on propaganda.

18 1919

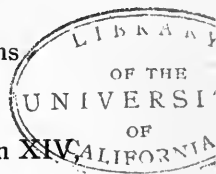
Institute

Training After Discharge in Special Schools or Classes *versus* Training in Standard Institutions

L. Alleman

Chief of the Educational Staff, Institut Militaire Belge des Invalides et Orphelins
de la Guerre, Port-Villez, France

Discussion at the International Conference on Rehabilitation of the Disabled, Section XIV
New York, March 18 to March 21, 1919



For a long time before the war certain countries (Denmark, Belgium, and France) had realized the necessity of creating special schools for the education and the vocational re-education of congenital and industrial cripples. How can one hesitate to make an equal effort for the rehabilitation of men crippled in war? If the expense seems great, one has only to consider that the outlay can later be utilized in restoring industrial cripples to economic usefulness. From the physical, intellectual, moral, and social points of view there are valid arguments for re-educating disabled soldiers in special institutions.

1. From the physical point of view. The physical condition of the pupils demands the constant attention of a medical staff qualified to give vocational advice, to treat the usual sequelæ of injuries, and to give directions about avoiding the fatigue of certain operations. In some cases tools and machines ought to be made especially to correspond to the physical powers of the disabled, and apparatus for facilitating work should be studied.

2. From the intellectual point of view. Disabled soldiers have not had the uniform preparation of the pupils of the technical schools and are therefore not fitted to receive uniform instruction. Their programs of study should include some theoretical ideas, but only those which can be applied in the practice of the trade. The period of apprenticeship should be as short as possible, and the aim of the courses should be

not to provide an education, but to form skilful artisans who understand their trade. The instruction should take into account the practical knowledge which the pupils have gained from their previous work. Its ultimate object differs with different individuals, and it must be adapted to the means of which each one disposes. Disabled soldiers on entering an educational institution should have all the advantages of apprenticeship without being required to go through another period of standard length. Hence it is necessary to arrange very brief courses, at variance with the normal conception of vocational training.

3. From the moral point of view. The mentality of disabled soldiers is very different from that of the young boys who attend the technical schools. Boys throw themselves into the work which is going to procure them the best living with all the ardor of their age; the soldiers are often sceptical and their efforts must be constantly encouraged. In judging the conduct of disabled soldiers, their extreme sensitiveness must be considered, and also their condition and the sacrifice they have made for their country. They must be spared the jokes which boys might make at their expense. And they must be spared the humiliation which they would experience at finding themselves at a disadvantage in comparison with boys who have been regularly prepared and who have greater physical skill.

4. From the social point of view. It is to the interest of disabled soldiers to organize. They have numerous interests in common, and living together and preparing for their future together will incite them to mutual aid, to form co-operative societies and disabled soldiers' federations.

Conclusion. The different countries have every reason to want their disabled soldiers to undergo re-education. They should, therefore, do everything to facilitate re-education, and they cannot draw back before the necessity of organizing special schools.

Interests of Employers in Rehabilitation; France

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides de la Guerre, St. Maurice, Paris, France



A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XIX, New York, March 18 to March 21, 1919

No sooner had the first French disabled soldiers left the hospitals than they were offered positions by great numbers of people, and many of them were able to go to work under apparently very advantageous conditions. I say apparently, for most of the positions offered in a burst of sincere charity did not promise great security for the future of disabled men. At that time eyes were willingly closed to the trouble that the *mutilés* might experience in performing their tasks; but it was nevertheless to be feared that this easy-going kindness would little by little diminish, and that as their original protectors disappeared or became indifferent, many disabled soldiers would be in danger of losing their positions. On our part, we have always strongly condemned the hasty and thoughtless placement of wounded soldiers as janitors, watchmen, or château keepers.

Similarly, we have never believed that disabled men who entered war factories would find there stable employment, and we observe today that, in spite of the Government's efforts to retain the disabled in these factories, a large number have already been turned off and exposed to idleness and want.

One cannot repeat too often that the only way to secure stable employment for the disabled lies in teaching them a trade which is exactly suited

to their actual capacities, for then employers will be glad to engage them.

We must take into account the requirements of the factories and shops and the employers' inability to utilize for long men who are incapable of performing the tasks set them. Many employers in France who have generously made the attempt have not been able to continue their experiments, because there have arisen various incidents which put a stop to their employment of the wounded. Masters are as much interested as disabled workmen in the provision of proper technical instruction for the disabled, and manufacturers might well give more encouragement to the organization either of special schools or of special classes for learners in shops and factories.

What we have said of industrial workers applies also to farm workers, for the latter can be employed by farmers on satisfactory terms only if their agricultural knowledge compensates for their reduced physical powers. If he lacks this compensatory ability, the agricultural worker will be always doomed to meager wages.

Experience has shown the happy results of re-education, which alone permits employers to utilize, with great advantage to themselves and to the disabled, the numbers of unfortunate men who are handicapped by their injuries.

GIFT
APR 18 1919

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Interests of Organized Labor in Rehabilitation

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides de la Guerre, St. Maurice, Paris, France

An Address at the International Conference on Rehabilitation of the Disabled, Section XVIII, New York, March 18 to March 21, 1919.

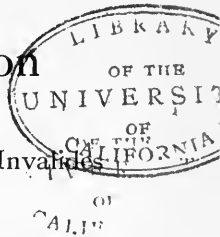
The part played by workers' unions in the re-education of the war-disabled has not been very important in France where, as a matter of fact, labor unions are far from having the development they have attained in the United States. Nevertheless, the *Confédération Générale du Travail* has officially declared through M. Jouhaux, Secretary General, in favor of re-education. So far as I am aware, however, no labor union has taken the initiative in effective participation in this work, and this can only be a source of keen regret, for, by virtue of their practical advice, the workers could have influenced helpfully the methods to be employed, and on the other hand they could have diminished the difficulties encountered by some of the disabled in their re-entry into the factories and shops. Able-bodied workers have, perhaps, been afraid of the effect on wages of the competition of the disabled. This has, of course, been an idle fear, for the disabled have always been vigorously warned against the pretensions of those employers who have hoped to profit by their infirmities by offering them terms less advantageous than those held out to other workers.

The employers' organizations have seldom taken the initiative of organizing to help in the re-education of the disabled. I know only of the instances of the employers in the fur and pelt, the fancy and gold jewelry trades, who have opened at Paris occupational courses especially for the disabled. However, a number of *chambres syndicales* have given the fullest support to the establishment and maintenance of various courses in a number of schools. In St. Maurice, for example, I have met with the most valuable support, which I cannot too highly praise, in the collaboration of the em-

ployers' councils in the saddlery, morocco leather, shoe-making, tin ware, photography, and electrical trades. The presidents of the *chambres syndicales* have directed all these work-shops, in all that concerns technical and industrial training, with the most praiseworthy zeal. Notably they have taken charge of the purchase of equipment, of raw materials, of the selection of foremen, of the sale of the manufactured articles, and of the placement of apprentices after re-education. Some of these presidents have not been unwilling to come every day, or several times a week, for three or four years, to assist in or to take part in the lessons given apprentices, and a large share of the success obtained in re-education at St. Maurice is due to these distinguished and devoted practical men.

I should like, further, to call attention to the establishment, in accordance with an understanding arrived at between workers and employers, of special schools, cooperative or otherwise, for instruction in certain specialized industries peculiar to some localities in France, such as the manufacture of celluloid and pipes in the Jura, of combs in the Seine-Inférieure, of wooden toys in the Corèze, etc. On leaving these schools, the pupils establish themselves in the country, organizing themselves, for the most part, into coöperatives. This is an excellent method of training the disabled and of developing in many localities of France certain minor industries already in existence there.

We are convinced that the collaboration of the powerful employers' associations and labor unions in the United States will secure, in matters of this kind, the most fruitful and positive results.



GIFT
APR 18 1919

Institut

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Methods of Training

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides de la Guerre, St. Maurice, Paris, France.

A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XIV, New York, March 18 to March 21, 1919

As France is in the main a country of agriculturists and craftsmen, our vocational training has chiefly been in agriculture and the trades which can be followed in the city or country. Special schools have given excellent results; on the other hand apprenticeship in shops and factories has been accompanied with so many disadvantages that it has been almost everywhere given up. Shop and factory training is organized for production and not for teaching, and only too often employers seek to exploit apprentices rather than to teach them.

We believe, however, that in highly developed industrial countries like the United States and

England, division of labor and quantity production makes it possible to employ a large number of disabled men in industry and that they will find there an interesting opportunity to utilize their remaining capacities.

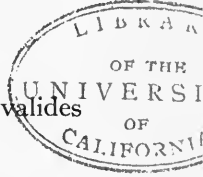
At the same time we believe that from the point of view of the disabled man's physical and moral health, it is better for him to live in closest possible touch with his family and, when he can, to practise his trade in his own house or neighborhood. He can thus avoid all unnecessary fatigue, the possibility of new accidents, and associations which may be disturbing to his peace of mind.



Methods of Training

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides de la Guerre, St. Maurice, Paris, France



A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XIV, New York, March 18 to March 21, 1919

The best way to show what has been the program of the French Government in the matter of the re-education of war cripples is by describing the actual application of this program since the beginning of 1915.

Following a decision of the Council of Ministers in March, 1915, the Ministry of the Interior founded a school of vocational re-education in the *Asiles Nationaux des Convalescents* and the *Institut Vacassy*, at St. Maurice, near Paris. At the same time, the medical service of the army established, in the same asylums, a center of restorative surgery and of physiotherapy, and later a center of orthopedic treatment and prosthetic equipment. This institution has served as a model for all schools which have since been created by the French Government, under one form or another, in other parts of the country.

The wounded men, after leaving the hospital where they have received medical treatment, go to the center of restorative surgery and physiotherapy; here, while the surgeons endeavor to restore to their limbs or organs their natural functions, by means of operations such as tendinous or nerve sutures, bone grafting, reamputations, etc., the physicians in charge of physiotherapy try to restore to contracted, paralyzed, or atrophied limbs the strength and the flexibility that are indispensable for performing the most usual movements, by means of different kinds of baths, by massage, electrical treatment, mechanotherapy, or gymnastics, or even by work.

At the same time the prosthetic and orthopedic center supplies the cripples with the differ-

ent appliances that may enable them to walk, to perform movements, and to work.

The wounded who wish to learn a trade may, while undergoing the surgical or physiotherapeutic treatment, or while waiting for an apparatus to be supplied, be initiated at the vocational school in one practice of the trade that is suitable for them. An active educational campaign in favor of re-education, by means of posters, handbills, lectures, and films, has been organized and is still being carried on. In fact many among the wounded are not familiar with the facilities of re-education and with its advantages; and they are unwilling to undertake it, either through simple indolence, or because they are afraid that if they learn a trade the rate of their pension may be reduced. It has been necessary to include in the law of January 2, 1918, a special article to the effect that "in no case shall the rate of the pension be reduced as a result of vocational re-education or of re-adaptation to work."

There are thus found at St. Maurice all the elements that are required to restore the working capacity of the disabled.

The same program has since been extended so as to cover all of France. There have, naturally, been some variations, according to the methods, the facilities, and the initiative of the individual physicians who had to direct the several centers; the principle, however, has been the same everywhere.

This question of vocational re-education of the disabled began at an early date to agitate public opinion in France, just as in all of the belligerent

countries; during the years 1914 and 1915 about ten schools were founded; but their number grew rapidly, and toward the end of 1918, according to the figures of the *Office National des Mutilés et Réformés*, of which we shall speak later, there were, in France and in Algeria, 124 schools. These figures show better than any words what a considerable effort has been accomplished in France to provide the disabled with a trade in which they could decently earn their living.

But, as it so frequently happens when generous ideas are put into practice, this eagerness had its drawbacks; it happened but too frequently that the institutions were directed in such a way that the results obtained ran counter to the purpose of the work.

What is required in the first place is to have a clear idea of the physical and moral conditions of the disabled man; only thus is it possible to understand what the state of mind is at the moment when he leaves the hospital. It is natural that after many months of suffering and of quite legitimate anxiety, far from his family, from his friends, and from his home, he is somewhat disconcerted and depressed. That is the moment when these unfortunate men should be comforted and guided toward the path of reason and of duty. We cannot endure the idea of the saviors of their country sinking into idleness and vice. They can be rescued from this danger by a timely and intelligent intervention.

It is not enough to examine what trade can be compatible with the infirmities and the physical condition of the disabled man; it has also to be considered whether a given trade corresponds to his intellectual and moral qualifications, to his wishes, and to his accustomed ways of life, for it is sometimes dangerous to change the social status of a man. Before a decision is taken in favor of a certain trade, two questions must be asked: Will the trade under consideration procure to the disabled man, for the rest of his life, a salary large enough to assure to him, with a minimum of fatigue and of risks, a decent and undisturbed life? Is there no other trade that would, under the same conditions, secure to him greater advantages?

We in France attach a capital importance to vocational guidance, which we consider as the very basis of any re-education that is seriously conceived. It is too often the fate of the *mutilé* and of his family to be at the mercy of an incompetent adviser; and that is why, when people with the best intentions offer disabled men positions which, though seemingly advantageous, contain no security for the future, or when they induce them to enter trades where there is nothing in store for them but disappointments, it is our plain duty to warn these well meaning people against their over-confidence in dealing with this delicate and subtle problem. It is advantageous therefore that the disabled man be examined successively by a physician, from the point of view of his physical condition, by a technical man, from the point of view of trade requirements, and by an economic expert familiar with vocational and social problems.

There have been several forms of vocational education.

The first form was supplied by schools specially founded for disabled men, in which instruction is given by competent teachers and technical men; this is the best method, the only one in France that has given positive results in the overwhelming majority of cases.

There have therefore been organized in France a large number of schools specially intended for the disabled.

Long-established schools for special subjects have also admitted disabled soldiers, thanks to a number of scholarships granted them; but only a few men have been able to take advantage of this instruction.

The Ministry of Munitions has also arranged for technical and practical instruction to be given the disabled soldiers at the war plants under its control, but it is too early yet to make any definite statement on the results of that instruction.

Finally, we have placed a number of disabled soldiers in different private workshops; but this method has given poor results, at least in the large cities, where control and supervision are difficult to establish, and where, at the same time, they are indispensable, for everything in these shops has been organized with a view to

production and not to the teaching of the trade, and the latter is but too frequently neglected for the sake of the former, and to the prejudice of the apprentice.

Altogether there are now 124 schools open to disabled soldiers. Since 1915, 45,767 disabled men have received re-education in these schools, namely: 1,282 in 1915, 8,161 in 1916, 17,985 in

1917, and 18,339 in 1918. Of the total of 45,767, 25,964 have been re-educated in their former trade, and 19,753 have been taught a new trade. It should be added that the number of those who have returned to their former occupation is much larger than it is generally believed, but almost all of the men belong to the agricultural class.

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National Organization of Rehabilitation for the Disabled; France

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National des Invalides
de la Guerre, St. Maurice, Paris, France



A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section I,
New York, March 18 to March 21, 1919

It is indeed a great honor for me to speak before this assembly, in your illustrious, friendly land, and to describe to you briefly the way in which France has handled the sad problem of rehabilitating her disabled soldiers. I am deeply moved in reviewing with you the work that was done so patiently, and with such persistence, during the four years of the martyrdom of our brave soldiers. It is necessary to have lived, day after day, through those four years, in the midst of our maimed heroes, to be able to appreciate what resources of resignation and courage make up the French spirit. Oh! What sorrowful days and gloomy nights were those, in the early part of September, 1914, when the thunder of the cannon roaring on the Marne could be heard nearby, and the hospitals of Paris were filling up so rapidly with poor, wounded fellows, mangled by gun-shot, prostrated with pain, and weak from loss of blood!

To understand the situation, it is necessary for you to have followed them to the operating table, and seen them in the hospital, a prey to fever, delirium, and a long succession of sleepless nights. You ought to have seen their parents, in tears, come to the hospital to see their boys, who went away so happy and courageous, and are now fearfully and permanently disabled. You ought to have seen the anguish for the future expressed in the wounded man's eyes, and depicted on the faces of his dear ones, when, quite astonished that he survived so much suffering, he slowly and painfully returns to life again.

There was not a single person who came in contact with our wounded soldiers, who did not

agree that everybody's most urgent duty was to instil in those heroic hearts the conviction that their lives, which seemed to be so cruelly broken, would resume an almost normal course, surrounded by the gratitude and admiration of the Nation.

From that moment, then the question was put forth: What are we going to do for the future of our wounded and disabled defenders? From the month of August, 1914, France, whose territory was overrun by the formidable German hordes, was the first of the nations to take an active interest in planning the future lot of her wounded fighters. With her soil invaded and a frightful number of her sons cut down, she was able, in the midst of the turmoil, to deal in a foresighted, energetic way, with the numerous, complicated problems which this question entailed.

It was immediately apparent that the question could not be solved by the mere granting of pensions, or even by arranging to keep the most desperately wounded in hospitals for life. Such a course would have been to condemn the noble defenders of our country to a degrading life of idleness, and it would, in addition, strike a blow at our national economic reconstruction, by causing us to lose the productive labor which France already was short of before the war. The best measures had to be planned to safeguard the dignity of our disabled warriors and the country's social interests.

We shall review rapidly the work which has been undertaken since the beginning of the war, but shall speak of the disabled only after their

wounds have begun to heal, and they are preparing to take up their places in civil life.

THE INTERMINISTERIAL COMMITTEE

Since the end of 1914 various organizations have been created to facilitate this rehabilitation. Early in 1915 the Ministry of the Interior established an Interministerial Committee, composed of representatives of the different Ministries which were interested in the question. They studied conditions and adopted a program. The underlying principle of this program was a search for ways and means by which an honorable and secure existence could be secured to the disabled soldiers who rallied so valiantly in defense of their native land.

FUNCTIONAL RE-ADAPTATION AND APPARATUS

Since disabled veterans were entitled by the law of 1831 to a pension based on the extent of their disability, the Committee resolved that its first task should be to provide treatment for wounds which would reduce their effects to a minimum. Whenever necessary, it would also supply artificial limbs and the orthopedic and prosthetic appliances which would aid the disabled in their daily life and in the practice of a trade.

VOCATIONAL RE-EDUCATION

It was also decided that as far as possible, all disabled men should be assisted to resume their pre-war trades. Those who were unable to do so on account of the injuries sustained, were to receive technical instruction which would fit them to enter upon a new occupation.

PROTECTIVE LEGISLATION

At the same time Parliament began to study legislation which would protect these disabled soldiers, not only at the present time, but through out the course of their lives. In addition, a great number of associations were soon founded, by private enterprise, to provide for wounded soldiers after they left the hospital. We should like very much to comment in detail upon the admirable work of these societies, but our object here is to speak only of the action taken by the French Government, therefore we shall pause

only long enough to render homage to the indefatigable zeal of the men and women who devoted themselves so whole-heartedly to our brave wounded.

The program adopted by the Interministerial Committee was carried out first by the establishment of centers for reparative surgery, for physio-therapy, for prosthesis, and for orthopedic treatment, all aiming at functional restoration. Then technical schools were opened, to provide vocational re-education, and finally, wise protective legislation was enacted, culminating in the foundation of a National Office for Discharged and Disabled Soldiers.

SAINT-MAURICE, A REHABILITATION CENTER FOR FUNCTIONAL AND VOCATIONAL RE-EDUCATION AND THE PROVISION OF ARTIFICIAL LIMBS

The first practical application of the program was the establishment of an institution providing for functional restoration, the provision of artificial limbs, and vocational training. In consequence of a decision made in March, 1915, by the Cabinet (Council of Ministers) the Ministry of the Interior authorized the foundation of a School for Vocational Re-education, in the *Asiles Nationaux des Convalescents* and the Vacassy Institute, at St.-Maurice, near Paris. The Medical Corps of the Army (Service de Santé) coöperated by establishing a center there for reparative surgery and physio-therapy, and later arranged for orthopedic treatment and the provision of prosthesis.

The wounded men pass from the hospital where they received medical treatment, to the surgical center, where the doctors attempt to restore the natural functions to limbs and organs, by means of operations such as tendon and nerve sutures, bone grafting, treatment of stumps, and so forth. At the same time, the medical staff provides therapeutic measures, such as baths, massage, electrical treatment, mechanotherapy, gymnastic exercises, and also occupation, seeking to restore to stiff, paralyzed or atrophied limbs, the strength and suppleness required for ordinary movements. The service of orthopedic and prosthetic appliances furnishes the crippled men with appliances to facilitate walking, movements of any kind, and the carry-

ing on of a trade. All wounded men are supplied with two artificial limbs, one for dress wear and the other for work. The latter varies according to the trade for which it is designed. These limbs are not only supplied free by the State, but kept in perpetual repair, and replaced when necessary.

Disabled men who desire to learn a new trade may begin training in a vocational school, in the occupation of their choice, while they are still undergoing surgical or physical treatment or having artificial limbs adjusted. A comprehensive system of propaganda and public education has been developed, and by means of pamphlets, posters, lectures and moving pictures, a campaign in favor of re-education has been launched, for it seems that many of the wounded men themselves are not aware of the opportunities offered them, or the advantages to be derived from training. Some rebel against it, either because they are simply indolent, or because they are afraid that mastery of a trade will tend to reduce the amount of their pension. Thus it was found necessary to insert a special clause in the law of January 2, 1918, stating that: "In no case can the amount of a pension be diminished because of vocational re-education or re-adaptation to work."

At St.-Maurice all the equipment and practices necessary for restoring the working capacity of crippled men have been gathered together. In fact, this method is now followed everywhere in France. Naturally, the procedure varies somewhat, according to the methods employed by the individuals who direct the work of the various centers, but the principle remains uniform.

I shall not dwell longer on the subject of functional restoration, nor of prosthesis, but shall proceed at once to an examination of the system of re-education adopted in our country. This question engrossed public opinion at an early stage in France as in the other warring nations, and the years 1914 and 1915 witnessed the establishment of about ten (10) schools. The number increased rapidly, however, as may be seen from the statistics furnished by the Office National des Mutilés et Réformés de la Guerre, (National Office for Discharged and Disabled

Soldiers), of which we shall speak later. These figures showed at the end of the year 1918, 124 schools, extending from the Metropolis to Algeria. They demonstrate more forcibly than any words the fulfilment in France of the effort to provide disabled men with trades which will permit them to earn an honest living. This haste, like so many other generous principles when they are applied, has had its disadvantages, and the result has often been the opposite of the sought-for end.

Before all else, one must clearly understand a disabled man's physical condition and state of mind, especially when he leaves the hospital. Imagine a young man, whose experience with life has been very limited, suddenly called to the colors. He is snatched away from his usual work, from his friends, his home, his tearful family. Only a short time later he finds himself in the midst of the frightful turmoil of modern warfare, exposed to terrible dangers, suffering from hunger and thirst, enduring the severest hardships—forced marches in the burning sun or the intense cold, sleepless nights in the mud or snow. Then at last, one day, after months of this exhausting life, he falls severely wounded. It is easy to understand why he is a little confused and depressed after the long months of suffering and nerve-racking thoughts.

The great majority of wounded men take all these troubles and sufferings in a cool and admirable spirit. But do not be surprised if there are some among them whose point of view has been completely upset, and who do not always agree with you who have been spared these hardships. And consider their long period of convalescence, during which they submit to a succession of medical examinations, are transferred from one hospital to another, and experience endless 'red tape' which delays the long-awaited discharge. Consider this, and you will not then be astonished that there are a few who chafe a little at the delay, with an irritation which is perfectly natural. This is the moment to comfort those unhappy fellows, and to guide them toward right and duty. We cannot bear the idea of allowing those who saved the country to languish in idleness and vice. We can intervene, and by doing it at the proper time, and in

a clear-sighted way, we can save them from this danger. At any rate, those who assume the formidable responsibility of advising the disabled in the selection and adoption of their new career, must have a perfect understanding, not only of their needs and aspirations, but also of the difficulties and disadvantages that beset them in every field that may be open to them. In this task, there is a tendency to let the heart run away with the head. But no matter how moved a man is by pity in contemplating these cases, he should nevertheless form an accurate picture of their position, and it is not always possible to see clearly through a mist of tears.

The welfare of the disabled man and of his entire family is too often left to the mercy of an incompetent adviser; we sometimes engage those who have the best intentions, but who may offer a crippled man a position which is apparently suitable, but which has uncertain future prospects, or is in an unstable industry. Therefore, it is an excellent plan for the disabled man to be examined first by a physician, to determine his medical status, then by a technical expert, from the occupational point of view, and lastly by a sociologist, who is familiar with existing economic conditions in industry.

Let us add here that it is not enough to determine what trade is most suitable for a man's general state of health and particular disability. One must consider also whether this trade corresponds to his mental powers and capabilities, and to his own preference and manner of living, for it is often unwise to place a man outside his class. Before deciding definitely in favor of any occupation, it is always safe to ask oneself these two questions: First, does the proposed occupation guarantee the disabled man a sufficient wage, with the minimum of fatigue and danger, to enable him to live honorably and steadily for the rest of his life? Second, is there not some other occupation which would offer even superior advantages under analagous conditions? In France we attach the utmost importance to vocational guidance, for we consider it to be the essential basis of all serious re-education.

This re-education has been undertaken in a variety of ways. First, by means of schools especially established for the training of disabled men, and in which the instruction is directed by experts. We may as well state right here that this method is the only one which has given really satisfactory results in France, as far as the majority of disabled soldiers are concerned. The various Departments, such as the Ministry of the Interior, of Commerce, of Public Instruction, of Agriculture, and the Medical Corps of the Army, have participated to a certain extent in the organization of these schools, which were usually founded by departments, municipalities, public institutions, or industrial groups. Disabled soldiers are likewise admitted to the different kinds of special schools and colleges which existed before the war, but as a rule these require more preparatory training than can be offered by the young soldier. Besides, the men appear singly, and at odd times of the year, so that very few could be admitted to schools in which the work is systematically arranged by terms, or covers a period of several years.

The Ministry of Munitions has also provided theoretical and practical training for disabled soldiers in the large factories making war material and has employed them afterwards at good wages. It is impossible to state conclusively the results of this type of instruction, which may offer real advantages to those cripples who will remain in large factories or manufacture many articles of a kind.

Lastly, we have placed disabled men as apprentices in different smaller workshops. From this method only mediocre results have been obtained, at least in the large cities where control and supervision, though necessary, are difficult to provide. The trouble in such workshops is that all the work is arranged with a view to maximum output, and not from the standpoint of vocational instruction, so that the latter is too often sacrificed to the former, with consequent harm to the apprentice.

All these schools are largely subsidized by the Government. Thus in 1918, the National Office subsidized eighty-seven schools, only ten of which belonged to private societies. Besides these

schools, there are thirty-seven which have not yet applied for a subsidy, making a total of 124. We believe this number is excessive, and should be reduced, leaving only a number of important centers over which direct supervision could be exercised and which would therefore be more effective than this mass of small schools. Measures are already being arranged to this end.

Notwithstanding the defects of the system, 45,767 disabled veterans have been re-educated in these schools; in 1915, 1,282; in 1916, 8,161; in 1917, 17,985; in 1918, 18,339, among whom are wounded soldiers of the Allies, including Serbians, Greeks and Russians, who were admitted under the same terms as our own men. Of the 45,767 re-educated men, 25,964 undertook training in their former occupation, and 19,753 in a new one. We should like to call your attention to the fact that the number who do return to their previous trade is much larger than is generally supposed, and are besides, most of them, farm workers. In our country, agriculture plays a very important part; therefore it is not astonishing that as the industrial workmen were retained in the munition factories the war wrought its greatest havoc among the farming class.

We find placement of disabled soldiers an easy matter, whether it is accomplished through the efforts of the schools (17,200) or by the men themselves, or through the provincial placement offices all over the country. The majority of disabled soldiers earn higher wages now than they did before the war. Many start in business for themselves, and the Government aids them in this by gifts of tools, loans, and furnishing raw material. The Employment Bureaus have placed 37,866 re-educated men and other discharged soldiers. (In 1915, 1,595; in 1916, 9,890; in 1917, 12,381; in 1918, 14,000.) This makes a total of 55,066, who are known to be placed, without counting those who secured work through private or non-official channels. A plan which has proved profitable has been tried in some of the schools, namely the organization of cooperative associations among the pupils. It is thus evident that the results of re-educating war cripples in France have been worth while, and that they are each day becom-

ing more important especially since the creation of a National Office for Discharged and Disabled Soldiers.

For a long time it had seemed desirable to have one body direct and control the outlay of funds divided among the organizations working in the interests of the disabled soldiers. This was necessary for other reasons than financial ones. Vocational training risked being futile if it remained unsupervised in the hands of persons who might be well intentioned but incompetent. It seemed fitting that the experience gained in four years of practical work in rehabilitation should be utilized in the most intelligent manner for the benefit of the disabled.

OFFICE NATIONAL DES MUTILÉS ET
RÉFORMÉS DE LA GUERRE

An important law was therefore enacted to meet this need. It dealt with vocational re-education and the *Office National des Mutilés et Réformés de la Guerre*. It was promulgated on January 2, 1918, and completed on November 19, by two decrees regulating the functions of this Office. Article I of the law reads as follows: "Every soldier or sailor, or ex-soldier or ex-sailor, who is disabled as a result of wounds or disease acquired in or aggravated by service in the present war, is entitled to enroll in a school of vocational re-education, with a view to his re-adaptation to work and especially to his vocational re-education and placement.

Thus is embodied in the law, the principle of the States' obligation to provide vocational instruction for every disabled man who wants it, or who is known to be incapacitated for resuming his former occupation.

Article II states that: "The Office National des Mutilés et Réformés de la Guerre, which is declared to be publicly established and attached to the Ministry of Labor, constitutes a link between the public administrations and private societies interested in the soldiers designated in Article I. Its object is to centralize useful information relative to the action of the above mentioned administrations, associations, or private societies; to facilitate the return of the said soldiers to industry; to study legislation in their favor and to follow up its application, and in

general to assure the permanent support and interest due them from a grateful nation."

Although the National Office is under the authority of the Ministry of Labor and Social Welfare, it is an independent and autonomous body, and as such, is flexible enough to adapt itself to the infinite variety of problems it is called upon to solve. A Council, presided over by the Minister, and composed of representatives of the different Ministries, of private societies, and of associations of cripples, maintains general oversight of the work. A Committee of Administration, headed by a General Secretary, a Committee on Re-education, and a Committee on Improvement, selected from the members of the Council, direct the work of the various branches. At first the Office registered only disabled and discharged men of the first class, (*réformés* No. 1) but its activity has since been extended to include those of the second class, disabled civilians, and war widows.

In order that the Office may exert a useful authority in all parts of the country, Article V of this law provides for the organization of departmental and local committees, which can receive gifts or legacies, and which, under the guidance and control of the National Office, will watch over the disabled men employed in their district.

The role of the National Office is therefore a large one. By centralizing, directing, and controlling the official and private organizations, it has already rendered excellent service to the cause of the French disabled.

DISCHARGE

The wounded are taken off the army rolls as soon as they are discharged (*réformés*). Discharge is recommended after several examinations by medical boards and, in some cases, after specialists have been called in. The examinations are conducted with the greatest care and every guarantee on this point is given to the wounded man, who may, besides, at any time during his life, demand a new examination. The last discharge commission before which the wounded man appears assesses the reduction of his capacity for work, which may vary from 0 to 100 per cent., the latter being equivalent

to total disablement. We shall see later that this assessment has great importance, since it serves as the basis of the amount of the pension to be granted. The discharge is pronounced by the Minister of War. It may be: (1) permanent, for incurable disabilities which cannot be changed for better or worse by time or treatment; or (2) temporary, for disabilities which may in the future improve or grow worse. Men who have received a temporary discharge undergo a medical examination every year, until their condition is stationary. They then receive a permanent discharge.

Men who have received permanent or temporary discharges can be sub-divided into class one or class two, class one if their disability was acquired in service, class two if acquired out of service.

PENSIONS

The question of pensions is one of those to which both the Government and the disabled soldiers have, with reason, given the greatest thought. Until this war, pensions were governed by an old law passed in 1831. Which means that they in no way corresponded to the needs of soldiers disabled in the present war. Parliament at various times has been anxious to modify the law, but has not arrived at a permanent settlement. At present the law has just been reconsidered by the Chamber of Deputies, and it is probable that the Senate will ratify it in its essential elements.

An important modification has been introduced in the very principle of the law. It has been admitted that the pension is granted not as aid or recompense but in virtue of the disabled soldier's *right* to reparation for damages received.

Article I of the law says: "The Republic, in gratitude to those who assured the safety of the country, proclaims that soldiers and sailors disabled as a result of the war have a right to reparation."

Compensation is based on a table, of which we spoke above, which determines the degree of the incapacity for work resulting from the various disabilities.

The pension scale, which at present, for the common soldier, ranges from 600 to 975 francs,

will be in the new law raised to a maximum of 2,400 francs. The scale varies according to rank, and will be increased by a quarter of the pension for the totally disabled who need an attendant, and by from 100 to 1,000 francs for multiple wounds, according to their gravity.

The Pensions Office of the Ministry of War is charged with the granting and payment of pensions. Pensions are of two kinds: permanent, for the men who have received a permanent discharge of the first class, and temporary for those who have received a temporary discharge of the first class.

Up to now, discharged soldiers of the second class have not been entitled to a pension. However, the new law establishes in favor of any soldier discharged for wounds or even for sickness, the presumption that the wounds or the sickness is the result of service unless the state presents proof of the contrary.

In reality there will be in the future very few second-class discharges, and consequently very few discharged soldiers without a pension. The disabled man who believes that his pension is too small conserves as long as he lives the right to demand revision.

RESERVED POSITIONS

Parliament has not only provided disabled men with just pensions; it has also tried to provide them with good and sure positions. A law passed April 17, 1916, gave to disabled soldiers for five years after the close of hostilities a preferential right to civil positions in the National Government, in a large number of departmental and communal administrations, and in divers companies and societies—positions which the law of 1905 on army recruitment reserved for non-commissioned officers and re-enlisted soldiers. This law, excellent as it is in principle, presents numerous difficulties in its application. Its greatest disadvantage is that it turns the disabled from re-education. Positions open to them under the law tempt them particularly in offering them a quiet life without care for the future. Unfortunately these positions only gradually become vacant. And further, it is not always easy to find positions which are compatible with the disabilities of the candi-

dates. A large number of discharged soldiers wait around for them in idleness and often in want, both of which are bad counsellors. There is no doubt, however, that many of the disabled find in the reserved positions an opportunity to become 'functionaries', an ambition cherished by many Frenchmen before the war.

It is impossible in this brief lecture to examine in detail all the laws which have been passed and all the measures which have been taken in France to aid the disabled to rebuild their lives. We must limit ourselves to summing up in a few words the principal of these.

The severely disabled, who are incapable of any remunerative work, are entitled to be cared for in an institution for the rest of their lives.

Every wounded man receives free, for as long as he lives, the treatment required for a condition which is the result of his wounds. He is entitled to free transportation whenever he must make a journey on account of his wounds.

During the re-education of a disabled man, his family continues to draw the separation allowance or its equivalent, as if he had not been discharged. In the near future, every disabled soldier will himself receive a daily allowance while he is being re-educated.

A loan at one per cent., up to a maximum of 10,000 francs, is granted to any disabled soldier who wishes to buy a small piece of land to work himself, or who wishes to improve, agriculturally, land which he already possesses. Similar advantages are accorded for the acquisition of commercial or industrial capital.

Special provisions have been made for the disabled soldiers who are the victims of industrial accidents, so that the employers' liability may be covered, and that the risk shall not prejudice employers against engaging disabled workmen.

It is no easy task to give immediate satisfaction to the desires which our disabled men express, generally with a moderation one must admire, but it must be borne in mind that we are barely emerging from a state of war, and that a great many other unfortunate persons, no less worthy than our war veterans, are claiming the attention of the public. The question affords numerous aspects for study, and doubtless for

years to come, there will be opportunities for improving and completing the measures which are destined to pay the debt of infinite gratitude which France owes her crippled and disabled soldiers.

Before concluding, I should like to give you an idea of the enormity of the task which confronts us by citing the terrible figures of the French casualties, up to November 1, 1918. These are the official lists submitted to the Chamber of Deputies: 34,300 officers and 1,351,000 soldiers and sailors, making a total of 1,485,300 killed or missing, and 694,000 incapacitated by disease or wounds. This figure is lower than the reality, since many wounded men are still in the hospitals.

When a country has suffered such losses, its morale must be of the highest type to permit it to struggle unflinchingly against the many dangers which threaten it, even after Victory. The disastrous loss of the flower of our country's youth has not decreased, but on the contrary, has intensified our will to do our duty to the utmost in behalf of the survivors of this horrible and bloody *mêlée*.

There remains one pleasant duty for me to perform, namely, to convey to the American Nation, to its eminent President, and most particularly to the American Red Cross, the profound expression of the deep and unalterable gratitude of the French nation. For a long time we had been hearing about our American big sister and her powerful social and economic organization. Nevertheless, in spite of all we had heard, we were astounded at the rapidity and the vigor with which she sent us her marvelous aid. It is not my intention to speak here of the lightning-like effect of the American Army, but I want to tell you how deeply grateful I have been and how I have appreciated during my connection with the American Red Cross,

all that the people of the United States had done to aid our suffering countrymen. There is not a corner of our land in which misery appeared in any form, which was not alleviated by the men and women of the American Red Cross. Wherever an emergency arose, whether at the battle front, in the invaded districts, or elsewhere, at once trucks arrived, bringing relief, necessary supplies, and a capable personnel. It was at times indeed miraculous, and for a long, long time, in the dwellings of the poor as well as in the homes of the rich, France will enthusiastically remember the kind, charming and efficient manner of this assistance.

For my part, and in connection with our disabled soldiers, I am unable to express in adequate terms my admiration and gratitude for the welcome I have received at the hands of this great institution, and for its valuable and devoted aid in the work of rehabilitating and re-educating our precious wounded boys. In the beginning, I felt just a little shame at so much kindness, but in the midst of such a charming spirit of generosity, why should I not let myself go and consider this institution as if it were our own?

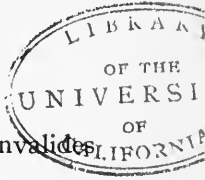
I wish here to express my most sincere gratitude to all those who have facilitated our task by their valuable assistance. Special thanks are due to Major Murphy, Major Perkins, Major Folks, Mr. Charles Carroll, and Miss Grace Harper, Chief of the Bureau of Reconstruction and Re-education, who collaborated so heartily and so actively in the great work undertaken to place our war cripples in a position that shall be worthy of their bravery and their sacrifice.

We express our thanks also to the great generous American nation, so indissolubly bound to our glorious, valiant France by ties of bloodshed in a common cause—the defense of the right and the liberty of the world.

Placement of the Disabled in Employment

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides de la Guerre, St. Maurice, Paris, France



A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XXVII, New York, March 18 to March 21, 1919

At other sessions of this Conference, particularly in connection with the attitude of employers toward disabled soldiers, we have indicated the difficulties encountered in France in the matter of placement. To recapitulate: People have been actuated by generosity to offer jobs which are unsuited to the capabilities of the disabled—many employers are philanthropically inclined, but one cannot count on this as a lasting condition; the scarcity of labor has compelled the utilization of war cripples in war-work factories, which discharged them as soon as the armistice stopped operations. A great many wounded soldiers have returned to their homes where, by working at odd jobs, they earn ridiculously insufficient wages. A few only have followed a safer and more advantageous course: Among these, the men who obtained the positions reserved by law for veterans in the national, departmental, or municipal administrations, and in large corporations or companies, and those who, better inspired or better advised, entered the re-educational schools to learn a trade exactly suited to their physical, mental, and social capabilities. For these latter placement in positions often more remunerative than the pre-war occupation has been a very easy matter.

From this brief exposition of the situation can be deduced the necessity of continuing and developing with all possible energy the vocational training of the disabled. Only thus can former soldiers be utilized in industries and agriculture, both of which in France are seriously threatened by the lack of hands.

There are already in France three regional placement bureaux, at Paris, Lyons, and Nantes, and three more bureaux are shortly to be established. Each department also has its own bureau, which maintains relations with neighboring agencies and the regional bureaux. All of these bureaux run a special department for the placement of disabled soldiers. At the end of 1918, they had placed 55,666 disabled men, to say nothing of the number who had found employment for themselves or through the agency of private societies.

Of these 55,666 disabled soldiers, 17,000 were provided with employment after having passed through the schools; a larger number, 25,964, resumed their former occupations after a generally brief and unaided period of adaptation. The majority of these were peasants who simply went back home.

During the same period the National Vocational Institute of Saint-Maurice placed 1,055 of its re-educated pupils.

In addition to the men placed in positions, there are many in agriculture, industry, and commerce who have set up for themselves. The Government and private societies have sought to encourage this tendency by granting to all who can offer sufficient guarantees loans up to 10,000 francs at one per cent. interest. These loans may be used for the purchase of a small farm or as capital for an industrial or commercial enterprise. Loans of honor are also granted, without interest, for the purchase of tools and raw-material.

GIFT
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INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Rehabilitation of the Tuberculous

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides de la Guerre, St. Maurice, Paris, France

A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XXIII, New York, March 18 to March 21, 1919

Among the tragic problems raised by the war few are more moving than that of the innumerable tuberculous soldiers who acquired that terrible disease in the trenches or as a result of the gases used by the Germans contrary to the most elementary laws of humanity. The tuberculous are not merely a special class of wounded; they are and they forever remain sick persons, who are in most cases unable to pursue regular work and who, in addition, are susceptible of spreading contagion around them.

Considerable efforts have been made in France to combat the consequences of such a dreadful condition. In the first place, sanatoria have been created to attempt to bring about the recovery of those among the tuberculous who do not seem to be too seriously affected. Thanks to the energetic and enlightened initiative of M. Brisac, Director of Charity and Public Health, the Ministry of the Interior opened in all parts of the country, and especially in the South, sanitary stations, where a large number of tuberculous men have been under treatment. Unfortunately, as it is well known, even the best care produces but seldom permanent results, and it has too frequently happened that men discharged from the army for tuberculosis had to return to their homes without any hope of recovery.

At the beginning of the war the tuberculous were, as a general rule, granted the so-called discharge no. 2 (*réforme numéro 2*), which did not entitle them to a pension; it may easily be imagined in what sad condition these unfortunate men then found themselves. This anomaly has since been remedied. At the present time, tuberculosis is in all cases considered as a consequence

of service, and it entitles the man to a pension, just as an external injury would.

However, in the case of the tuberculous as well as in that of the wounded, the pension is insufficient for the support of the men and of their families. Attempts have therefore been made to increase their resources by providing them with such work as they would be able to perform. Unfortunately, this work is liable to be frequently interrupted, as a result of attacks of the malady, so that the tuberculous can attend to work only at intervals, and this only in shops established for their special use by generous persons. That is rather disguised charity than a means of providing them with durable resources.

To meet this problem, one state conceived a more rational program, based upon the fact that the only hope of saving from death a considerable number of tuberculous soldiers is in having them live in the open air in the country. The Government has therefore established, in the South, three schools, where the men, besides being given instruction in different matters pertaining to agriculture, are also initiated in small rural trades (cobbling, basketry, harness making, carpentry, etc.). These trades, which can be carried on anywhere in the country, and which do not involve any heavy strain, will serve as a distraction for the men, and at the same time will enable them to add something to their resources. More of such schools will be created whenever this appears necessary.

It would undoubtedly be very desirable to have the tuberculous followed up and advised at their homes, so as to protect their families against contagion; but while in towns this is



practicable, the situation is different with regard to the tuberculous who live scattered in hamlets and villages, where the most elementary hygienic rules are neglected, and where it is nearly impossible to have the people understand their impor-

tance. As our tuberculous soldiers are mostly country people, it may be seen how greatly alarmed and how powerless we are still now in facing the danger that hangs over so many families.

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INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Relation of Pension, Compensation, or Other Allowances to Rehabilitation



Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Instiut National Professionel des Invalides de la Guerre, St. Maurice, Paris, France

A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XVI, New York, March 18 to March 21, 1919

In France, wounded men undergoing re-education can from the military point of view be divided into three classes:

1. Those who are still soldiers, not having passed before any Discharge Commission, and who, in consequence, are drawing the pay corresponding to their rank.

2. Those who have been recommended for discharge by a Commission, and who are waiting for the discharge to be ratified by the Minister, and for a permanent or temporary pension to be granted them.

3. Men who have been taken from the rolls of the army permanently or temporarily, and who are receiving a pension.

To whatever class they may belong, all these men, during the period of their re-education,

receive the same pay, allotments, or pension as would have been paid to them had they returned to their homes. An article in the *Law* of January 2, 1918, establishes this right beyond dispute.

Of course, these payments can be added to by money paid to the men by the school in the form of allowances, encouragement wages, and sums realized from the sale of objects made by the pupils.

Further, in virtue of the same law, the families continue to receive, during the period of re-education, allotments equivalent to those they received while the man was in the service.

It is, therefore, plain that every measure has been taken to prevent the disabled being deterred from re-education by any loss or reduction of pensions or allotments.

GIFT
APR 18 1919

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Should Serious Training Be Started in Hospital or Deferred Until After Military and Medical Discharge?

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides
de la Guerre, St. Maurice, Paris, France

A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XIV,
New York, March 18 to March 21, 1919

The question if put in this form cannot be answered in an absolute way, for in France the disabled soldier is free to decide whether he shall undertake re-education, and therefore, whenever he does not simply renounce to any vocational instruction, he chooses for it the moment that suits him best.

It is beyond doubt, however, that it is desirable that re-education shall begin at the earliest moment. But there are many obstacles to this solution. In the first place, most of the hospitals have no arrangement for the training of the wounded. Besides this, the wounded men, at the beginning of convalescence, do not possess the physical and moral strength that is indispensable for regular work. And, finally, the great majority prefer to go first to their homes, where they will avail themselves of the advice of their families, and at the same time will be able to form a sound and positive idea of their present and future situation.

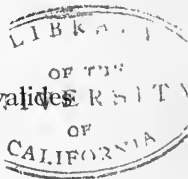
When the disabled come back from their leave of convalescence, they, as a rule, go to the center of functional readaptation and orthopedic and prosthetic equipment, to which are, almost in all instances, annexed institutions destined for reeducation. While waiting for his functional readaptation, prosthetic equipment or discharge, the wounded is thus in a position to work in his new trade.

However, many of the men renounce, for various reasons, to take advantage of these training facilities before they are discharged,

and it frequently happens that only after several attempts to resume their former occupations or to take up, without any preliminary training, a new trade, do they apply for admission to a re-education school.

A considerable number among the French *mutilés* have been able to find, immediately upon their discharge, well paid positions in war plants, which, because of the specialization of the work and the scarcity of labor, were glad to admit these men as long as workers were intensely wanted, but which dismissed them, or at least some of them, as soon as the armistice was signed and the production of war supplies stopped. Many of these wounded then came to the schools; but it is not always easy to secure, on their part, that adherence to discipline and that assiduity at work which usually obtain with those invalids who enter the shops at an early date, for some of these men have in the meantime become addicted to the use of liquors and have acquired habits of extravagancy developed by high wages.

We therefore think that everything ought to be done to induce the disabled soldiers to begin re-education as soon as the condition of their physical and mental health allows it, and that is why, in France, we have been increasing the number of schools at the different centers where the disabled are grouped for the procedure of functional readaptation, prosthetic equipment and discharge, for that is the most suitable time to advise them and to guide them towards work.



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Gift from Mrs. C. C. C. C. C.
Institute

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Training After Discharge in Special Schools or Classes *versus* Training in Standard Institutions

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides de la Guerre, St. Maurice, Paris, France

A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XIV, New York, March 18 to March 21, 1919

Vocational education of disabled soldiers has been carried on in France in several ways.

The question as to whether special schools had to be created or whether the ordinary vocational schools offered sufficient facilities, has been of the greatest importance. It has been found that the best course, beyond any comparison, would be either to create special schools, or to establish in the ordinary schools special sections that would be absolutely reserved for the disabled. This opinion was based upon several considerations, the correctness of which has since been demonstrated by an experience of four years.

The pupils admitted to the ordinary vocational schools, all possess the same degree of instruction, which has had to be evidenced at the entrance examination or contest; they all enter on a fixed date, and they are given, as far at least as theoretical instruction is concerned, collective lessons which they all understand; finally, the duration of instruction is usually of two or three years. On the other hand, among the disabled soldiers, the great majority of those who have to be provided with a new trade are either peasants (about sixty per cent.), or unskilled laborers, or workers of the building trades, or of industry, whose primary instruction has, as a rule, been a rather summary one, if indeed they have received any instruction at all. Besides, everyone of them applies separately and wants to be admitted immediately and taught rapidly, for they are anxious to return to their homes at the earliest moment. It is therefore

necessary, and this is not one of the least difficulties in the organization of schools for disabled —to group in the same shops, for purposes of trade training, men whose primary instruction age, and aspirations vary to the greatest extent.

As far as purely manual training is concerned, the problem is a fairly simple one, but when it comes to theoretical and general instruction, it may be realized that it is impossible to follow a complete program that would require a year or two. On the other hand, the wide differences between the pupils in respect to the degree of education which they have received make it necessary to group some of them, in accordance with these differences, by little sections, and to familiarize them, in the course of a few weeks, with the elementary notions that are required for the understanding of courses of a higher type.

Let us take as an instance of this type of organization the courses of industrial and architectural design given at the St. Maurice Institute; we shall find that whenever it has been decided that a carpenter, or a machinist, crippled in his upper limbs, and more or less able to read and to write, shall follow that course, they are, first, as soon as they arrive, taught the use of the rule, the square and the compass; then when some ten new pupils of the class have gathered, there is formed a nearly homogeneous group, which is given lessons of spelling, writing, arithmetic, and geometry, the instruction being quite elementary. After a few weeks of this preliminary work, the group takes up algebra, the more complicated aspects of



geometry, trigonometry, and the applications of these notions to designing.

This course thus consists of a number of groups which are constantly succeeding each other and which, while devoting part of the day to practical work, at the same time gradually acquire in the course of one year, the theoretical knowledge indispensable for anyone who wants to succeed as a draughtsman.

The method which we use for the teaching of design can be applied in any branch where collective courses may be necessary. That is why we think that, with a few exceptions, our disabled men would greatly advantage by

not having to wait for the more or less distant time of admission to the ordinary schools, but by being admitted to institutions where the instruction given endeavors to take into account the extreme variety of their capacities and aspirations, and where it proceeds with the greatest rapidity compatible with the acquisition of the knowledge that is indispensable for every good worker.

Following this principle, there have been organized in France a large number of schools specially destined for disabled soldiers. They are all maintained almost entirely by funds appropriated by the Government.

GIFT
APR 18 1919

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Training the Disabled Civilian

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides de la Guerre, St. Maurice, Paris, France



A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XIV, New York, March 18 to March 21, 1919

It can be said that before the war there was no such thing in France as re-education of disabled civilians. However, some years ago, I did begin the re-education of some of them at the national asylum, Vacassy, at St. Maurice near Paris, but this beginning was only an experiment—an experiment about to bear fruit, however, when the war burst upon us and led to the establishment, in this same asylum, of the *Institut National Professionnel des Invalides de la Guerre*.

It has been decided that, when the re-education of these war-disabled shall have come to an end, the Institute is to be continued and to be devoted to the re-education of those accidentally disabled in Paris. This was so natural an evolution that it has already been begun, so that we now have among our pupils two who were injured in pursuit of their work: it is certain that in proportion as the war-disabled are graduated they will be automatically replaced at the Institute by disabled civilians.

In France, and especially in great industrial nations such as the United States and Great Britain, there is an enormous number of workers who have been disabled by industrial accidents, for whom, from the social and industrial points of view, re-education would be no less worth

while than it is for the war-disabled; and it is rather surprising that, in these great countries especially, almost nothing has been attempted along these lines until very recently.

The lesson of the war in this matter will not be lost, and we know that in all countries the effort is being made either to continue or to establish schools for the future training of the industrially disabled.

The Council of the *Office National des Mutilés et Réformés de France* has decided that, in principle, most of the schools functioning with the material support of the state should be continued after the war and devoted to the occupational instruction both of the youth and of disabled civilians.

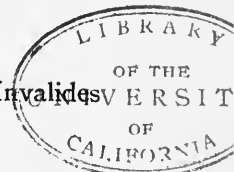
It is difficult at this time to foresee the welcome that will be given these schools by those who are chiefly concerned, and it is very likely that greater obstacles will be encountered in convincing the industrially disabled of the value of their re-education than have been encountered in our work with the war-disabled; but this probability is only an additional reason for a methodical organization of propaganda and of instruction of a sort that will make clear to our workers that they have a duty toward themselves and toward society, and that their own best interests are involved.



Work of the Permanent Committee and Interallied Institute for the Study of Questions Pertaining to Disabled Soldiers

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides
de la Guerre, St. Maurice, Paris, France



A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XX,
New York, March 18 to March 21, 1919

The world-wide conflict which has just ended by the victory of Right and Liberty, has drawn into the struggle armies, not composed, as formerly, of mercenaries or professional soldiers, but of whole races who have gone into the tragic arena for the future of humanity. The citizens who will return to their homes after the fight will bring back different ideas from those with which they left. Many will expect of society, which they have defended at the cost of well-known suffering, a strong protection against the dangers which may menace their independence and the security of their existence.

The nations are, indeed, indebted to all their defenders and to all those who have received serious injury through the war, but among these there are none more worthy of interest than the disabled, for whom the new conditions of life are complicated not only by a more or less complete upsetting of their habits and surroundings, but also by varying degrees of reduction of their working capacity.

All nations have felt this truth and have rivalled each other in their efforts to assure to their disabled and re-educated men a life worthy of their courage and sufferings.

We can see a proof of this general solicitude in the eager response which the allied nations made to the appeal of the Franco-Belgian Committee, who have, since 1916, taken the initiative in bringing together in conference the delegates of these nations.

The first Interallied Conference opened on May 8, 1917, at the Grand Palais, Paris. Eng-

land, Belgium, Canada, France, Italy, Montenegro, Rumania, Russia, and Serbia were represented by eminent delegates from the governments of those countries. The President of the French Republic presided over the first of the meetings. These were most remarkable, and the animated discussions which followed the numerous sessions of the special sections and the general meetings showed both the importance and the infinite variety of the problems raised in all countries by the fate of the disabled.

This very variety generated the idea that it was necessary to bring some order into previous studies and experiences, so as to group and condense them and to draw from them in the interests of the disabled some useful and practical lessons. All the delegates understood that the final solution of certain problems which came up could only be reached after a long period of time. Our wounded, in general, are very young, and in the course of their lives will, no doubt, see develop important political and economic events, which may have serious results on their social situations and necessitate measures, dependent on the circumstances, appropriate to their new needs.

Therefore the six sections of the Conference passed a resolution to found a permanent organization for the purpose of studying all rational methods which could contribute, in the present or the future, to the security and well-being of the crippled and disabled.

This unanimous opinion was especially apparent in the general meeting at the end of the Con-

ference and took form in the adoption of the following resolution:

Whereas the question of disabled soldiers, both as regards pensions, vocational re-education, and placement and social protection is common to all countries of the *Entente*, and whereas it is of interest to everyone in these countries to study the solutions which come from the results of experience;

And whereas these results can only be obtained by the organization of an Interallied tabulation of material;

The Conference resolves that a Permanent Interallied Committee shall be constituted to maintain the connections which have been created by this Conference between institutions and persons who have participated in these meetings, and to prepare for future meetings of the Conference.

As a result of this resolution, a few days after the end of the Conference, a permanent committee was organized by the Franco-Belgian Committee, made up of official delegates appointed by the governments, the presidents of the different sections, and the general secretaries of the Conference. This committee held its first meeting in Paris, in July, 1917, in the course of which it resolved to insure the functioning of a *Permanent Interallied Committee for the study of questions pertaining to disabled soldiers*.

At the request of the preliminary committee, the governments of the various nations announced the names of those persons to whom they had given authority to represent them on the Permanent Committee. Delegates from the nations who had subsequently entered the fight were added to these delegations. The Committee at present includes representatives from eleven peoples, including the United States and the Dominions of Great Britain, to which Japan and Greece will probably soon be added.

Paris was chosen as the headquarters of this officially constituted committee, which was installed in 1918 in an old hotel in the center of the capital.

It is, indeed, a great honor for France to receive the very distinguished delegates of friendly nations and to be at the heart of an association which is called upon to play a beneficent and fruitful part. She feels the weight of the responsibility conferred upon her and will do everything in her power to show herself worthy of the

confidence placed in her. We have a firm conviction that if a war alliance between nations has shown the rapid and wonderful results in which we rejoice, an alliance of peace will have political, social, and economic consequences quite as happy and productive. Our presence in your midst marks a new and definite tendency toward closer associations between peoples, even when they are geographically far apart.

The task of the Permanent Committee is fine and of deep interest, but its realization is full of difficulties.

It is, indeed, not sufficient to show our love and admiration for these brave soldiers; we must also organize, rationally and scientifically, if I may use the terms, the aid and protection which we wish to give them. In modern society, where the social order under much reasoning and discussion tends to take an almost mathematical form, benevolence itself must conform to rules which make it possible to help the unfortunates more judiciously and more profitably than when giving is inspired by sentiments of charity alone.

It is certain that the most generous impulse gains by being submitted to the test of good sense. More than forty years spent in French hospitals in daily contact with the most varied sufferings, have convinced me that our public charities should renounce their former errors and reorganize according to a more modern conception of charity. The sojourn of the American Red Cross in France, all too short, but full of lessons, will be a valuable example to us in methods of using to the best advantage the financial resources and moral forces at our disposal.

Even though we are not here considering charity but rather our duties toward the disabled, my observation may be applied to that which remains to be done for them. I recently reported the work of the French government in this respect, and it would take volumes more to report what the devotion of innumerable private societies (for there have been more than 2,000 organized since 1914) has realized in France. This is not intended as a criticism of French society, whose efforts have surpassed all that could be imagined, in spite of the horrible confusion into which the German invasion threw

our beautiful country. We must, however, recognize that this effort has not given the results that we had a right to expect of it.

If I may judge by what has been said concerning friendly countries, it seems that the same is true of our Allies. Everywhere, as in France, people had to act quickly and as best they could. But in this matter the best in wartime is not the ideal, and now that the Germans have withdrawn, we can and must deliberate so that our victory on the battlefields will continue in the field of social life.

This is the principal task that the Interallied Committee for the study of questions pertaining to disabled soldiers has set before itself. Let us see how it has begun to fulfil it, and what it intends to do in the future to realize its aim.

In the meetings of July, October, and December, 1917, the Committee drew up its by-laws, and defined its aim, organization, resources, means of action, and headquarters.

Its Aim

1. To promote by all possible means the efforts of the national, public, and private institutions to ameliorate the situation of disabled soldiers.
2. To collect and keep up to date all material published on questions relating to disabled soldiers.
3. To publish periodically an interallied bulletin.
4. To organize interallied conferences.

Its Organization

The Permanent Interallied Committee is formed of national delegations from the allied countries.

Its headquarters are in Paris.

Each national delegation chooses a corresponding secretary who shall be the intermediary between it and the Permanent General Secretariat.

The executive staff is composed of a president, vice-presidents, a general secretary, secretary, a treasurer, and the director of the periodical bulletin, elected by the Committee and by members designated by the national delegations in the proportion of one member from each national delegation.

The decisions of the Committee are made by a majority of persons present. However, the vote is taken by countries represented if one member requests it before the vote.

Seven Committees divide the various questions for consideration. To wit:

1. General administration, collection of material, permanent exhibition.
2. Finances.
3. Functional re-education, prosthesis, orthopedics, physiotherapy, surgical treatment, etc.
4. Vocational re-education, tools.
5. Pensions, allowances, etc.
6. Placement, general and individual interests of disabled soldiers, social and economic questions, insurance, associations, propaganda.
7. The blind, the deaf, and the severely disabled.

Its Resources

The resources of the Permanent Committee comprise:

1. Grants from allied governments.
2. Gifts and donations which may be made either for specific or for general purposes.

The budget for 1918-1919 is as follows:

<i>Receipts or Grants</i>	
Union of South Africa	\$5,430
Canada	5,430
France	30,000
Belgium	3,000
England	29,990
Montenegro	3,000
Serbia	8,000
Italy	25,975
American Red Cross	50,000
United States	30,000
Portugal	3,000
	\$193,825
<i>Expenses</i>	
Rent, insurance	25,000
Installation	20,000
Personnel (Office and Service)	30,000
Library, collection of material	15,000
Supplies and models	20,000
Interallied Review	30,000
Lighting, heating, etc.	10,000
	\$150,000
<i>Balance</i>	\$43,825

You can see that all nations, even the smallest and most unfortunate, have insisted on collaborating in the work of the Committee, and that in its generous way, the American Red Cross has brought us powerful help, for which we cannot give sufficient thanks.

Its Means of Action

The principal one is an Interallied Institute, official organ of information, of study, and of co-ordination of efforts conducted in behalf of disabled soldiers in various countries.

Thus the Institute will collect all information concerning disabled soldiers—books, studies, newspapers, and magazine articles, which will be arranged and classified in an orderly manner, so that all the material which has been published on this question may be available at the request of anyone wishing to study any part of the subject.

A national correspondent for each allied country, a member of the Permanent Committee, has been chosen to advise the Institute of everything in his country which may interest all the allied countries.

There are competent translators attached to this service.

The Institute will not dissolve after the war, but will continue to work for industrially disabled men.

Certain delegates of the various countries have often asked for the reasons for creating an Interallied Institute as well as a Permanent Committee. The following are the reasons:

As a matter of fact, the Institute is not a new creation but a practical manifestation of the activity of the Committee; the Committee directs and administers the Institute. It is the head and the Institute the arm; the Committee directs and the Institute acts.

But the principal reason is that in order to be in a position to receive gifts and legacies, our work must, under French law, be declared a public utility. To accomplish this, we found we had best adopt the type of by-laws which are accepted in principle by the State Council charged with examining requests for recognition as public utilities. In order to avoid all difficulties in our request for recognition by the gov-

ernment we based our organization on the by-laws of various Institutes already established in France.

The Institute is also to have a certain amount of freedom of action. For instance, it is able to ask for the collaboration of able persons outside of the Committee, such as disabled soldiers, doctors, economists, and scholars, who can give valuable assistance both by their advice and by articles published in the *Review*.

The name does not change the thing. The essential is that the work be useful, and the program which we have just given and which we are going to explain further, shows well that the Institute is expected to render the greatest services to disabled soldiers, and later to the industrially disabled. It must be understood that this Institute has an interallied character, that it is almost world-wide, and that it cannot compete with national institutions. It tries, on the contrary, to facilitate and complete their task by serving as a uniting bond between them.

The *Interallied Review*, the organ of the Interallied Institute, has already given proof of its worth by familiarizing the whole world with the works of scholars of all countries. The very distinguished director of the *Review*, Dr. Camus, doctor of the Paris hospitals and professor in the College of Medicine, has brought to the direction of this alert publication, so varied and full of valuable documents, all the usual precision and clarity of his scientific and social conceptions. But I do not need to eulogize this publication here, for I am sure that all who have read it already appreciate its practical and common interest. It has published up to the present many original articles, for the most part in French, but it earnestly desires that our allied friends will also send contributions in larger numbers. Beside these studies, the *Review* publishes analyses of any work published in the various countries which offers something of interest on the questions which occupy us. It also places at the disposal of readers information on published books and studies, and has them sent to readers, if it is possible. We are, at present, searching for means to issue the *Review* in three languages (English, Italian, and French) and we will accomplish this change as soon as our resources

permit; the expenses which the printing would entail are far from being covered by the present subscriptions.

Wishing to preserve its independence, the *Review*, up to the present, has not thought it should accept advertisements from manufacturers of artificial limbs. These advertisements would certainly yield large returns, but of course the *Review* could not run the risk of abusing the confidence of its readers by advertising a firm which might wrongfully exploit the disabled. What the *Review* gains in dignity and independence, it loses in resources, and naturally it is obliged to make heavy demands on the treasury of the Interallied Institute.

We have in France a medical personnel which during this terrible war has gained a large amount of experience in the treatment of wounds and their consequences. Its most devoted and active assistance is assured to the *Review* and the Interallied Institute, which will receive from it articles of the greatest interest and inspiration, both now and also when the foreseen and natural evolution to interest in industrial accidents shall have taken place. The collaboration of French and Allied surgeons and of practitioners and economists of great industrial countries such as the United States, England, and Belgium cannot help but give a new and fruitful impulse to methods of prevention and treatment of industrial accidents.

The library of the Institute contains books, studies, articles, and documents of all sorts, relating to disabled soldiers. It increases daily in value by gifts and important accessions. The library brings together not only all the printed documents, but also plates and photographic documents. These are grouped together and present an extremely valuable documentary source. A collection of moving picture films will serve for interesting demonstrations and can be used for an interallied service of propaganda for vocational re-education.

The library is often frequented by visitors from all parts; only recently one could see there the very active representative of the New York Red Cross Institute, Mr. Hackett, working side by side with Serbian officers.

A permanent and public museum which has been opened, contains:

1. Various artificial limbs in use in the different countries. Medical specialists in prosthesis and the disabled themselves can find there valuable information concerning apparatus.

2. Special working appliances, in which improvement is particularly necessary. For some time, in fact, extremely interesting research has been made in the line of working appliances, with the aim of supplying to men who have lost an arm an artificial arm or hand designed for use in a certain trade.

3. Modifications of ordinary machines so as to make them more easily usable by disabled men.

4. Interesting improvements made, often by the disabled themselves, in the tools used in their trade—improvements which allow greater output and less fatigue.

5. Protective equipment for the disabled in factories.

Finally, the permanent museum is to include everything in the line of equipment and instruments which can contribute to the betterment of working conditions for disabled soldiers.

Such are, very briefly, the activities of the Permanent Committee.

The Headquarters

The headquarters of the Committee and the Institute have been established in a mansion which, as our devoted General Secretary, Mr. Charles Krug, has said in his report, suits the purpose perfectly.

The building had to fulfil three conditions: be large enough to accommodate all the various organizations which it must house, and especially to contain the museum of artificial limbs and working appliances for the disabled; be sufficiently central to be easily accessible to all, and especially to the disabled, who dread long and tiresome distances; and finally, be in appearance worthy of an influential interallied organization.

This threefold aim seems to have been realized. The actual choice of an office fell on an edifice situated in the center of Paris, 102 Rue du Bac, on the corner of the Rue de Varenne. This mansion, built under Louis XIV, has kept its character as a high-class dwelling, and some of its salons will enchant lovers of beautiful things.

On the ground floor are the meeting rooms for the committees and a room for demonstrating

artificial limbs. On the mezzanine floor is the office of the General Secretary, surrounded by the various administrative offices of the Permanent Committee. On the second floor is the office of the President of the Committee, a large assembly room decorated with Louis XIV wood carvings and beautiful pediments, and two rooms reserved for the Museum. On the third floor there are three rooms for the Museum and the office of the Director of the Interallied *Review*. On the fourth floor we will install the library, catalogues, and translation work, and the offices of the *Review*. Finally, on the fifth floor are the files, and eventually there will be supplementary offices.

A court and adjoining properties will allow for development. But for that it will be necessary first to acquire the building, which the owner is willing to sell. It will also be necessary to furnish it with modern improvements.

The first act of the Committee was to organize an Interallied Conference in London, which was opened May 20, 1918, by His Royal Highness, the Duke of Connaught. The Conference was accompanied by a remarkable exhibition relative to disabled soldiers, which was visited by Their Majesties the King and Queen of England and by many notable personages. Many important addresses were made on pensions, allocations, re-education, medical, surgical, and prosthetic treatment of the wounded, the blind, and the deaf. The Conference ended on May 25.

The Committee is at present busy with plans for an Interallied Conference which will be held in Rome in May, and is corresponding with the local Committee in order to organize rationally the meetings and exhibition in connection with the Conference.

It is proceeding with arrangements for being recognized as a public utility, and is installing the Museum which already has a large number of appliances from various nations.

The Institute receives numerous visits from notable people of all countries and has striven to give satisfaction to the varied demands which have been made upon it.

We are still studying the very varied problems raised by the future of the disabled. And we believe it fitting to discuss here some of the

questions relating to the protection, direct or indirect, of the disabled which we may hope to effect through the intervention of the Interallied Institute.

Among the soldiers affected by the war, there are not only the wounded, but also the sick, whose health has been shattered as a result of their military service. We must find out whether a department should not be created to look after the tuberculous, the cardiacs, and the neurasthenics, whose economic value has been definitely changed. These questions are of real interest to the victims of industry, for whom we can try to prevent as well as to better these ailments. The prophylaxis of industrial disease, as well as of accidents, should form one of the most important sections of the future work.

The creation at the Institute of laboratories for the study of methods (pathologic, mechanical, tools, etc.), which could help the disabled in their return to work, has also been suggested, but was rejected after long discussion. The Committees thought that this should be left to the initiative of each country, whose accomplishments could be easily communicated to the Interallied Institute and published by it. However, it appeared that in all countries there might be scholars and doctors who should be encouraged in their research into matters of general interest. The Interallied Institute, therefore, decided that it could, under certain conditions to be determined, grant prizes of money or material (raw material, instruments, etc.), to persons belonging to allied nations who were pursuing investigations or producing results of interest to disabled soldiers.

This decision was brought to a vote in the last meeting of the Committee following a proposal of Dr. Michailovitch, representative from Serbia, who reminded the Committee how worthy of the support of the Interallied Institute were the scholars and investigators in small countries, who, though of limited means, would be glad to add their science or ingenuity to the cause of the disabled.

The justice of this observation was very evident, and the Committee could not refuse to give its consent.

On the other hand, one of our excellent colleagues, in the Permanent Committee, Professor Agathonovitch, who represented the same pitiful but valiant Serbia, wrote some months ago, in the *Revue Interalliée*:

The fighters at the Marne and at Verdun, in Flanders and at the Isonzo, at Roudnik and Kaimaktschalan, in Galicia, Caucasia, Palestine, and Mesopotamia fought not only to defend the liberty of their respective countries but also to protect the general principles of human society: Right, Justice, Liberty, and the Brotherhood of free and civilized men.

Professor Agathonovitch proposed that the Committee adopt certain measures in order that the wounded, as the defenders of humanity, might always find in the allied countries the moral and material aid due them. The Committee realized that it was fitting to take this proposition into consideration.

The proposal must be examined with care, for, if it can render the greatest services to our wounded and promote industrial and commercial relations between our countries, it can also give rise to abuses which must be foreseen and prevented.

The disabled soldiers of a nation may reside in allied or neutral countries and in numbers large enough to warrant their binding themselves together for mutual protection. An important association of disabled French soldiers has organized recently in Barcelona, Spain, and has reported its existence to the National Office for Disabled Soldiers at Paris, for the purpose of obtaining a purely moral support. The office has decided to bring the interests of this association to the attention of our diplomatic and consular agents in Spain. This measure is the only one which for the time being can be adopted in neutral countries. But when it is a question of associations which function in allied countries, it seems that the intervention of the Interallied Institute may greatly aid the work of the national agents. The associations should find in the representatives of the Institute, in the countries where they have organized, a truly efficient support.

We give these examples in order to prove that the beneficial activities of the Interallied Institute can be extended to other fields than those of

collecting, analyzing, and publishing documents. Without interfering in any way with the special organizations of each nation, the Institute should establish relations with them through the intermediary of its representatives. It should be able in this way to satisfy the legitimate aspirations of crippled soldiers who wish, for example, to become apprentices in the vocational schools of an allied country or to be appointed commercial or industrial agents.

In order to realize such a vast and generous program as ours must be, we should have the most dependable resources.

In view of the financial situation to which we have previously referred, there is no doubt but that the present budget is quite insufficient for all the needs of the Institute. But we can hope that the different governments will give the Institute the assistance which will enable it to function if its future utility can be made as apparent as the beneficial services which it has already rendered. In order that the proof may be complete and convincing and in order to facilitate a normal and active development of the Institute, a large and immediate endowment is necessary.

But this development involves great initial expense, for acquiring property on the Rue du Bac, and for the construction of lecture halls, rooms for motion picture projections, reading rooms, and workrooms. Furthermore, it is necessary to equip the library, to install an elevator for the cripples, a heating plant, fire extinguishers, and to make other improvements in the building. The cost of the improvements and repairs will not be less than 1,500,000 francs. The special staff is quite insufficient for cataloguing, translating, and attending to the correspondence of such an important organization as ours, and should be greatly increased.

National Committees of propaganda must be organized in all the allied countries for soliciting and receiving gifts and subscriptions which will enable us to continue our work. The Committees will appeal to private organizations and societies which appear interested in our development. The insurance companies and the associations which protect the working men will be

the first to benefit by our studies, and it is their duty to give us financial support.

Be assured that our mission is one of the highest. The states which are beginning their internal and external reorganization express the legitimate desire to be informed about the administrative, economic, and social legislation and methods which are used in other countries. Investigations of this nature should be given the greatest encouragement. They can receive important assistance from societies created for the purpose of collecting and coordinating material on subjects of interest to legislators and economists. In this way, the Interallied Institute, consecrated to the interests of disabled soldiers and later to those of disabled workmen, will prove an extremely useful center of experiment and documentation. As a central and interallied force it will contribute to the reorganization of the world by securing just reparation of the injuries inflicted upon our glorious soldiers.

Disabled soldiers are in reduced situations, individually and socially. They constitute, however, one of the essential elements of the new era which is opening before us, both on account of their number, which is of importance at a time when labor is especially scarce, and on account of their moral value; for men who have fought and suffered as they have will always represent, in the fullest significance of the words, the great idea of duty accomplished. They deserve our greatest and most benevolent protection.

In the United States, you understood the importance of this question when you founded the Red Cross Institute, which, under the intelligent and able direction of Mr. McMurtrie, has realized a part of our ideal. We have already borrowed from the Institute the form of the bibliographical catalogue as devised by the eminent Director, and will use it as a basis for a similar catalogue in the Institute at Paris. But however remarkable the Institute at New York may be, it seems too far away from those who have the greatest need of its assistance, that is, from the European peoples, who are endeavoring to reconstruct, step by step, the foundations of their economic power, so profoundly shaken by more than four years of a devastating war. The

friendly cooperation which already exists between the New York Institute and the Institute at Paris must become even closer in order to bring within reach of these peoples the things they need for carrying on their work.

Institutes which in other fields may play a part similar to that of our Institute will be among the most efficient factors in a permanent and universal peace, and in the formation of a League of Nations, that utopia of yesterday, necessity of today and, let us believe, reality of tomorrow, whose future course of action has been so brilliantly set forth by the illustrious President of the United States. Let us, therefore, hope that others will follow our example.

As I have just said, a great honor has been done Paris and France in the choice of our capital for the permanent seat of the Interallied Committee. This honor touches us deeply, not only because it brings us precious comfort in the midst of our immense grief, but also because it is a striking homage to the courage and energy of our race. The Marne and Verdun have torn away the veil which hid France from the eyes of other nations, and only showed our superficial defects, our heedlessness, and levity. For many people we seemed to wait, with the soul of the conquered, in a languishing inertia for the death of our race. But it was only a deceptive appearance, and today we have rewon, through blood and tears, our conquering soul, and are ready to undergo all struggles in order to regain the rank which belongs to us in the company of nations.

We have paid dearly for this right. I have recently given out the frightful total of our losses, which surpass two million, including those who have been killed, those who have died from wounds, and those who have been seriously wounded. But there are other results of the war which are no less serious. The birth rate which, in 1913, exceeded the death rate by 17,366, has gone down, during the war, so that from the middle of 1914 to the end of 1917 the number of deaths exceeded the number of births by 883,160, without taking into account the 1,400,000 deaths resulting from the war. This frightful condition is due especially to the decrease in the number of births which have been reduced by almost one-half. The effect of this

formidable decrease upon the future will be terrible, for it will affect principally our rural populations and seriously menace our agriculture, one of the most vital resources of France.

The figures mentioned above have only been compiled for the seventy-seven departments which were not invaded. Naturally, we cannot give statistics about the regions occupied by the enemy, but we can estimate that the conditions there will be worse than in the other regions.

The general health condition of the populations which have lived for four years under the German yoke is distressing and seriously compromises their future. The wise and patriotic Director of the Pasteur Institute at Lille, Professor Calmette, who remained at his post during the period of occupation, has informed the Academy of Medicine about the health of the inhabitants of this town.

The population which, before the war, was 220,000 has decreased to 108,000. Insufficient food has multiplied the cases of typhoid fever, of scurvy, of dysentery, and of heart trouble to such an extent that the death rate which formerly was only 19 to 21 per thousand has increased to 41 to 55 per thousand. At the same time the number of births has decreased at a terrifying rate, from 4,885 in 1913 to 609 in 1918! Anæmia has produced an arrestment of growth in the children; young boys of 18 years appear to be only 14, while young girls of the same age seem even younger.

If we do not take immediate measures, says the eminent Professor, this state of physical degeneration will last for three or four generations.

The frightful condition of Lille is that of all the invaded regions and, if there are any remedies they should be applied immediately and rationally.

Finally, our great and beloved Clémenceau has recently, in an interview with the Associated Press, made public the general state of our economic and financial situation which may be summarized as follows: The agricultural and industrial ruin in France, so methodically accomplished by the German armies, is complete in the North, that part of our country in which the elements essential to national vitality are the most developed. On the other hand, Germany,

our most formidable rival, has kept all her mills and farms intact. Our external debt is enormous, while our credit abroad, especially in Russia, has greatly depreciated.

More than any other, our country has been atrociously and profoundly stricken by the abominable war which has swept the earth.

But, after the most cruel of the ordeals through which she has ever passed, France still wishes to live, to live in the radiance of her past and present glory, in order to defend her independence and that of the world, to which she has always and will always consecrate the best in her heart and the best of her forces and energy.

She fervently thanks the allied nations for the sympathy and confidence which they have shown her. She will always prove worthy of it.

List of Members of the Permanent Inter-Allied Committee for the Study of Questions Pertaining to Disabled Soldiers. 1918-1919

BELGIUM

- M. ALLEMAN, Chief of the Educational Department of the Belgian Military Institute at Port-Villez, Vernon (Eure).
- M. E. BRUNET, former Belgian Minister, 14 Bd Emile Augier, Paris.
- Major HAINAUT, State Attaché of the War Ministry, Brussels.
- Major-General DERUETTE, Royal Aide-de-Camp, Commandant of the Belgian Military Institute for Disabled Soldiers and War Orphans, 53 Bd François I^{er}, Havre.
- Dr. LE BRUN, Chief Surgeon of the 2d Class, Military Director of the Institute for Disabled Soldiers and War Orphans, Sainte-Adresse (Seine-Inférieure).
- M. H. LE CLERCQ, Cabinet Secretary of the Ministry of the Interior, 1 Place de l'Industrie, Brussels.
- Lt.-General Dr. L. MELIS, Inspector-General of the Department of Health of the Belgian Army, Malo Les Bains les Dunkirk.
- Dr. STASSEN, Reserve Battalion Surgeon of the 2d Class, Rue des Bons Buveurs, Montéguée les Liège.
- Dr. WAFFELAERT, Regimental Surgeon of the 2d Class, Chief of the Surgical Service of the Hospital of Bon-Secours at Rouen (S.-Inf.).

UNITED STATES

- Mr. JEFFERSON CAFFERY, First Secretary of the American Embassy, 5 Rue de Chaillot, Paris.
- Mr. HOMER FOLKS, American Red Cross, Hotel Regina, Paris.
- Col. JOEL E. GOLDTHWAIT, Consultant at Medical and Surgical Headquarters, A. P. O. 731.
- Mr. WARWICK GREENE, Manufacturer, Hotel de Castille, Rue Cambon, Paris.
- Miss GRACE S. HARPER, Chief of the Bureau for Disabled Soldiers of the American Red Cross, Hotel Regina, Paris.
- Mr. EDWIN L. HOLTON, Special Agent of the Federal Board for Vocational Education, Room 328, American Red Cross Headquarters, 2 Place Rivoli, Paris.
- Dr. A. LAMBERT, American Red Cross, Hotel Regina, Paris.
- Col. WALTER McCAW, Chief Surgeon of the Medical Corps of the American Army, Hotel Regina, Paris.
- Mr. E. C. CARTER, American Y. M. C. A., 31 Avenue Montaigne, Paris.
- Captain H. W. MILLER, American Red Cross, Hotel Regina, Paris.
- Col. GRAYSON M.-P. MURPHY, American Red Cross, Hotel Regina, Paris.
- Lt.-Col. TH. SALMON, American G. O. G.
- Mr. ALVAN FRANCIS SANBORN, Publicity, 3 bis Bd des Marronniers, Draveil (Seine & O).

FRANCE

- M. HENRY BERENGER, Senator, President of the Inter-ministerial Conference of Labor, 16 Place de la Madeleine, Paris.
- Dr. BOURRILLON, Former Deputy, Director of the National Institute of Disabled Soldiers, 14 Rue du Val d'Osne, St. Maurice (Seine).
- M. BRIEUX, of the French Academy, 26 Rue Victor Massé, Paris.
- Dr. BROUARDEL, Hospital Doctor, 94 Bd Flandrin, Paris.
- Dr. JEAN CAMUS, Professor of the Faculty of Medicine, Paris, 71 Rue de Grenelle.
- M. HONNORAT, Deputy, 29 Rue Le Pelletier.
- Major Dr. JEANBREAU, Under-Secretary of State of the Department of Health, 65 Rue de Varenne, Paris.
- M. CH. KRUG, President of the Conference of Institutions interested in the War Blinded, 102 Rue du Bac, Paris.
- M. LUCIEN MARCH, Director of General Statistics in France, 97 Quai d'Orsay, Paris.
- General MALLETERRE, President of the Association for Disabled Soldiers, 6 Bd des Invalides, Paris.

- M. EMILE VALLON, General Secretary of the National Office for Disabled and Discharged Soldiers, 49 Rue Caulincourt, Paris.
- Lieut. DE VILLE CHABROLLE, Section Chief of the National Office, 6 Avenue Contant Coquelin, Paris.

GREAT BRITAIN

- Mr. JOHN GALSWORTHY, Wingstone, Manaton, Nr Moretonhampstead, Devonshire.
- Col. Sir ARTHUR GRIFFITH-BOSCAWEN, Parliamentary Secretary to the Ministry of Pensions, Westminster House, Milbank, London.
- Mr. PERCY BOYDEN, Fleet Surgeon H.M.S. "Excellent," Portsmouth.
- Major F. H. BRERETON, R. A. M. C., Brook House, Francis Street, London, W. C. 1.
- Lord CHARNWOOD, 108 Eaton Square, London.
- Lt.-General T. H. J. C. GOODWIN, C.B., Adastral House, Victoria Embankment, London.
- Col. Sir ROBERT JONES, C.B., 14 Nelson Street, Liverpool.
- Major ROBERT MITCHELL, Advisor to the Ministry of Pensions with regard to the Training of Disabled Men, Westminster House, Milbank, London.
- Major-General Sir B. G. A. MOYNIHAN, C.B., 33 Park Square, Leeds.
- Surgeon-General RUSSELL, War Office, London.

DOMINIONS

- Colonel FINLEY, Canadian Army Medical Corps, 133 Oxford Street, London.
- Sir THOMAS MACKENZIE, Government Offices of New Zealand, The Strand, London.
- Col. MURRAY MOLAREH, C.A.M.C., Granville Canadian Special Hospital, Buxton, Derbyshire.
- General RICHARDS, Government Offices of New Zealand, The Strand, London.
- Lt.-Col. THORNTON, Commandant of the South African Hospital, Richmond Park, London.

ITALY

- M. FOSCOLO BARGONI, Director of National Insurance for Industrial Accidents, 3 Piazza Cavour, Rome.
- Professor ENRICO BURCI, Special Inspector of the Department of Aid to Disabled Soldiers, Military Palace, Florence.
- The Duke of CAMASTRA, 3 Rue Michel Ange, Paris.
- M. GIOVANNI CHEVALEY, Professor of Engineering at the University, 16 Via Maria Vittoria, Turin.
- Professor PIO FOA, Senator, 40 Corso Valentino, Turin.
- Professor RICARDO GALEAZZI, 9 Via Domodossola, Milan.

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Lt.-Col. Professor GENNARO LAGHEZZA, Ministry of Marine, Rome.

Madame Professor L. MONDOLFO, Institute for the Blind, 23 Via Bianca Maria, Milan.

Professor ETTORE LEVI, 11 Piazza Savaranola, Florence.

Dr. GUIDO PARDO, Italian Delegation, Allied Maritime Transport Council, Lancaster House, St. James, London, S.W.1.

Dr. V. PUTTI, Special Professor of Orthopedics, Director of the Institute Rizzoli, Bologna.

Major Dr. JEAN SELVI, Royal War Ministry, Rome.

MONTENEGRO

Dr. MAROULIS, Hôtel des Deux Mondes, Avenue de l'Opera, Paris.

Comm. MILOUTINE TOMANOVITCH, 132 Rue Perronat, Neuilly-sur-Seine.

PORTUGAL

Dr. DE COSTA FERREIRO, Cas Pia, Lisbon.

Dr. FRANCISCO FORMIDAL LUZES, 24 Rua des Pracas, Lisbon.

Dr. ALFREDO TOVAR DE LEMOS, Junior Director of the Institute for Disabled Soldiers, 110 Rua Emonda, Lisbon.

Dr. JOSE PONTES, 69 Rua do Carmo, 2d Amadora, Lisbon.

RUMANIA

Dr. MARINESCO, Professor of Pathology in the University Laboratory, Maudsley Hospital, Denmark Hill, London.

RUSSIA

Professor BAGEMOFF, Russian Red Cross, 34 Rue de Chateaudun, Paris.

M. COLOUBEFF, Delegate of the Russian Red Cross, 34 Rue de Chateaudun, Paris.

SERBIA

Professor RADOSLAV AGATHOJOVITCH, Serbian Deputy, Nisch.

M. SAVA OUROTCHEVITCH, Professor in Belgrade University, Delegate of the Serbian Ministry of Public Instruction in France, 96 Bd Raspail, Paris.

Col. Dr. SOUBROTITCH, Delegate of the Serbian War Ministry, 4 or 6 Rue Boccador, Paris.

M. VELINAR S. YANKOVITCH, Serbian Minister of Commerce, 7 Rue Léonce Reynaud, Paris.

Encouragement of Men to Undertake Training

M. Edmond Dronsart

Director, École Professionnelle des Blessés, Montpellier, France



Discussion at the International Conference on Rehabilitation of the Disabled, Section XI,
New York, March 18 to 21, 1919

In France, as in all countries where re-education is not obligatory, it has naturally been necessary to devise methods of inducing the disabled soldiers to enter our vocational schools.

The number of disabled men who attend these courses is still insufficient at the present moment. The question of propaganda has, therefore, been a very important one, and since the time when the organization of our schools was given its definite shape, all the efforts of the authorities, as well as of private organizations, have been directed towards increasing the number of men attending our re-educational institutions.

To attain this end, we can employ two important means:

1. Bring the organization of the schools to the highest possible degree of perfection, so as to secure the full confidence of the disabled and to make the residence at the schools as attractive as possible.

2. Acquaint all the wounded and their families with the advantages that they may gain from re-education.

This program has been fully carried out in France, and I wish to add that the American Red Cross and, in particular, Miss Grace Harper, who has been directing the Bureau of Crippled Soldiers in Paris, have been of the greatest assistance to us in accomplishing this task.

1. All military discipline has been banished from our re-educational schools. The discipline is based upon mutual confidence between the disabled and those in charge of their education. Great care has been taken in the equipment of the buildings. Provisions have been made to offer the men various recreations during their

free hours (auditoriums, canteens, papers, magazines, concerts, moving pictures, etc.).

In some of the schools there have been created dramatic and choral clubs, alumni associations, school papers.

In addition, several institutions have endeavored to develop powerful moral assistance to the pupils during their residence at the school and even after graduation. It is essential that the re-educational schools give the greatest attention to the moral and intellectual uplift of their pupils.

2. *Propaganda.* This propaganda must start at the earliest moment, while the man is at the hospital. Immediately after he has been injured, the man must be given exact information as to the opportunities for re-education that are open to him. It is this principle that has inspired the propaganda organized in France with the aid of the American Red Cross, which in fact, had been the initiator in this matter.

This propaganda has been conducted in the following way:

1. Distribution of a very large number of illustrated hand-bills in all French hospitals.

2. Illustrated posters displayed in all French towns.

3. Distribution of leaflets and pamphlets on re-education.

4. The American Red Cross has organized a contest between the pupils of the re-educational schools in the writing of a letter on the following subject: "A pupil of a vocational school for wounded soldiers writes to a friend who has been recently wounded and is under treatment at a hospital, this friend having previously written to him telling of his grief and of his concern for the future. The first man tells his friend all that vocational re-education can do for him and endeavors to restore his confidence in the future."

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This letter will be printed, signed by the name of the man who wins the contest, and mailed to all the wounded men in France.

5. Lectures with slides and films have been organized in the hospitals and in all important localities.

This phase of the propaganda work has been particularly interesting and has given excellent results.

The French schools will keep up and increase their efforts in this line, for propaganda is absolutely indispensable.

I suggest that this conference recommend that propaganda in favor of re-education shall be intensified in all Allied countries. This is, in our opinion, the most important problem of the present moment.

GIFT
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INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Influence of the Discharged Disabled Soldier in France

M. Edmond Dronsart

Director, École Professionnelle des Blessés, Montpellier, France

Address for the International Conference on Rehabilitation of the Disabled, Section XVII,
New York, March 18 to March 21, 1919

French disabled soldiers, like those of all other countries, have rightly believed that it was a necessity for them to unite in associations whose purpose would be to protect the rights of the disabled and to furnish mutual aid.

At the present moment there exist in France three large associations, namely: The *Association des Mutilés de la Guerre*; the *Union nationale des Mutilés et Réformés de la Grande Guerre*; the *Fédération des Mutilés, Anciens Combattants, Veuves et Orphelins de la Guerre*.

These associations have included in their program: moral and material aid to the disabled, placement, prosthesis, propaganda in favor of re-education.

The activities of these associations are very extensive; they are endeavoring to organize branches in the several departments, and these

branches, in their turn, are founding local committees.

The authorities have in a certain way recognized these associations by reserving places for delegates of these organizations in the National Office and in the departmental committees.

It is to be regretted that these associations have not given more attention to the creation of cooperative purchasing agencies for the re-educated men. That would be an enterprise of great value.

Among the associations of disabled men we should mention the alumni associations formed by graduates from several re-educational schools (Montpellier, Lyons, Limoges). These associations have been of great service with regard to placement, propaganda, in favor of re-education, and creation of purchasing agencies.



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INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Re-education of Mutilés in the School at Montpellier

M. Edmond Dronsart

Director, École Professionnelle des Blessés, Montpellier, France



A Paper presented at the International Conference on Rehabilitation of the Disabled, Section XIV, New York, March 18 to March 21, 1919

It is a great pleasure to us to be able to give an account of the organization of our professional school for wounded of the 16th Region at Montpellier, but we feel it our duty to state before beginning that our institution does not differ in its entirety from any other similar institution in France. The problem solved is everywhere identical, the methods are much the same in all the Regions, and the devotion of all on whom is conferred the honor of directing these Schools is everywhere equally marked, and everywhere the results obtained are equally satisfactory.

But, if at the same time we think it advisable to publish this report, it is because we consider that our Institution has this characteristic that it combines in some way in its organization all previous systems.

As a matter of fact our School, the outcome of private initiative is, at the present moment, connected with all the administrative powers; with the Commission of Hospitals, with the General Councils of six departments, with the Minister of Interior, with the National Office for Mutilés, with the Military Medical Service. It is, as it were, the synthesis of all the organizations, and, after a period of four years of work, we realize the great advantages we have gained from these different supports.

The School of Montpellier was formed by the 'Œuvre des Mutilés de la Guerre de la 16th Région' which toward the end of 1914 (some months after the outbreak of war) had already established itself, and had sketched the plan of operation as follows:

1. To furnish *mutilés* belonging to the Region with the latest orthopedic appliances.
2. To find places for those whose infirmities still enable them to accept employment.

3. To teach a new trade to those wounded who are obliged to leave their former professions.

Our start was naturally on a very small scale, for at that time the generous aid from the State to re-educational works was not officially recognized. At the same time the authorities of the region, owing to the fortunate energy of M. Pejet, Mayor of Montpellier, had quickly understood that this work was worth developing on a large scale, and that events in other directions made it necessary for us to put all our efforts into this issue.

For that reason it was decided to build the School from roof to cellar on a large piece of land allowing for all necessary developments, and our establishment was built precisely with this object in view. Before long the Minister of Interior announced his generous intentions with regard to the operating expenses in our Schools, and—then—we could consider the future with confidence.

The Minister undertook the responsibility of most of the expenses of upkeep and instruction; but the private Œuvre undertook to support all the expenses of construction and fitting up of the buildings. In this way the private generosity of the inhabitants of Montpellier and the neighborhood, allowed us to make installations up to a value of more than 300,000 francs.

We had hardly begun our work and received our first pupils, than the General Councils of six departments of the Region, the Chamber of Commerce and the Communes made us some very important subventions and in that way we were enabled to completely carry out our program of organizing a large school.

Indeed we had entirely understood, at our first contact with the Mutilés, that it was necessary—

for a complete success—to form some ‘large schools’, with numerous sections of apprenticeship enabling them to receive a large number of *mutilés*. The advantages are obvious. The *mutilé* on entering the school has a better chance of making up his mind if there is a variety of trades being taught; he will more readily find a profession exactly suitable to his physical capabilities and his tastes.

Emulation—an essential factor in our schools, is much more noticeable in important Centers; here also there is a spirit of spontaneous gaiety which makes these establishments very attractive.

Besides this there is another important factor. Wounded men prefer to be educated in a school of some importance; they derive from this idea a moral comfort which one can well understand.

Of course small schools are of great value and utility, and it is particularly interesting to note the results obtained by institutions which have specialized in the apprenticeship of one profession.

Before the end of 1915 we had traced our complete outline of work and built most of our premises. Our buildings, formed of separate pavilions, on one floor, are arranged in a park of three hectares, and include all the premises for classes, workshops, dormitories, kitchens, refractories, linen-room, stores, depots, etc. We found ourselves obliged to arrange the premises according to the needs of our boarders, avoiding stairs as much as possible, and often replacing them by inclined planes to make the access to the class-rooms easier for those amputated men who have to wear appliances or use little carriages for getting about.

Our installations once complete, we were enabled to organize twenty-one sections for apprenticeship or instruction, to lodge and support 330 boarders, and to give vocational education to nearly 500 *mutilés*.

We mentioned before that our School had been organized under the patronage of nearly all the public bodies; the Medical Service had not at the beginning been directly interested in our work; as a matter of fact our schools received primarily discharged *mutilés* and accepted—but non-officially—the non-discharged wounded men still receiving treatment in hospitals.

The circular letter of April 21, 1916, which organized the Centers of prosthetic appliances in France allowed the Medical Service to come in direct contact with us, for on account of an arrangement which will be explained later on, our Institution became the ‘Official Service of Professional Re-education of the Medical Service,’ and in this way our organization was linked up with all the Services which—in France—direct re-education.

Owing to this, our labors were always very much concentrated, all the re-education of *mutilés* in our important Region being carried out in a single school; every form of assistance was placed at our disposal and we have not suffered from overlapping which paralyzes and prevents all progress.

We must also add that we owe the prosperity of our establishment to the fact that side by side with the official school directed by the various administrations above mentioned there is the private ‘Œuvre des Mutilés de la XVI Région’, which after having constructed and equipped its premises is carrying out the most capable and beneficial social work. Being a private ‘Œuvre’ it is able to act rapidly, without being blocked by tiresome administrative formalities, and is able to smooth away all sorts of difficulties.

We give below a summary of the jurisdiction of the vocational School for Wounded at Montpellier.

VOCATIONAL SCHOOL FOR WOUNDED OF THE 16TH REGION

(Aude, Aveyron, Hérault, Lozère, Pyrénées,
Orientales, Tarn at Montpellier)

Conditions of Admission

Those who can be admitted by direct request:

1. Soldiers discharged for war wounds natives or residents of the 16th Region (Aude Aveyron, Hérault, Lozère, Pyrénées Orientales, Tarn).
2. Soldiers discharged for war wounds, belonging to the invaded districts.

Mutilés fulfilling these conditions should address their request to the Director of the School, Rue Auguste-Broussonnet, Montpellier.

Admission is granted by the Council of the School; it is only confirmed after the visit of the Head Doctor. Any candidate afflicted with a contagious disease will be absolutely refused admittance.

Soldiers, discharged No. 1, belonging to other districts, should make their application to the National Office for Mutilés, giving their reasons for wishing to enter the Montpellier School. The Office passes on this application to the Director of the School.

The system of the School is made up of boarders and day-scholars. Discharged soldiers only are admitted to the School as boarders. The classes may be attended by:

1. All wounded who are still receiving treatment in the medical formations in the town and at the Centers of discharge.

2. Discharged wounded men living in Montpellier.

On account of the organization of work in the School and thanks to the subsidies from the 'local' 'Œuvre des Mutilés' boarders can receive the whole of their pension, bonus or military allowance. Every pupil can leave the school when he wishes to. Also the Council of the School has the power to send away a pupil when he considers it desirable.

The School receives partial boarders as well.

TEACHING AND APPRENTICESHIP

The teaching of the School includes the following sections:

Shoe-making.
Cutting and making jackets.
Joinery, cabinet-making, varnishing.
Wood-turning.
Sculpture in wood.
'Adjustage' and mechanics.
Metal-turning.
Automobile mechanics.
Tin-ware working.
Industrial drawing.
Saddlery and harness-making.
Making of orthopedic appliances.
Dental mechanics.
Book-binding, paper and cardboard work.
Hair-dressing and 'postiches'.
Agricultural work with the aid of orthopedic appliances.

Horticulture.

Bookkeeping, steno-dactylography.

French, arithmetic, and geography, English, Russian.
Preparatory courses, general instruction, writing courses and re-education of the left hand.

Other sections can be created as they are needed. Tools and materials are placed gratuitously at the disposal of the pupils. Also they all receive books and the standard supplies which are necessary.

Lodging

The dormitories, lighted by electricity, and heated, are large rooms specially planned for the School. Beds and bedding are new. A bed-table and a new cupboard are assigned to each pupil. In an adjoining room toilet-basins receive water from the town; the sanitary arrangements, specially constructed with modern hydraulic pressure, are kept strictly clean. Each pupil is allowed a bath-douche once a week.

Clothing

Every pupil receives on his arrival body linen, a walking-suit in dark blue cloth made to measure in a tailor's workshop, a uniform cap, a working-suit of blue canvas, shoes made to measure in the shoe-maker's shop.

When opportunity occurs, the orthopedic appliances are improved to enable the pupil to work at his trade.

Food

The meals consist of breakfast at 7 a. m., luncheon at 11:30, and dinner at 5 o'clock.

The School contains large dining-halls which are very well arranged, where meals are served with every necessary comfort.

The food gives every satisfaction from the point of view of quality, quantity, and variety.

Medical Care

The Head Doctor is responsible for the medical care of the pupils, who in case of necessity are nursed in the town hospitals.

Recreations

The School has at its disposal large courtyards and gardens provided with necessary benches and numerous games.

A large 'salle de fêtes' with a library, games and writing-tables are also placed at the disposal of the pupils.

Lectures and concerts are given there regularly.

Tickets for theaters and cinemas are offered to a certain number of pupils on Thursdays and Sundays.

Holidays and Outings

The pupils are free during the whole of Sunday (from seven to midnight) and in the afternoon of Thursday (from midday to midnight) and from Saturday (from five to midnight). The Director can grant leave from Saturday evening to Monday morning.

Discipline

Up to the present day, in spite of a considerable number of pupils, discipline has only been a matter of mutual understanding between the Director and the pupils, to keep the school in good order, to maintain a strict cleanliness and to make the best use of time in the interest of all concerned. But drunkenness and disturbances have in no case been tolerated. In the interest of discipline, the Director has been obliged to dismiss immediately any pupils who interfere with the working of the establishment.

Diplomas and Bounties on Leaving

Examinations on leaving are organized for all the sections, pupils who give satisfactory results receive a diploma of professional capability, and those in manual sections receive as well a shield inscribed 'Diploma pupil from the Professional School of Wounded at Montpellier,' which they will be able later to place over the front of their future workshop. The 'Œuvre des Mutilés' gives to all the pupils who are leaving the necessary tools for the exercise of their trade and a gift of material according to their length of sojourn in the school, their conduct, their application, and their regular attendance at evening classes.

Placing

The local 'Œuvre des Mutilés' has started an office for placing pupils. The sympathy which is felt for war *mutilés*, and the practical energy of this office enables one to affirm confidently

that the aptitudes of each man will find its employment.

The School is administered by a Council of ten members, who meet regularly to take all important decisions.

Council of the School

- M. PEZZET, Mayor of Montpellier, Député de l'Hérault, President de la Commission des Hospices.
- M. ARNAVIELHE, Secrétaire de la Chambre de Commerce.
- M. EVESQUE, Chef de Division à la Prefecture.
- M. ESTOR, Professeur à la Faculté, Chef du Centre D'Apareillage de la XVI^e Région.
- M. JEANBRAU, Professeur à la Faculté, Médecin-Chef de l'École.
- M. LAGATU, Professeur à l'École d'Agriculture, Secrétaire Général de l'Œuvre des Mutilés.
- M. MILHAUD, Avocat, Ancien bâtonnier.
- M. TEDENAT, Administrateur des Hospices, Professeur à la Faculté.
- M. TISSIE, Administrateur des Hospices.
- M. DROMSART, Directeur de l'École, Secrétaire du Conseil.

RE-EDUCATION

Apprenticeship

We have indicated above the different sections of apprenticeship which function in the School of Montpellier. The choice of these sections has been made after a serious investigation, taking into account the character and the needs of the locality. As a matter of fact, the region of the South of France is entirely agricultural, and it is of greatest importance to keep as much as possible farmers and their families in the country. We have therefore chosen almost exclusively those trades which can be taught in the country, and we think it may be useful to make known the results of the investigations that we have made in order to ascertain exactly which professions would be the most useful and in which it would be easiest to find employment for *mutilés*.

We have addressed the following circular to all the Mayors of the Region:

"The Commission of rural placement for war *mutilés* would be much obliged if you will kindly inform it if in your Commune there would be possibilities of placing several pupils

leaving the School of Mutilés of Montpellier with a certificate of professional capacity. The questionnaire attached will enable you to get any information you may require on the subject, and to answer those questions which will interest you.

"Besides which, the 'Oeuvre des Mutilés' would be glad to have your advice on the facilities for procuring this labor in your Commune, either during the war to supplement momentarily the employers or the workmen who are mobilized or to establish definitely those *mutilés* who could take the place of the employers or workmen who have been unfortunately killed during the war.

Questionnaire

Name of the Commune

Number of Inhabitants

How many, in your Commune, are the workshops of:

(Here follows the list of all the trades)

Do you think that a War *mutilé* holding the certificate of professional capability which guarantees his knowledge of a trade could with probabilities of success start work in your Commune as:

(Here follows the list of trades)

The 'Oeuvre des Mutilés' would like to know if on account of the state of war there should happen to be in your Commune any closing down of several artisans' workshops, and which professions they would be; they would be glad to be informed also of these events as soon as they take place.

We are therefore stimulated by the results of this inquiry to guide the choice of our sections, and we are happy to be able to state that the experience has quite confirmed our choice.

We have also decided not to teach anything but *men's trades*. This term may appear strange, it is however exact. Some of the 'Oeuvre d'Assistance aux Mutilés' have at times followed a very dangerous course. Certain people who are most devoted, but who are not sufficiently practical, have wished to teach our *mutilés* a number of small trades which are probably very pleasant and which appeal to the visitors who are not forewarned as being brilliant, but which in our opinion, do not sufficiently meet the needs of our

times. Is it for example very necessary to educate men in making fancy carpets, imitation jewelry, pewter work, or in making little fragile toys? The economic situation of the country after the war will be grave. Labor which was already defective before the war will be more scarce after peace is signed; all branches of industry and agriculture will have suffered; for the sake of the prosperity of the country, it is necessary that every one should coöperate in helping to bring about an economic revival. Consequently, luxury industries and small secondary trades will, we hope, be abandoned for some time to come.

To sum up—if we really wish to be useful to *mutilés* and to assure them means of gaining their livelihood, we should guide them towards ordinary serviceable occupations.

Let us also think for a moment of feminine labor. After the war (and it will also be a necessity), women will be occupied with a large number of undertakings.

Certainly, they should be occupied in all sorts of small businesses and employments, *that* would be only justice, but let the men—again we assert that a re-educated *mutilé* can become a complete *man*—let the men then take up the trades which will require initiative, strength and method. Let us guide the wounded towards the 'bons métiers' of olden times, let us make of them complete and real artisans; then only shall we have accomplished a really useful work, we shall have worked efficaciously towards the 'Renaissance' of the country.

On the subject of the methods of teaching and apprenticeship, we will only say a few words. As a matter of fact one single principle has guided the whole of our organization, that is to inspire one's mind with practical realities and to put our methods in tune with these realities. We have therefore banished all useless preliminaries of apprenticeship, so much venerated in schools for adults, and in all our sections we have endeavored as quickly as possible to give our pupils a *real work* and to give them the impression that they are carrying out something that is 'true.'

For there is a psychological factor which seems to us of the greatest importance in the progress

of pupils we are able to assert that we have had in our schools the pick of the *mutilés*, those who really wish to work. Those wounded men were before the war workmen who were sincerely devoted to their trades. In order to arrive at good results in re-education, we consider that we should encourage them as quickly as possible to get fond of their new trades, in order that they may rapidly learn to prefer it to the old one. It is therefore essential, and naturally this is a difficult job that the beginnings of the apprenticeship should be surrounded by special care.

In order to get all the necessary results out of this apprenticeship, we have from the very beginning formed compulsory theoretical courses for the pupils of the manual section. These courses, which are: drawing (industrial) technology, electricity, mechanics, general instruction and anatomy (for the orthopedic pupils) are intended to make still more complete the technical education of our future work to enable them to raise themselves easily to a higher standard of efficiency and in numerous cases to make up by added scientific knowledge for the state of physical inferiority in which they find themselves.

We must add that convinced of the influence of general instruction on vocational education and the general moral uplifting of the individual, we insist with enthusiasm on making these principles understood by our wounded, and simply by using persuasion with those who are interested, we have arrived at results which give us the greatest satisfaction.

We also think it necessary to add that we finish our teaching with regular 'causeries', with lantern slides or cinematograph films, and that we enable them to make visits to workshops, munition factories, and industrial enterprises at regular intervals.

There is a point which may seem to many only secondary, but which, to us, is of the greatest importance, that is the amount earned by the pupils. In the majority of re-educational institutions, it is an indisputable fact that it is essential to give payment to apprentices for their work.

I hasten to add that in our School of Montpellier we have always had quite a different

opinion and that we give no salary to our pupils.

In the first place, we consider that there is a great deal of inconvenience connected with the paying system. If the payment is allotted according to the work produced, the pupil has a tendency to prefer that work which procures for him the largest salary rather than the one which, though less remunerative, is advantageous for his professional re-education; added to that a certain amount of jealousy—which must not be confused with ambition—may spring up among the pupils of the same section. The arrangement of the necessary work for the distribution of bonuses takes up a great deal of the professor's time to the detriment of the work of the school.

Besides that, in not paying our *mutilés*, we help to make clear to them the nobility of the task they have undertaken, to show them how in every particular, manual labor is equal to intellectual work which necessitates a real study, not necessarily demanding remuneration. The same principle guided us in the beginning when we suppressed the terms *workman* and *apprentices*, and substituted *pupils* and *professors*, not *foreman*.

And we must add that the *mutilés* themselves have appreciated our methods in spite of the suppression of salaries, which is proved by the fact that our school is one of the most popular in France.

We indicate further on how we have replaced the payment system by our methods.

Before closing this chapter it is necessary to point out the work that we have accomplished in the re-adaptation to work of men whose arms or hands have been amputated; for this we have had special appliances constructed.

Another report will have to be made on this subject; I content myself in mentioning that the appliances below mentioned have been made in our school:

- Pliers for mechanic-fitters.
- Articulated pail for farmers.
- Ring with shoulder-strap for farmers.
- Pannikin for wood-turners.
- Paper-weight.
- Appliance for motor-driver.
- Different appliances for cases of double amputation.

More than four hundred amputated cases who have received appliances from the Service de Santé have been furnished with those made by our school, and in this way have been able successfully to take up their old manual trades.

PLACEMENT

The principal object of our effort is of course in placing the *mutilés*; we have therefore paid particular attention to this part of the work, in order to insure every possible guarantee. The first principle admitted was the following:

No pupil can be placed through the efforts of the school unless he has justified his professional value before an examining jury appointed especially for that purpose. The diploma is only granted after a very strict examination in connection with which the jury takes into consideration nothing but the actual re-education of the candidate. Our 'Diplomés' may have the proud knowledge that they owe their distinction not merely to the honorable qualities and circumstances for which the school is in existence, but to their own professional capability, clearly demonstrated by professors and examiners who have a very high standard of criticism.

The diplomas carry the words 'fair', 'good', or 'very good', and in some cases 'very good with congratulations of the jury'. In order to add value to these certificates, we always present them with a certain amount of official ceremony. Twice a year a festival is arranged under the patronage of the particularly high authority qualified for the task, and to this are invited all the notabilities of the district: Professors, members of the council of administration, members of the 'Œuvre', and the families of the pupils. Former pupils, who are also invited, seldom miss the pleasure of returning to visit their old friends and masters. A dinner altogether encourages reminiscences, and an impromptu concert adds gaiety to the natural French courage, both among soldiers and civilians.

Before our 'Diplomés' definitely leave the school, we give them all the tools necessary in the exercise of their new trades, and they are also given a bonus in materials, which is distributed according to their length of time at the school,

their conduct, their industry, their family situation, and their attendance at evening classes. We look upon this bonus as being superior to the system of salaries, inasmuch as it is given to the most worthy pupils (seeing that they are all 'Diplomés'), and that it is a reward for effort, rather than a reward for the work produced.

Placement, properly speaking, is carried out under ordinary conditions, and we hasten to add that the great sympathy which is felt for the *mutilés* in France enables us to find work for all re-educated wounded men without any difficulty.

We keep before our minds with regard to these placements two important principles: To encourage the *mutilé* to return to his native town and to find market value for his work.

As a matter of fact we are more and more certain that a *mutilé* who has been re-educated in the trade to which he is exactly adapted according to his present conditions, can become from an occupational point of view, a sound man, and that therefore he has a perfect right to the same salary as a man who is normal.

Of course we take the greatest trouble in seeking out employment for our men, and our professors and heads of workshops very often take the pupils themselves to their new employer in order to make sure that the necessary stipulations will be observed, and above all, to demonstrate to the employer and to the *mutilés* that the school can always be relied upon for powerful and active support.

In any case, after his departure from the school, the pupil remains in constant touch with us, whether he is a workman or whether he is established as an employer. Our professors still continue to give them their professional advice, and our Committee still keeps up its social work in their behalf. Our pupils come and look us up when they are in difficulties, and when our moral or material aid is necessary, and we always do our best to deserve their confidence.

Besides that, we always keep ourselves posted about their affairs by visits made to them from time to time by their old professors.

The Union of old pupils and the 'Journal' of which we will speak further on, help us also to keep up this line of action which we consider so indispensable, and without which we do not

think that the placement of *mutilés* would be called complete.

OUR CONNECTIONS WITH THE MILITARY MEDICAL SERVICE

As we have already stated in the first chapter, our school can rely upon the service of professional re-education from the 'Centre d'Appareillage'. As a matter of fact, the organization of the Centers of Appareillage in France had as a base this principle—"before his discharge and during the fitting of his appliances the *mutilé* shall receive functional and vocational re-education."

This organization presented, in fact, a good many advantages, but it could show itself as incomplete in such centers where, after his discharge, the *mutilé* did not find a system which could continue the work of the Centre d'Appareillage. Besides this, the fact of changing methods and professors may be injurious to the progress of the pupil.

As far as we are concerned, we have endeavored to suppress these inconveniences by making the medical service understand that our civil school may become at the same time a military center for vocational re-education.

We give below an extract from a contract which was entered into between our institution and a competent military authority:

Wishing to help the medical service and its organization to the utmost of our power, we are quite disposed to continue the work that we have begun and to extend it as necessity may arise.

Our teaching personnel is composed of thirty-nine professors. It is, therefore, sufficient for a large number of pupils. Our premises can accommodate five hundred pupils, but the large grounds which surround the buildings enable a very considerable extension to be made.

We feel inclined to place gratuitously the whole of this installation at the disposal of the medical service, and at the same time to continue paying the working expenses of the school.

The installation of the anticipated center comprised in our school would have this great advantage, it would enable discharged *mutilés* to remain in our establishment as boarders. Besides the three months of re-education planned by the scheme, they would be able to continue their apprenticeship in the same workshops, with the same professors, following the same methods—conditions which are of the greatest importance.

In order to enable us to continue along the same lines, which are the greatest benefit to the *mutilés*, we desire that our organization may be kept up exactly as it is, that all our sections should remain intact, the whole of our administrative and teaching staff should be maintained.

All final decisions relative to the work at the school will always be taken with the consent of the council of administration or its delegates.

Since the first of September, 1916, this new service has begun to operate and gives the very best results. We have thus been able to solve very rapidly, according to the wish of the Sous Secrétaire d'Etat du Service de Santé, the problem of compulsory professional re-education, for all those wounded men who are waiting for their appliances and are unable to exercise their old trades.

This organization has given us the very best results, but at the same time we are obliged to remark that for the last three years these discharged wounded men who, no longer worried about their military situation, and not obliged to submit to visits for appliances or for discharge, are about the only ones who are able to profit fully by professional re-education. Also we consider that to give re-education before discharge is excellent from the point of view of propaganda, for it enables us to explain re-education to all the wounded men before they leave the hospital, and to point out to them the benefits they would be able to derive from our schools after their discharge.

DISCIPLINE AND MORALE

We hope we may be forgiven for setting down very abruptly a statement which we consider essential: "It is necessary for the smooth working of schools of re-education and for the maintenance of a good morale, without which everything is useless, to banish from our school all *military* discipline." One must, on the other hand, substitute a family discipline based on mutual understanding.

Indeed, it is necessary to arrive at a true understanding of the psychology of the *mutilés*, who wish to lead a peaceful and agreeable life free from all useless worries, who certainly have a good idea of the rights they possess, but who accept with a great deal of courage the duties

they are called upon to fulfil. We have then done all in our power to create this family discipline which we have to exercise in surroundings which we are obliged to make bright and cheerful, and we do not hesitate to declare that this question of moral influence over our pupils has absorbed us in just the same degree as the usual professional teaching, and more and more we have the conviction that the success of re-education is only possible under these conditions.

Certain steps that we have taken to arrive at this end will perhaps appear of very trifling importance and even superfluous to those who have not actually lived the life of our schools, I venture to state—and I base my assertion on the experience of the past four years—but everything has tended directly to make our organization more stable.

Our program may be summed up as follows:

To make the school very cheerful, to increase good influence and distractions, in order to make the school more popular and to encourage the taste for work.

Our buildings which have been constructed specially for this purpose are very cheerful: bright colors predominate; each pavilion is surrounded by gardens which are carefully tended by the pupils of our horticultural section. We have planted where possible plants and flowers, we have arranged in different corners of our park little summer-houses and sheltered nooks which make pleasant meeting-places for our boarders during the summer days.

These are trifles, you may say. I can only give as a proof of the real pleasure that our *mutilés* take in these gardens, the great care they lavish in keeping them in order and the cleanliness which we insist upon.

We have posted in all our halls mottos, posters, and pictures on moral education, and in order to keep up this kind of moral influence, one of our lady assistants is responsible for keeping in close touch with our pupils; she lives in their midst, takes part in their recreations, which she very often directs, she is acquainted with most of the families of our boarders, she interests herself in the smallest incidents of their daily lives, and has, therefore, become a universal confidante.

I am not in favor of close feminine coöperation in vocational re-education, properly speaking, on account of the essentially technical nature of this work, but I consider that within the limits above mentioned, the part of a woman is most valuable in our institutions.

LIBRARY

We have, of course, not invented anything new in starting in our school a library, which contains at the same time a large number of technical and literary works. A library fulfils in every re-education school a double function, that of completing the technical education of the pupils, and of enabling them to secure a healthy distraction by reading carefully chosen books. But it has always been necessary to have recourse to all sorts of means to attract and keep boarders in our library.

I will only mention one that we have used in order to make them read the works of some of the most important authors which every Frenchman ought to know.

We arranged causeries on the history of literature: very simple little lectures without any unnecessary pedantry. At every meeting the lecturer spoke of several authors, made a short speech particularly carefully thought out, and insisted that his listeners should read the works he mentioned as quickly as possible.

The very day after each lecture, we would announce that a number of important books by the author lectured about the day before had been placed in the library; and every time our pupils, delighted with the advice of the lecturer, would come in large numbers to borrow these books. In this manner we have obtained most excellent results.

SALLE DE RÉCRÉATION

After hours of work are finished, the most delightful and active center of our School is the large recreation hall, where are situated on one side the canteen with all sorts of games, and on the other writing and reading tables where are placed various newspapers and magazines, and this hall is used also as a *salle de fêtes*.

Our 'Œuvre des Mutilés', which has been assisted by the American Red Cross, and specially

by Miss Harper to whom our School and its pupils owe a debt of eternal gratitude, have made great sacrifices to arrange recreations suitable to attract the school pupils to this hall.

We have often been told that it would be quite ruthless to fight against attractions which are offered by the town, and that besides this the wounded would much prefer finding healthy pleasures outside the school. We have never been of this opinion. We fully understand that the people entrusted to our care are men, and the childish distractions are not sufficient for them. We are equally certain that efforts we have made to encourage their moral education have not been in vain, and the results we have obtained are sufficient proof of this statement.

Montpellier is a large town with all possible pleasures, our pupils enjoy a great deal of liberty outside their working hours; in spite of that, more than two hundred pupils remain every evening willingly in our school, detained there by study, reading, and the recreation that we have to offer them.

CANTEEN

Our canteen sells only hygienic drinks, it is organized on a coöperative system: sells its products at market price. Beside drinks, it sells all sorts of food stuffs, little odds and ends of toilet necessities, which can be bought not only by the pupils but also by the old students and their families.

And in order to still more establish confidence in this work, we have left the direction of it to the pupils themselves: two *mutilés* chosen by their comrades look after the administration.

MEETINGS

Since the founding of the School, we have arranged every week a meeting when all the pupils assemble in the recreation hall. We arrange very simple lectures of various sorts: they are illustrated by lantern slides and supplemented by concerts.

It is not a matter of rhetorical lectures, made for the most part to give pleasure to the lecturer, but these are very simple little talks which can be understood by everybody.

Here, for instance, is the program of the series of lectures of the third and fourth terms, 1918:

History and Geography:

- Immortal France
- Belgium
- Serbia
- Alsace-Lorraine
- The Hohenzollerns: the German Empire
- Italy: Irredentism
- Great Britain
- The American Confederation
- The French Colonies
- The Mediterranean World: Past, present and future
- Great inventions and great geographical discoveries
- The History of France in its monuments
- Exchange

French Literature:

- Language, its life and evolution
- Books and printing
- Contemporary literature

Economic and Social Questions:

- Woman and the family order
- Social hygiene: alcoholism; debauchery
- Repopulation and people
- Agriculture; duties toward the soil; the future
- Exportation: ports and merchant marine
- Water power and industry of the future
- Transports and communication
- Woods and forests
- Coöperation: Union makes force
- General hygiene

ARTISTIC SECTION

It is among our pupils that we always search for material for our concerts and fêtes, and in order to coördinate effort as well as to stimulate good will, a group has been formed which bears the name of the artistic section comprising a choir and a dramatic club.

Rehearsals take place in a hall especially arranged for the purpose, and in order to attract the beginners and shy ones, a course of *solfège* is given twice a week, and every day after luncheon and dinner a pianist places himself at the disposal of anybody who cares to sing.

EXCURSIONS

This has to do with a class of recreation and a branch of education which we would like to have used more fully, but owing to the large number

of our pupils and the expenses entailed, we have been obliged to limit this section.

We organize ten excursions with our pupils to the most interesting places in the South of France, and in order to show our sympathy for those who have suffered most, we reserve these excursions especially for those pupils who are without family, or who came from the invaded districts and could not have the great pleasure of returning to their homes on fête days. We have tried in every possible way to take the place of the absent family for those men.

And these excursions have always left a very lasting impression on their minds and in their hearts. For we have always been so enthusiastically greeted. Small committees form themselves in the towns where our group (which sometimes consists of one hundred people) has arranged to meet and they look after all the details of the trip. Among these excursions, we would like to mention the one that we made in 1917 to the famous city of Carcassonne, and where the whole town turned out to do us honor. In the morning the pupils of the boys' school greeted our *mutilés*, and in the afternoon, in the center of that wonderful town, a number of charming young school-girls received our excursionists with the utmost cordiality.

Could one find any better example of patriotism and respect on the one side, or of greater moral satisfaction on the other.

MEETING OF THE OLD PUPILS

And, as a final completion of our work, as well as a continuation of our moral influence, we formed the 'Union of old pupils of the School'. We give the exact reasons why this 'union' was formed and the spirit which directs it in publishing the appeal addressed to the 'old boys' by the Committee

To the Former Pupils of the Professional School for Wounded at Montpellier

Dear Comrades:

How many times do you not recall the remembrance of those delightful hours spent in the professional school for wounded in the XVI^e Region? You often find yourself dreaming of that jolly comradeship which reigned in the school. Of the gently friendliness of the Director,

of the indefatigable devotion of our professors. Briefly . . . of the *School*, that institution which, making up for the disasters of the war, has put you in the way of earning your living and of making a home for you.

Would you not be glad to continue those pleasant relationships with the school?

In order to keep up these friendly connections; to look after your rights to present when necessary plans of improvement in your interesting situation, it is necessary to form a club. In that way a society, due to the initiative of a few comrades has been started.

A first reunion to which all the old pupils were bidden, took place on the 24th of December last. After the formation of the Bureau—of which there is a description elsewhere—it was decided that the Society should bear the name of 'Union of the Old Pupils of the Professional School for Wounded from the XVI^e Region'.

After that were described the objects of the Association.

1. To establish a connection as solid and lasting as possible between the school and the old and new pupils, in order to keep up cordial relationships between them all.
2. To ask all those who have left Montpellier or the Region to furnish the Bureau with their exact address and in case of change, their new place of dwelling as well as their new profession, if he changes it. This is done with the object of being kept constantly *au courant* with their moral and material situation and any changes which may happen to them: marriage, birth, sickness, etc. Events in which we would always like to take part.
3. To reunite twice a year at the dates coinciding with the presentation of diplomas. This would be two annual occasions to meet each other, to exchange ideas, and to express our great gratitude to our protectors.
4. To found a newspaper which will appear every month, which will publish all the interesting facts of the association, and will print all the articles which will be sent in by any of the comrades.
5. To reply to all questions for information which may be addressed to the Bureau by means of the newspaper.

We hope that all the old pupils without exception will send in their membership considering the interesting objects of the association and that there is no charge for the newspaper, and the lowness of our subscriptions. The progress of our association will be the best means of showing our excellent Director, our professors, and the members of the council of administration of the 'Œuvre des Mutilés', that all their efforts for our re-education have been entirely crowned with success, and our moral education has not been neglected. The

remembrance of their benevolence will be reflected in our solidarity and our free comradeship.

THE COMMITTEE

We will add that we have already been able to grant members of this Union some other advantages. They are authorized to make purchases at our coöperative canteen of products which are necessary to them, and they can obtain at cost price any medicines they may need for themselves and their families.

RESULTS

Our results have been quite equal to our efforts: the number of pupils who have followed and still follow our courses, and those who have left the school, re-educated, and have found situations, are ample proof of this.

Certainly, in order to encourage our recruiting, we decided that, added to the trouble we took over our organization, it was advisable to start an active propaganda. And that is why, thanks to the Assistance of the Bureau of Re-education of Mutilés of the American Red Cross, that posters and tracts have been distributed in considerable numbers, that steps have been taken with regard to all the authorities and to the groups of *mutilés*, and above all, that lectures with lantern views and cinematograph films have been organized in all important localities and in the hospitals.

In this way we have been able to admit into our school 2,100 *mutilés* (during forty-four months of functioning); about 750 have been completely re-educated and placed.

At the present moment 370 pupils are present in the school and are divided as follows among our different sections:

Shoe-making	59	Wood-turning	9
Tailoring	39	Automobile mechanics	23
Orthopedy	12	Hair-dressing	9
Adjustage	31	Horticulture	5

Saddlery-harness-making	41	Dental mechanics	3
Book-binding	11	Bookkeeping	35
Tin-work	13	Preparatory courses	26
Metal-turning	11	Industrial drawing	13
Sculpture	9	Elementary degree	11
Joinery	8	Tax collectors	3
		Elementary courses	6

Our school consists of twenty-one sections, and our teaching staff is composed of thirty-nine professors.

In spite of these results, we know that our work is not yet finished, and that there is still a considerable amount of work for us to do. A last great effort will have to be made because we cannot hide from ourselves the fact that there is still a large number of *mutilés* for whom re-education is indispensable, and who still have not been inside our institution.

Now it is necessary as much for them as for the nation, that they should enter our institutions as quickly as possible. It is desirable that in three years at the outside our Re-educational schools should close their doors with the certainty of having done their duty.

And I interpret exactly the opinions of all my colleagues in saying that we will continue the work that we have undertaken with the same faith and the same enthusiasm.

We have indeed known in the middle of our pupils some hours which will never be forgotten: we owe them some of the greatest joys that a teacher can possibly experience.

It is impossible, without having been directly attached to a work of re-education, to guess the hidden treasures of intelligence and energy which have been brought to light in our schools; it is impossible to understand how sincere is the affection that we bear our dear and gallant pupils.

Beyond all this, a great principle comes out of our *Œuvre*: it is that through all the sufferings, all the miseries and griefs, one only joy is to be found, a pure and noble joy; it is the happiness brought by work.

GIFT
APR 18 1919

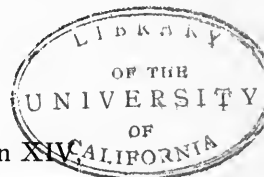
INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Should Serious Training be Started in Hospital or Deferred Until After Military and Medical Discharge?

M. Edmond Dronsart

Director, École Professionnelle des Blessés, Montpellier, France

Address for the International Conference on Rehabilitation of the Disabled, Section XIV
New York, March 18 to March 21, 1919



Experience has shown us, more and more conclusively, that re-education proper cannot be effectively started before the man has left the hospital.

It is necessary, indeed, to avoid any confusion between vocational re-education, the object of which is to teach a disabled man a 'real' trade, that will enable him to earn his living, and the light hospital work which serves only as an occupation and a distraction for the wounded.

In some cases vocational training has to be considered as an agent of functional re-education. As a general rule, however, the wounded must complete his medical treatment before he begins his re-education.

There are in France one class of hospitals to which this rule does not apply. These are the "Centers of Prosthetic Equipment and of Re-education," where the wounded begin their re-education while they are being supplied with

prostheses, before their discharge from the army. The results obtained in these centers have been favorable, but we believe that only when the wounded man is through with all the formalities attending the provision of his prosthesis and his discharge from the army can he have that mental tranquility which is indispensable for learning a new trade efficiently.

We may add that military discipline, which is necessary in the hospital, does not go with re-education.

The only organization that can give really perfect results is the civilian school, which receives the wounded after they have been discharged.

We naturally have to make an exception for training intended to re-adapt the man to his former trade, in agriculture or in industry; such training is not a new apprenticeship and may be usefully carried on at the hospital.



GIFT
APR 18 1919

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Training the Disabled Civilian

M. Edmond Dronsart

Director, École Professionnelle des Blessés, Montpellier, France

Discussion at the International Conference on Rehabilitation of the Disabled, Section XIV,
New York, March 18 to March 21, 1919



The results obtained in the re-education of disabled soldiers have been of great effect in calling the attention of the authorities to the condition of disabled civilians (victims of industrial accidents and congenital cripples).

The French government understands the great importance of this problem, as it is shown by its decision to maintain several large re-educational schools for the training of disabled civilians.

So far nothing has been accomplished in France in this field, with the exception of one organization of slight importance. As to Europe in general, the problem was solved several years ago in the Scandinavian countries and in Belgium, where special institutions have been organized.

In Belgium, the only school that existed before the war was the provincial school for industrial cripples at Charleroi, which was created in 1908 by MM. Pastur and Langlois, two of the most zealous promoters of social work and of technical education in Belgium.

The organization of this Institute may be quoted as a model. In 1914, it had 250 pupils who were distributed in the following classes: tailors, shoemakers, harness-makers, basket-makers, brush-makers, makers of artificial limbs, and general instruction. All the disabled are day pupils; they live with their families and take their meals at the school. The pupils receive wages according to their work. The duration of the apprenticeship is naturally variable; the rules provide a rather long course for those who are seriously injured. It seems to me that it is necessary to have, besides the school proper, a workshop where permanent employment can be provided for the pupils who, owing to their in-

juries, cannot be easily placed in ordinary shops.

In examining our work for disabled soldiers and that which had been done before in Belgium for industrial cripples, we come to the conclusion that the methods used for the war disabled may as well be applied to civilians, and that the existing schools may, without any changes in their organization, receive their new pupils.

In spite of certain objections of a moral nature, we think that in the interest of propaganda and in order to be able to begin this urgent work at the earliest moment, it might be advisable to admit to the schools a certain number of civilian cripples along with disabled soldiers.

We are also of the opinion that classes for crippled children should be located in the quarters of any school for adult cripples. We may add, as a general principle, that the re-education of civilian cripples, whether children or adults, must not be entrusted to ordinary schools for normal children and normal workers.

INFLUENCE OF THE MILITARY PENSION

The French pension law does not take into account the economic condition of the disabled. Is this good? It is a question which has been much discussed.

It has been suggested in certain quarters that in fixing the pension there should be taken into account the actual loss of earning capacity of the man in his former trade. It does not seem to me that this method should be adopted; the practical difficulties in applying it would be very considerable.

As far as re-education is concerned, a great principle has been admitted and stated in the

law of February 28, 1918: "Under no circumstances shall the rate of the pension be reduced as a result of re-adaptation to work." That very just law has had the most wholesome effect upon the return of the disabled to work.

The suggestion has repeatedly been made that a premium on re-education should be granted the disabled soldier in the form of an increase of his pension. If such a provision could be equitably

enforced, I believe that it would be an excellent measure.

To sum up, it is necessary that the pension should always, in all countries, be considered as compensation for the man's sacrifice, that it should be for the disabled man a vested right, and that under no circumstances should the improvement of his material condition bring about a reduction of this pension.

GIFT
APR 18 1919

Gift to Red Cross Institute

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Vocational Counsel

M. Edmond Dronsart

Director, École Professionnelle des Blessés, Montpellier, France

Address for the National Conference on Rehabilitation of the Disabled, Section XII,
New York, March 18 to March 21, 1919



The question of vocational guidance is naturally at the basis of re-education and requires the fullest attention of re-educators.

Much has been written on this question since our re-educational schools have been in existence; we shall, therefore, confine ourselves to stating once more that in choosing a new trade for a pupil the following factors have to be considered: Physical capacity, intelligence, taste and aptitude, family situation, local conditions.

Too much emphasis cannot be placed upon the necessity of having the candidates examined in the most thorough way. Who is to make this examination? Physicians, educators, or technical men? There can be no general answer. The cooperation of able persons in all lines is necessary, of course; yet we do not think that the 'Committees of Guidance' which have often been recommended are indispensable.

It is impossible to insist too strongly on the importance of selecting the right trades to be taught at the schools. This selection naturally depends upon the local conditions. In France

we have exerted our strongest efforts to preventing, as much as possible, the migration of disabled men from the country to cities; our schools teach almost exclusively such trades as can be carried on in the country.

It is also our ideal to enable the re-educated men to become small independent craftsmen and not factory workers.

As far as methods of instruction are concerned, it is indispensable that vocational training be based upon a very substantial and scientific theoretical instruction, so as to enable our men to make up for the decrease of their physical efficiency by technical knowledge.

We frequently meet disabled men who had already decided on their new trade before they enter our schools. Their choice is sometimes mistaken. We, therefore, believe that the hospitals and the organizations of disabled men should give out all the information and carry on all the propaganda necessary to help disabled men to choose their new trade wisely.

National Organization of Rehabilitation for the Disabled; Italy

Professor Vittorio Putti

Professor of Orthopedic Surgery in the University of Bologna
Director of the Rizzoli Institute



A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XVI,
New York, March 18 to March 21, 1919

The work done by Italy for soldiers crippled in battle is so vast and complex that it will be a difficult task to give briefly an exact idea of it. Now that the war is over, it may seem superfluous to refer to what was accomplished during a period which we hope may never again be repeated; but we think the work achieved should be divulged because it can serve as a basis and outline for that more extensive and lasting work which is expected now for the betterment of industrial cripples.

We have, therefore, enthusiastically accepted the honorable invitation of the American Red Cross because we realize that in no other country as much as in this one, where the enormous industrial development brings the number of accidents during work to a formidable sum, can the knowledge of our experience be more useful and beneficial. The United States, which is a leader of civilized nations in the matter of social welfare, taking advantage of the example of European countries will soon discover new ways and methods to succor those who are crippled in the various branches of industry.

From the beginning of the year 1915, when Italy had not yet declared war, throughout the entire country the grave question of the assistance of the disabled was discussed. By means of publications, lectures, meetings, the public was kept in touch with the very important problem and convinced of the necessity for a thorough collaboration toward the performance of the high duty. The country responded with unanimity of opinion and before the end of the year, committees were formed, sufficient funds

had been collected for the establishment of the first societies for the moral and material relief of the war's disabled. In Italy, as in many other countries, the development of these organizations for the social welfare of these handicapped men is all due to the initiative of private individuals.

Before the war, Italy had no institution whatsoever which could serve as an example for future work. In Milan, alone, there existed a school for the vocational education of disabled civilians, which, however, could only aid a very limited number of patients; there were not lacking, though, men experienced in this regard, to whom we owe the rational and practical methods adopted from the beginning by Italian organizations. In order that the committees in the various regions of Italy might work with uniformity of standards, in 1915, at Rome there was founded the Federation of Committees for the Relief of the Disabled, and to this organization goes the credit of intense propaganda, and the collection of huge funds.

The larger cities of Italy were immediately provided with institutions especially suited to the cure and training, both functional and vocational, of the handicapped men. Among these the principal ones are Milan, Palermo, Bologna, Turin, Florence, and Rome. Soon this example was followed by other centers, and there sprung up schools in Genova, Pescia, Napoli, Pisa, Leghorn, and Venice. But in the place of private initiative came the government's action.

The task was undertaken on the one hand by the War Department, and on the other by the

National Commission for the Relief and Protection of the Disabled, provided for by the law of March, 1917. This law not only provides for the technical re-education, but also for the important and complex problem of the after-care and social assistance of the individual, whether he be incapacitated by injuries or disease.

I do not think it necessary to dwell at length upon the description of the work during the first periods of medical care.

From the field hospital the disabled soldier is sent to the base hospital, especially built for this purpose. The selection of the hospital is made according to the custom of sending the injured man nearest his native town or his family.

There are exceptions made to this mode of selection in the case of the so-called *ultra disabled*. These are the men who, on account of the seriousness and quantity of injuries, are not only unable to readapt themselves to any kind of profitable labor, but cannot even provide for themselves the necessities of life.

Sent on to Florence, these ultra disabled find refuge in a rich and sumptuous villa, in the thick of the woods, and there enjoy all the advantages of a moderate climate.

In the base hospitals for the disabled, the cure is completed by the psycho-therapeutic and orthopedic treatment, with a view to reducing to a minimum the effect of the injury, and to preparing the stump for the application of the artificial limb. From this moment the work of encouragement of the disabled begins, with the object of convincing him that he is still capable of profitable labor, of inducing him to re-train, of entertaining him, and diverting his thoughts from his injury. A few of the halls in the base hospitals are set apart for this purpose and turned into laboratories and classes; these are maintained by civilian committees which take an active interest in the work of technical training and after-care. When the patient is pronounced physically cured, he is given one month's leave before commencing his re-education. This period of leave has been found advisable not only to give the patient the liberty to return to his family and friends, if he so desires, but especially to give the temporary artificial limb enough time to produce on the stump the transformations

which are necessary for the fitting of the final appliance.

As to this method which has been followed in Italy, with regard to the construction of artificial limbs, I will not now go into details, because this subject will be more fully treated by me in another report. The production of artificial limbs, which was at first insufficient as to quantity and poor as to quality, is now completely satisfactory. The really remarkable progress made by Italy in this field has been universally recognized at the London exposition, May, 1918, on the occasion of the Interallied Conference.

Both the War Department and the National Commission appointed committees composed of persons competent in orthopedics, and of representatives of the Association of the Disabled, who were to control the work of each factory for the construction of artificial limbs. Recently the War Department has adopted a standard type of appliance for use in the case of amputated inferior limbs, which has not yet been tested. Two central commissions residing in Rome, are entrusted with the problem of encouraging new developments in the construction of artificial limbs, by examining models submitted, by organizing contests, etc.

At the end of the physical and orthopedic treatment the disabled remains in the school for vocational training. This re-education is not compulsory in Italy, but the law commands that each man, after having recuperated physically, pass at least fifteen days in the training school. This provision of the law which has been made by the government upon the example of the Bologna School for Vocational Training, allows the invalid, perhaps ill-disposed toward this re-education, to witness its good effects, and results in the vocational training of a far greater number of men. To give an idea of the tendency of the disabled to undertake vocational education, I will say that in the Bologna School sixty per cent. of the handicapped have accepted to be trained.

These schools, although founded by private initiative and local committees, are under the control of the War Department and the National Commission. The War Department since

1914, has appointed a special inspector in the person of Professor E. Burci, president of the Italian Section of the Interallied Committee, whose aim it is to combine the work of the military authorities with that of the local committees and distribute equally the material and spiritual assistance to the handicapped. The National Commission has control over the re-education schools, through local committees, which during the first period of the war, spontaneously undertook the establishment of vocational schools. It is a fact worthy of note, that there exists in Italy, a flourishing Association of Disabled Soldiers and Sailors, with a membership of about 50,000, which acts in strict unison with the military authorities and with the National Commission, in all that regards the social welfare of the disabled.

In view of the enormous expense entailed in the adequate development of the training schools the government has granted the Committees a daily subsidy for each disabled, amounting to 3.50 *It. lire* for the indoor patients, and 2 *It. lire* for the outdoor patients, for a stated period of not more than six months. In many cases, however, this period of time is much too short for a complete training, and under those circumstances the local committees provide out of their funds the amount required for the maintenance of the injured during his entire stay at the institution.

The Committees generally grant a small daily allowance to their pupils, about one *lire*; part of which is put into savings banks and given to the disabled when he leaves the institution. Various committees, besides, furnish the handicapped man with the tools of the trade for which he has been trained.

We, in Italy, are convinced that the resident system is greatly superior to the non-resident system and we have, therefore, put the former into more extensive practice. Experience has also taught us that the larger institutions are more efficient than the small ones, and the National Commission has, therefore, decided to give the maximum support to the more active and best-organized of them.

Our disabled generally find in the schools the training they require. The more common trades taught are: shoemaking, tailoring, saddlery, car-

penry, mechanical trades, bookbinding, etc., furthermore, all trades indigenous to agricultural districts, as, for instance, basket-making, cartwright, and cooper trades, etc. Then there are also the commercial courses: bookkeeping, typewriting, drawing, telegraphy; all the disabled are compelled, besides, to attend elementary courses of study for a few hours each day.

In dealing with the disabled man in the choice of his occupation, I will quote the conclusions to which Mr. Chevelley has arrived in an important study of the question of which he has acquired a vast experience:

1. Whenever it is possible, the disabled men ought to be retained in the trade followed by them in the pre-war days, or in one similar to it.

2. The above rule ought to be applied especially to agricultural laborers, who constitute in Italy about eighty-five per cent. of the total number of disabled men.

Through the efforts that have lately been made by the League of Assistance committees, and by the individual committees as well, laborers have been induced to return to the land, disabled men having become convinced of the advantages accruing to them and their families by so doing. This is a step, however, to be taken only after the disabled men have learned the use of labor appliances suitable to each particular case, and on their completing a course wherein they have been taught the rudiments of modern agriculture; in this way, and in spite of their physical disability, they may obtain from the land a much better yield than they would have done had they persisted in following the ancient methods.

3. In view of the very large number of disabled men who aim at obtaining small government appointments, the necessity has been recognized of discountenancing their applications, and by so doing, sparing them many future disappointments; it has been also recognized that it is infinitely preferable to give the disabled men a thorough training in appropriate trades and callings which, besides being of a more profitable and independent nature, are also not quite so much sought after.

4. The authorities have also come to realize the necessity of discouraging the tendency which has increased to big proportions, of crowding

into the cities. This has been obtained by persuading the disabled men to return to their native towns or villages as much as possible.

As far as regards the agricultural training, which, naturally is of so great importance in Italy, in spite of the good attempts made here and there, it is still very far from being considered with that broad-mindedness and seriousness which it deserves. Many re-educational schools are provided with specially organized departments for agricultural training; as, for example, Florence, Genova, Leghorn, Modena, Pisa, Rome; then there are the agricultural branches in the professional colleges, which as a consequence of their development have assumed an almost autonomous management, as, for instance, the schools of Milan, Palermo, Pescia. And finally, we have the schools exclusively dedicated to agricultural training of handicapped men, as in the case of Ancora, Lecce, Perugia, Voghera, and Torino. However great this number of schools, their efficiency is very poor and we are still very far from obtaining those good results which we were somewhat entitled to expect.

The problem of placing the re-educated man has been carefully studied in Italy. To take the place of the local committee's action soon came the National Federation of Committees, through whose influence was formed the central employment office which quickly gave truly remarkable results.

To these various relief organizations later came the aid of the National Association of the War's Disabled, whose constitution had not overlooked the great essential item, *i. e.*, the employment of its members.

The action of the government for the solution of this grave question came later and took the form of the law of March 25, 1917, of which I have made mention, and which indicates to the National Commission the plan to be followed in placing the remade man.

According to the new law, soldiers who, in accordance with the existing regulations have been declared disabled may, when their disability allows, remain in the army with the military authorities' consent.

With regard to the readmission and admission into public offices and works, the facilities which

the law grants may be divided into three categories: the right to readmission to the offices, the bestowal of posts without competition, and the preference in competition where talent or attainments are equal.

Another opportunity granted by the law is that on the basis of which the condition of being a disabled man constitutes a right to precedence in the case of equality of talent and qualifications in the graduation of competitors for admission to public employment. Facilities of a general character have also been granted both by law and regulations which are intended to give aid to the disabled in obtaining employment by private concerns or individuals.

In the concessions of posts or scholarships not destined to benefit any designated families, preference is given to the disabled and on the same terms as the other competitors, to their children. As far as is applicable, the legal privileges obtained for war orphans are extended to the children of the disabled.

It is finally stated that all accident insurance, taken out in connection with the work of disabled, re-employed in any kind of factory, is compulsorily assumed by the insurance institutions, and that in the employment of the disabled, as element for the valuation of the risk, this would become necessary only if their number exceeds a certain limit.

As regards the pensions, I can only give you here a very short account of what Italy has done. This matter has been adequately treated, from all points of view, by Major Giuriati, at the Interallied Conference at London in May of last year.

The problem of the distribution of pensions is now entirely in the hands of a department especially created in November, 1917.

According to the regulations that formerly existed, the different degrees of disablement were classified in three separate categories only; such an arrangement was far from being in accord with the variety and extension of the subject. For each one of these categories, as was prescribed in the past, a stated amount used to be contributed as indemnity; such an amount was by no means a just or proportionate value, and

as a result either the soldier or the government has to sustain serious financial loss.

According to the former regulations, it was understood that the title to pensions was limited to the men's unfitness for military service. This has been substituted for the larger conception of the men's greater or lesser fitness for the undertaking of lucrative labor.

The government's intention is to compensate the individual for the diminishing of his powers for lucrative work, and proportionately to his physical disablement.

Consequently the different degrees of disablement for which pensions are now given have been subdivided into ten categories instead of only three as heretofore; this is proving a much easier arrangement, and infinitely more in proportion to the exigencies of the different cases.

According to the first eight categories, the subject is entitled to a pension, while for the last two he receives a temporary allowance. The former refer to permanent disablement of a greater degree, which minimizes the working power of the individual. The allowances are given to men suffering from lesser degrees of disablement, which cause a much smaller, if any, reduction of the individual's earning capacity.

In cases referring to a presumable modification or aggravation of the degree of disablement in so far as they may affect the men's working capacity, the decision stating the amount of pension to be paid can be twice revised within the period of five years.

The current regulations tend to facilitate in every way possible all the proceedings, which have been greatly simplified. The facts are submitted to only one medical board, and the interested party has seven days allowed him to consider their decision, either favorably or the reverse. Should he refuse to accept it, the matter is referred to a Commission of Appeal, which consists of one of the directors of the Military Board of Health, of two army and two civilian doctors, one of the latter being appointed by the National Association among the disabled men, the other by the Local Committee dependent from the Ministry of Pensions and of Military Assistance. In this manner both the interests

of the soldier and of the government are safeguarded.

A further modification has been brought with regard to ascertaining whether or not the injury is due to service reasons. This has been greatly facilitated by the acceptance, as evidence, of the declaration of one of the hospital directors or of one of the commandants of the regimental depots.

So liberal an interpretation has now been given to the conception of service reasons that the very fact of the man having been on duty is considered sufficient, and this has been of enormous importance with respect to disablement caused by illness (tuberculosis).

The maximum rate of pensions is allowed for disablements included in the first category (100 x 100). As for the disablements included in the other categories—from the second to the eighth inclusive—they are calculated proportionately at 80, 75, 70, 60, 50, 40, and 30 per cent. of the pensions allowed for the first category.

Whenever the degree and nature of his disablement cause the soldier to require the assistance of another person, he is entitled to a supplementary allowance over and above his pension.

The disablements belonging to the ninth and tenth categories call for a temporary allowance, instead of the pension for life. This allowance is equal to the amount of the pensions belonging to the eighth category, payable in one lump sum, and calculated for a period that varies from a minimum of six months to a maximum of six years.

I must say a few words before terminating on the assistance given the blind, the mutilated in the face, and the tuberculotics.

The Blind. At Milan, Florence, and Rome, concentration hospitals for the blind have been erected. From these hospitals the soldiers pronounced completely and irreparably blind are transferred to the special hospitals or schools in Florence, Rome, Naples, Milan, Padova, Catania, according to the locality of their birth, for their re-education or after-care.

The work of the re-educational school is greatly simplified by a disposition of law which provides that the blind soldier, when still in the concentration hospitals, be given a practical view on

his new life and a methodical sensorial education.

In the vocational schools, the trades most frequently taken up are: Cane chairmaking, brush-making, shoemaking, bookbinding, wood carving, etc.

The choice of the trade, though often made by the Council of Directors of the schools, after an adequate test period, is left free to the injured. The work of the blind is generally simplified by the use of special apparatus.

In the Vocational School at Florence much experimenting has been done, and successfully, with training the blind for agricultural occupations. At Rome the wood and leather trades have succeeded best. The more cultured blind are encouraged to become masseurs, linguists, musicians, or office employees, as typists, etc.

From the employment point of view, Signora Mandolfi who has shown an intense interest in this end of the work, maintains that the blind man should be induced to take up individual autonomous work, whether at home, in the factory, in the office, and among persons who have their sight.

Assistance to the tuberculous soldiers. According to the law dealing with the assistance to the disabled, the patients suffering from tuberculosis are considered as belonging to the disabled class, from both a physical and practical point of view. The question of tuberculosis has been sadly aggravated in Italy, since the return of our prisoners of war, who left behind them in the cruel Austrian concentration camps, their health and youth, coming back to us only too often inexorably tainted with this terrible malady.

The anti-tubercular fight was begun by the Circular No. 801, of December 20, 1916. In obedience to this document, in every territorial army corps, and at the base of every army in the war zone, special sections for the diagnostic study of incipient or latent symptoms of this malady were created.

The first symptoms having been discovered in time at these diagnostic sections that are under the management of specialists, the patients are promptly sent away from the ranks of the army, and benefit by a whole series of dispositions and provisions especially drawn up with a view to

receiving them, treating them, and giving anti-tubercular instruction.

A medical center for the selection of tuberculous soldiers was at first established at Nervi. This is a big first-grade institution for the gathering together of the numerous tubercular patients that have been returned to us by the enemy, where the diagnosis is made, and the degree of specific lesion ascertained before transferring the patients to other hospitals adapted to their case.

Contemporaneously with the institution of the health center at Nervi, which can accommodate 1,200 patients, another center for selection of more than 600 beds, was set up in the rear of the war zone to gather together and select the patients coming from the ranks of the army.

The second sanitary center for selection, organized on the same lines as the one at Nervi, was opened at Careggi, a locality not very far from Florence.

By both these said centers, as in all the other diagnostic sections belonging to the various army corps, the patients are divided into three categories, according to the gravity of the sickness.

As soon as the condition of the men is ascertained, they are received in special tubercular wards at the different hospitals where these same wards have been instituted in the territories belonging to the different army corps.

The patients who are not so seriously ill are sent to appropriate sanatoria that have been instituted in each territorial army corps, where they are kept for about three months, and where, once this period passed, they are given their discharge. With their discharge, however, the assistance given to this class of disabled men does not cease. As a result of an agreement between the Ministers of War and of the Interior, all these patients are entitled to continue to receive all possible assistance, both medical and practical, unless they end by being recognized as disabled as a result of war service and, as such, entitled to all their pension rights.

The military administration has decided to grant, instead of the bonus, equal to a year's pension, that they used to pay now and again to these sick men, an allowance of so much towards their treatment (assistance allowance) every time that the ex-soldier has to return to the hos-

pital during the three succeeding years after his discharge.

An equal sum is to be paid to each patient by the Ministry of the Interior, so as to total a daily sum equal to Lit. 5 per diem.

During the detention of the discharged soldier in the sanatorium, the respective families will receive a daily allowance equal to the separation allowance given to the families of the soldiers called up for military service.

With regard to the men who have a latent form of tuberculosis, they are sent to special sanatoria for treatment of initial tuberculosis (climatic institutes) generally under the direction of the Red Cross; of these, there are already three of some importance: Bergeggi near Genoa, Fara Sabina near Rome, and Milanino near Massa Maritima; the patients can remain in these institutions up to six months entirely at the expense of the military administration. Once this period of treatment is over, this same administration reserves the right to have the patients re-examined at the diagnostic sections, where it had been decided to have them sent to these sanatoria, and where further decisions as to the care of the men are taken.

In the help of tuberculotics, the government and Italian Red Cross have been materially assisted by the aid of the American Red Cross.

From the very first months of the war, much has been done for the aid of those facially mutilated and those whose nervous systems have been seriously impaired.

For the assistance of the former concentration hospitals conducted by specialists, were erected in the war zone. From these, the injured are sent to the base hospitals where all the possible aid is given them, not excluding prosthetic applications.

In this field the Italian stomatologists have accomplished a truly admirable achievement. The prosthetic appliances are furnished by the government with the same criteria as that used in the distribution of artificial limbs.

Similar organizations have been instituted for those suffering from impairment of the nervous system.

From the concentration hospitals they are sent to the so-called *neurological centers* in the principal cities. Each of the centers is divided into two sections: One for the patients suffering from organic injuries, the other for those displaying neuropsychic phenomena.

These centers are under the supervision of the local committees for moral assistance, technical training, and re-employment; the same routine is followed here as in the case of the other disabled.

During the last months, there has been instituted at Milan, with funds collected from public charity, two hospitals exclusively for the moral aid and re-education of the severely injured in the spinal cord and the brain.

I have given but a pallid idea of what Italy has accomplished and is accomplishing in behalf of her war cripples. Now that the war is over, many of the provisions to which I have alluded have been somewhat modified and must naturally, in time, undergo further changes in accordance with the new requirements.

But the foundation which the nation has builded so fervently, enthusiastically, and wisely will remain to testify before all the ages to the magnificent performance of this high duty, and serve as a basis for the future development of the great work in the interest of the industrial cripples.

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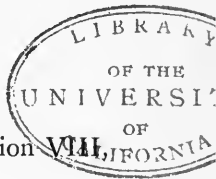
Gift of Red Cross Institute

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

The Utilization of the Muscles of a Stump to Actuate Artificial Limbs; Cinematic Amputations

Professor Vittorio Putti

Professor of Orthopedic Surgery in the University of Bologna
Director of the Rizzoli Institute



A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section VIII, New York, March 18 to March 21, 1919

It affords me the greatest pleasure to place before the Conference the facts as to what has been called cinematic amputation. I feel this all the more because I am thoroughly convinced of the great advance which the conception of cinematization will bring about in the treatment of disabled men, and believe that all that concerns this new current of ideas, as well as the store of facts related to them, ought to be placed at the disposal of the world at large.

In briefly reviewing the fundamental theories of plastic motors, and pointing out the vast field thus thrown open to the activity of orthopedic surgeons and mechanical engineers through the practical application of these theories, I venture to express the hope that our efforts may prove welcome to all those who have hitherto had no opportunity of studying this important scientific innovation.

While in Italy the tireless work of propaganda undertaken by Dr. Giuliano Vanghetti, the original exponent of these theories, has led to their full discussion and close study and to many experiments, and while both German and Austrian scientists have been actively working to obtain the most practical application of these same theories, the medical literature of France, England, and America contains very few, if any, allusions to the subject.

In the space at my disposal I must content myself with outlining the fundamental principles upon which the theory is based, pointing out, as briefly as possible, the various ways it can be put into actual practice, and making a short state-

ment as to the method of operation and the results; but before all else, a few words on the history of the method.

The possibility of utilizing functional resources of the stump so as to convey movement to the artificial limb was an idea that came to Dr. Vanghetti first in 1896, at the time of Italy's second expedition into Abyssinia, when soldiers that had been taken prisoners by the native forces under the Negus were cruelly tortured and mutilated.

From that time onward Dr. Vanghetti wrote and published many articles, wherein he developed his theory on what he had now named 'cinematic amputation'. Unfortunately for the speedy acceptance of this most novel and useful idea, Dr. Vanghetti, though his originality, cleverness, and ability are indisputable, is not a surgeon, but a physician, and for this reason was unable to put his theory into practice. He was therefore forced to resign himself to endless delays before he succeeded in convincing surgeons of the great value and practical possibilities of his theory and obtaining their cooperation, which was indispensable to any adequate test. This was the principal reason why, prior to the war, the cases of cinematic amputations did not number more than twenty.

With the advent of the war, German and Austrian surgeons experimented extensively with cinematization; among them Sauerbruch became an apostle of the method. In Italy many are the surgeons who have acquired a notable experience of this science and who have brought

the statistics of cinematic amputations to several hundred cases.

THE PRINCIPLES OF CINEMATIZATION AND OF 'PLASTIC MOTORS'

By the cinematization of a stump is meant any kind of surgical proceeding, be it bloodless or operative, which helps to make possible the direct transmission of voluntary movement from the stump to the artificial limb.

This is obtained by the formation on the stump of artificial points of attachment, so-called *plastic motors*, to which are fastened the cords or extensors destined to transmit the movement to the artificial limb. Cinematization can be effected or prepared at the time that the primary amputation is made; it can also be done on stumps that have already healed.

Plastic motors may vary as to their number, position, shape, and function.

Without entering into too detailed a description of the numerous varieties of plastic motors, I will limit myself to stating that, at the present day the most elementary, and, up to now, the most commonly used are, as regards shape, the 'clava' or club, and 'ansa' or loop motors, and those obtained by means of the canalizing, or tunnelling, of the muscular masses.

As regards number, the motor may be single, double, or multiple; in function it can be either *unimotor* or *plurimotor*.

According to the position they occupy, motors are either *terminal*, when placed at the extremity of the stump, or *extraterminal*, should they be placed in the continuity of the stump.

Down to the present time the upper limb has been more frequently cinematized than the lower, but the number of successful cases of cinematization of the lower limbs is daily increasing.

APPLICATION OF THE PRINCIPLES

From what I have said, it will be evident that the application of cinematization entails essentially a radical upheaval of all preconceived notions as to the ordinary methods of amputation.

Principles observed in the performance of amputations according to prosthetic criteria have already caused a revolution in modern surgery, but they must again be subjected to modifica-

tions in order to ensure the preservation of the greatest possible amount of the original bone and of the residual motor masses and integuments, for these must be used for the preparation of the plastic motor.

In cases where it is practically impossible to perform primary cinematic plastic operations, as, for instance, at the first-aid dressing stations in the full stress of battle, the surgeon can, at any rate, always so operate as to prepare the ground for a future cinematization of the stump. Skin flaps, muscular insertions, various bone and tendinous fragments and segments of limb, which would seem utterly superfluous under ordinary circumstances for the preparation of ordinary stumps, must be recognized to be of the greatest value in view of the future cineplastics.

In order to prevent the possible loss of these elements and of these materials while the stump is undergoing the process of healing, it is advisable to take certain special technical precautions to avoid the retraction of the softer tissues; this ought to be done, however, in such a way as not to hinder the ordinary dressing of the wound.

When the inflammation has decreased and further complications are no longer to be feared, the time has come for the actual cinematization, that is to say, for the preparation of the plastic motor or motors. A plastic motor, in order to fulfil the purpose with which it is made, must conform to the following requirements:

1. It must possess every requisite for withstanding a firm, resisting, and painless grip, and also a traction force that in not a few instances may be high.
2. It must be provided with a sufficient amount of muscle masses capable of functional movement to guarantee the accomplishment of the task that will be demanded of them.

The primary conditions for obtaining the first requisites are:

1. That the motors be covered with skin in perfect condition, well nourished, and possessing a normal degree of sensibility.
2. That, with regard to its shape and dimensions, the motor be of a size suitable for the fastening of the hooks, rings, and rods, that are destined to transmit the functional movement to the artificial limb.

The movement masses must be sought for and obtained from among those which the stump

still possesses. Such masses as from their anatomical structure and physiological disposition produce broad, strong, and dissociated contractions, are the best adapted to the task. In the choice and distribution of these masses the fundamental principles of the physiology of movement must be thoroughly observed and respected.

As the tension is the element best adapted for the transmission of muscular contractions, it should be largely employed for the formation of plastic motors. Should the tendon be missing, the muscles must be utilized either by including muscular bundles within the terminal motors, or by tunnelling the muscular masses in order to obtain the extraterminal motors.

The antagonistic force, indispensable to all active movement must be provided either by the stump itself through the formation of two motors with elements belonging to muscular groups of opposite action, or by the artificial limb by means of elastic resistance in the opposite sense to that given by the plastic motor.

In order to provide material as may be missing *in loco*, recourse may be had to the numerous methods that modern plastic surgery places at our disposal, as, for instance, skin, muscular, aponeurotic, or osseous transplantations. Arthroplastics, with the interposition of an aponeurotic flap, may be utilized so as to render mobile those stump segments which, through stiffness and ankylosis, have become unusable. By these same means a new joint can be created in the continuity of the stump, thus giving the plastic motor the power to develop a leverage action. Often, in order to gain space and skin surface, the construction of the plastic motors requires the slight shortening of the bone or bones of the stump, but it is possible to obtain excellent plastic motors without this shortening of the skeleton, by recourse to the tunnelling method of the muscular masses or of the tendons, which has been widely experimented by Sauerbruch. The building of canals through the muscles or tendons has been greatly simplified by a modification introduced by one of my assistants.

The cinematization of the thigh stump enables us to solve one of the most difficult prosthetic problems—that of gaining active power over the knee-joint. With the ordinary artificial limbs

the knee extension is obtained either by means of springs or of elastics, quite independently of the will of the patient, or else through straps put on the stretch by auxiliary movements of the trunk and shoulder. In some cases we have carried out successful experiments by cinematization of the quadriceps femoris; then the stump itself can control the voluntary extensor movement of the knee, and restrain the flexor movement.

As a result of cinematic plastics we are now able to utilize certain stumps which hitherto have always been held as incapable of functional movement, such as, for instance, carpal stumps, very short stumps, and disarticulation stumps.

The surgeon who, in the case of shoulder disarticulation, succeeds in sparing the deltoid and pectoralis major, in covering these muscles with skin, and in finding means of creating a point of attachment, may be congratulated on having preserved for the benefit of the mutilated man a precious functional capital.

With regard to the difficult problem of utilizing short forearm or short leg stumps, the solution will be enormously facilitated through the preparation of points of attachment that correspond to the insertion of the biceps and patella tendons.

At the first glance it may appear strange that mechanical attachments can be easily tolerated by the stump. Experience has proved, however, that if the plastic motor is well placed, if the skin that covers it is healthy, if the wounds are absolutely healed, neither the rings nor the rods cause the slightest harm. When the club motor is sufficiently long, and its head is large enough, the ring surrounding the neck of the club need not be tightened to such an extent as to interfere with the blood supply of the motor. Moreover, each ring is provided with a screw by means of which the disabled man can himself regulate the pressure. The same can be said of the rods introduced in the canals of the motors formed by the tunnelization of the muscular masses.

The disabled men get so accustomed to the metal rod that they leave it in place even at night. The rod must, however, be removed once every twenty-four hours, in order to clean it with alcohol and oil it with vaseline. I have observed that the skin within the canals gradually ac-

quires the property of throwing off sebaceous substances in greater quantities than normal, thus providing for the oiling of the canal.

FUNCTIONAL RESULTS

Another point deserving consideration is the sensibility of the plastic motors. Professor Amar has made some most interesting physiological researches, showing that the superficial and deep sensibility, and the muscular sense of the stumps, which at first—that is, shortly after the amputation—are greatly altered, not only recover in time, but eventually attain a degree of sensibility superior to the normal, provided the stump is put through the proper functional training. I have observed that the same thing happens with cinematized stumps. One of my patients, on whom I operated more than a year ago, is now able to note with considerable exactitude the difference in the size and weight of the articles which he seizes with his artificial hand.

The functional results that can be obtained from a plastic motor depend upon numerous factors, but especially on the cinematic powers of the muscular masses of the stump, on the manner in which the surgeon has found it possible to utilize them, and upon the functional use the motor undergoes. To give a clear conception of the amount of work that a plastic motor can do I may state that among the cases operated upon by me, the power of the motor ranges from ten kilogram-centimeters at the lowest, to one hundred kilogram-centimeters at the highest. For a motor to be of practical use it must be contracted not less than one inch. In the case of a hip stump, I have obtained one motor that contracted to the extent of two and one-fifth inches, lifting a weight of forty-four pounds.

I have only described the principal types of plastic motors. The genius and the ability of the surgeons will find here a vast field of action. Naturally, it is not possible to treat all amputated stumps in this manner. Those that best lend themselves to it are those that include healthy muscular masses, that retain normal innervation, and that possess an ample contractility. Stumps, with rigid or ankylosed joints, covered over by skin that does not glide easily, being adherent or creased by a scar, do not sup-

ply satisfactory plastic motors. The age and moral and intellectual condition of the patient are also important. The best age is from twenty to thirty years. Disabled men of insufficient mental development, or those who are not likely to be willing to follow with patience and assiduity the necessary functional training of the stump muscles ought not to be operated upon.

It is to be understood that cinematization does not invariably require operations with the knife. There are stumps already formed which are endowed spontaneously with cinematic resources that, wisely employed, can be utilized for transmitting movement to the artificial limb. I will content myself with mentioning the wrist and forearm stumps, in which rotary movements are preserved, and the arm and forearm stumps that possess a terminal hood having a development and contractility sufficient to ensure a good grip.

CONSTRUCTION OF SUITABLE ARTIFICIAL LIMBS

Whatever type of plastic motors may be chosen, it is an essential condition for their efficient utilization to their full value that the artificial limb be adapted in a manner suitable to their power, their number, and their shape. This question of cinematic prosthesis is so vast and still so new that it deserves a special study to itself. It is now undergoing gradual development and will bring about a substantial reform in ordinary constructive methods. The surgeon, the physiologist, and the mechanic must all collaborate intimately in this work, as only by means of the perfect fusion of these three can we obtain new methods of a really scientific character that will answer modern requirements and replace the empirical systems that have been followed up to now in the manufacture of artificial limbs.

The construction of the artificial limb is greatly simplified by the possibility of utilizing the intrinsic powers of the stump. The mechanical contrivances hitherto used for moving the fingers are most elementary; the cords, the levers, and the springs used for conveying movements to the hand by utilizing the movements of the elbow and of the shoulder can now be com-

pletely done away with, and the disabled man rendered able to open or close the fingers in any position of the limb. Even workmen's tools can be used in a practical way by the cinematized stump, and a special pincer shaped like a parrot's beak has been devised for the use of workers in metal.

RESULTS

As to the ultimate results of the cineplastic method, no final judgment is as yet possible, for though the idea was conceived over twenty years ago, cinematization has been applied on a larger scale only since the beginning of the war.

The very few cases of operation of this type performed prior to the war—almost exclusively by Italian surgeons—had afforded sufficient proof of the soundness of methods, but they had not provided enough material to enable us to judge with regard to their practical usefulness. Only since the beginning of the war, when the necessity of giving practical aid to the vast and tragic army of disabled men came to the fore, were our surgeons convinced of the expediency of testing the principles and methods of cinematic surgery. We are yet at the very beginning of this new scientific movement, and the surgeons of all allied nations have not as yet contributed to it.

The German surgeons have followed Sauerbruch's example, and, although they have created an admirable scientific organization, they have limited themselves to the repetition of a single type of motor. Consequently, in analyzing the results obtained by them, we can form but a partial judgment of the practical value of cinematization. The number of operations performed by Italian surgeons is probably inferior to those done in Germany, but the variety of the motors experimented upon by us is certainly greater.

It is easily understood that, for the moment, it would be impossible to make a synthesis of such a variety of facts. I, therefore, believe that it will prove of greater benefit, in discussing the results that have been obtained through cinematization, to consider the question solely and exclusively from the point of view of my own cases.

These number about one hundred examples of cinematization of the upper and lower limbs,

either primary or secondary; plastic motors of various types were formed, in each case an artificial limb was applied. The functional value of the motors was studied by dynamographic and dynamometric methods, while their practical capacity was tested in the actual one of the artificial limb.

At the Istituto Rizzoli I have at my disposal a large workshop for the construction of artificial limbs, so that I have been enabled to study cinematic prosthesis as well; this, as I have already said, constitutes one of the most important sides of this complex question.

CONCLUSIONS

The researches that have been made in the Institute have brought me to the following conclusions:

I. The practical results that have been obtained through cinematization have convinced me that the hopes aroused by the principles and methods of the modern surgery of plastic motors are thoroughly well grounded. Cinematic plastics are entitled to be placed among the most brilliant of the discoveries of orthopedic surgery, deserve to be accepted with perfect confidence, and to be tested on a large scale by all those whose aim it is to restore to the disabled man his functional activity.

II. The preparation of plastic motors is a well-defined surgical act that must be performed in accordance with its own special methods, which have already stood the test of experience.

III. From a physiological point of view plastic motors have been proved capable of giving both the quality and quantity of action of which the muscular masses that stimulate the said motors are capable. Yet, practically considered, plastic motors will yield the full measure of their value only if the artificial limb is perfectly adapted to their shape and their strength.

IV. As the principal aim of cinematization is to attain the vitalization of the artificial limb, it is essential that the surgeon and the artificial limb maker should work in harmony, in order to solve satisfactorily this most interesting but difficult problem.

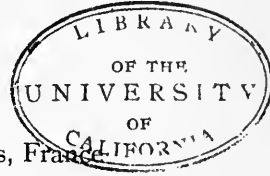
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APR 18 1919

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Agricultural Re-adaptation in France

Dr. André Treves

Chief of Staff, Centre d'Appareillage et de Rééducation Professionnelle, Rennes, France



A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XIV,
New York, March 18 to March 21, 1919

The subject of my talk today is the re-adaptation of our war cripples through agricultural work. The American Red Cross gives you this proof of the fact that their representatives have seen for themselves the work that is going on in France.

Of the French soldiers in the great War, sixty to seventy per cent. were farmers. You have heard that our dead number a million and a half and that our disabled soldiers number half a million, so you may judge what this means in a country essentially agricultural.

Even before the war, the problem of the congestion of people in the large cities was beginning to attract attention; our farmers were moving to the towns in ever increasing numbers. Now that the greater part of our wounded have been cared for in the large towns, and that the farmers among them are much attracted by the amusements, and apparently easy life of the city, you will understand that with our very low birth rate the repopulation of the rural parts of France is a grave necessity and that we need all our farmers even though they be crippled.

From the beginning of the year 1915 the doctors in charge of the orthopedic centers have had this in mind, particularly the Drs. Nove Josserand and Chatin at Lyon, who have had wonderful results from their propaganda work, and by the ingenious way they have adapted various tools for the use of disabled men. Many others have imitated their example, and we at Rennes have not been among the last to follow suit.

That is why I am here today talking to you, and, first, I want to tell you that I am a Parisian, that I have never lived in the country except for a month or two in the summer, and that not every year. I know nothing about practical

farming; I am only a doctor very much touched by the crippled condition of our farmers, and I hope you will not ask me the embarrassing questions that I am not able to answer.

We are to consider the many difficulties from mutilations which hamper our workers in the fields, the manner in which they may be remedied, and the use by our war cripples of agricultural machines.

Let us take, first of all, the men with leg amputations. Difficulties which are reduced to a minimum for amputations below the knee are carried to the other extreme for thigh amputations, particularly when the stump left is very short. Before they are allowed to commence work we fit them with a temporary appliance with what is known as a farmer's shoe or sabot, made as nearly as possible to the shape of the normal foot. There is also a large round end with a leather shoe to obviate sinking into the soft ground. This large round peg can be fastened to the appliance instead of the ordinary rubber covered one, or it can be made adaptable to the rubber one. We made a very satisfactory one at Rennes.

With this disablement, re-adaptation is remarkably rapid and often it is sufficient to explain to them how to walk easily with the wooden leg. Property owners or farmers usually go home while their permanent apparatus is being made, and we find that nearly all work in the fields.

For a long time these men made little use of their second and permanent appliance, because they preferred the ordinary wooden leg for practical work. Some of them, however, persevered and have come to see their mistake. The American leg that we supply them with now

with a large sabot interchangeable with the better looking foot and ankle, has a contrivance by which they can work on their knees if they so desire. This is a great improvement, but it is none the less true that work in the fields is always more or less difficult for men with leg amputations.

Work with a scythe is also very hard for a man with leg amputation, because of the fatigue in bending the body and the necessity of having the good leg always in front. Work on sloping ground is next to impossible, and it is often necessary for a man with a right leg amputation to use an inverted or left-handed scythe.

For ploughing the walking over the soft ground presents the greatest difficulty, and a man with an amputation at the left thigh must have an inverted ploughshare. This is especially needed with a Dombasle plough, a primitive model, but much used with us, but not so necessary with a Brabant and still less so with the Canadian which has a seat.

For men with arm amputations the difficulties seemed at first insurmountable. The greater number of those who were equipped with apparatus during the first year of the war were lost to agriculture. Nowadays, I am glad to say, with the improvements that have been made these men can adapt themselves to work in the fields quicker even than the ones with disabled legs. The progress in this matter is due entirely to the improved apparatus.

I have spoken of the improvement in the apparatus, but now I must speak of the improvement in the tools fitted to it. In a general way, it is recognized that the majority of tasks in the fields can be accomplished by attaching to the appliance a hollow cylinder which holds the handle of the implement. Most tool holders are constructed on this plan. There is one by Devanne of Paris, and one by Dronsart of Montpellier, but the best of all, to my mind, is one invented by an orderly at Lyon, a chemist by profession. You see the doctors are not the only ones interested in agricultural adaptation.

The first one by Julien, the 'Cultivator' was made with a mechanical device which gave it great suppleness, but it could only be used for spading, and was not strong. Its inventor made

some changes and his second model called the 'Farmer', which I hope to show you, is both strong and supple and allows of a great variety of work. The use of a spade, a fork, a shovel, a rake or a pick are not only possible, but easy with it.

Work with a scythe is particularly interesting to men with arm amputations. They can fasten their tool holder on the small handle placed half way up the scythe and use the well hand for making the sweep. A general rule is to allow the crippled hand to remain passive while the able one makes the movements. For those with right arm amputations the left arm is the one to make the movement and exert the strength. For these men the inverted or left-handed scythe is indispensable. You will see some models in the cinema.

With a tool holder a man even with a disarticulated shoulder can work now nearly as well and as quickly as an able-bodied one, but he must also be able to sharpen his blade. The best way is to hold the handle of the scythe against his body with his lame hand, the end of the scythe resting on the ground. The man, standing, can then sharpen the blade with his free hand.

Threshing was very difficult at first. I have referred to the Lumiere clamp. It was invented as a universal clamp but afterwards abandoned as such. Thanks to its strength and a revolving cap by means of which it is made to assume several positions and to its automatic lock, worked easily on the knee, this clamp can hold the blade of a scythe firmly on an anvil while the well hand uses the hammer.

For ploughing Julien has invented another tool holder called the 'Labourer' which has an interior spring which fastens it instantly to the plough handle. One great advantage is that if the horse makes a sudden movement liable to hurt the crippled limb of the man driving, it opens automatically. The holder is well nigh indispensable to those who use the Dombasle plough, but the Brabant can be guided with one hand.

For amputations above the elbow the men prefer the amortisseur spring for any sort of work. Here again Julien has hit upon the most practical idea.

Wheelbarrow work can be done by anyone by means of the old hook, but here are improvements on it such as the ring hooks by Bourteau or Aubert.

Julien advocates a device called the 'stretcher-bearer's suspenders' which puts the weight on the two shoulders.

At Rennes we used a ring with an automatic lock which will take hold or let go the wheelbarrow handle instantaneously.

For transplanting the most frequently employed tool is the planter that we invented at Rennes and which is a tremendous help to a one-armed man. With the double-curved hook he can also harness or unharness a horse.

You will see most of these things in the cinema.

I have told you how difficult it is for a man whose arm stump is too short or one who has a disarticulated shoulder to find an apparatus, for there must be a metal articulation for the shoulder and another for the elbow which could be free or rigid at will. Our articulation with cap for the shoulder and segmented for the elbow seems to come near to realization, and it gives us great pleasure to see men with such mutilations able to accomplish agricultural work.

One thing is better still; the man with a double arm amputation can recommence work if one is below the elbow. He can use the 'Farmer' tool holder on one side and a ring with modifications on the other.

There are many serious hand deformities, sometimes a total loss of power, sometimes a vicious ankylosis of the wrist, which are worse than an amputation. We fit these men to a leather sheath with metal supports to which can be attached the tool holders. The use of two fingers especially with a normal thumb makes possible a good deal of work as long as no special strength is needed, but the leather support should be used to hold the tools.

In spite of my incompetence in such matters, I insist on mentioning that men with arm amputations can use machines like the mower, tedder or tedder rake. The machines simplify the work so much that their principal difficulty is to remain on the rather uncomfortable seat. The sitting with an artificial leg stretched out straight throws the body off its balance, but

there is a saddle called the 'Dor Symetric' which remedies this difficulty.

The man with an amputated right leg needs a left-handed mower with lever and pedal on the left side. These are well known in the Nantes region. The horse must be driven either with an artificial hand for the reins, or a board with two pummels which serve as rein-holders.

The use of the reaper binder is practical for men with either arm or leg amputations, but it is preferable to use oxen instead of horses.

As to tractors which unhappily are not too well known in France their uses are many, and it is quite possible for men with leg amputations to drive and to repair these machines, but few men with arm amputations succeed with them.

You may have noticed that we are talking today of re-adaptation when we generally use the word re-education. One may give a definition of these two words by explaining their difference. Agricultural re-adaptation is the doctor work aided by agriculture. Re-education is the work of an agricultural technician aided by the doctor.

With the cases that come to the Center for Prosthetic Equipment, most are in need of agricultural re-adaptation. The small proprietors and farmers ask but one thing, to go home as soon as possible so as to take up their work. Often this is their best remedy. For arm amputations re-adaptation, that is to say, the recommencing of exercise for the injured limb is indispensable.

For the worker who must find a position in order to earn money the situation is difficult, especially for those with crippled legs, for they cannot work at anything fatiguing for many hours at a time. Men with crippled arms are not difficult to place, and a number of them are at work as before the war until such time as they will be able to possess a bit of land.

The men who have already received treatment in centers of physiotherapy make the best pupils for agricultural re-education. Here the doctor is the collaborator and the agricultural professor the real director. There are always a certain number of men who seek out an agricultural center for a means of amusement and an occupation that is more pleasant to them than the shut-

in life of the hospital or being sent back to the front.

At Lyon, as I told you, Drs. Nové-Josserand and Chatin are devoted to their medical work, and at the same theoretical and practical instruction is given the men by the agricultural professors. But the length of time for this re-adaptation is limited to the time necessary for their equipment.

In the 17th Region, of which the principal place is Toulouse, things have been done in an altogether different manner. The Director of the Service de Santé of the region, the Inspector Prost Maréchal has established throughout the territory a number of farm schools directed, whenever possible, by technical directors under the Ministry of Agriculture. Wounded men are sent there after undergoing treatment in physiotherapeutical or neurological centers. One of these farms, that of St. Romme, is a veritable surgical hospital. As soon as the men are operated upon they commence a course of instruction for several hours in the week, and when their strength permits of it, they take part in the practical work.

I must mention particularly the eminent services of Monsieur Duchein, Director of the School of Agriculture at Ondes. M. Duchein, much concerned by the lack of labor and the old-fashioned methods of the average French farmer, has started improvement classes for the disabled soldiers at the Centers of Physiotherapy and at some Centers of Prosthetic Equipment.

Each series consists of from sixty to eighty pupils, not yet discharged from the army who are following a theoretical and practical course. In M. Duchein's opinion, it is not only necessary to teach men to handle a plough, but to educate and develop their minds and give them knowledge of modern improvements that they may make the most of their land.

The results obtained have been surprising, and the greater part of the uncultivated land of this region has been recovered by the Ondes pupils. Out of sixty to eighty pupils one may count on from ten to twenty profiting sufficiently from the instruction to become real pioneers, and the only question in this conception of agricultural re-education is what will happen to the others

for whom the instruction was a little too advanced.

In our Rennes section we have tried to combine the two methods. The section reserved for disabled soldiers includes the patients from the Department of Prosthetic Equipment and the Centers of Physiotherapy and Neurology. Re-adaptation and functional re-education has been carried out with special tools as at Lyon, and the men have been able to benefit by technical instruction.

You will doubtless have noticed that all these results have been obtained with men undergoing treatment or awaiting their prosthetic appliances, and not with men who have been discharged from the army. The original intention of the directors of agriculture had been put to these men through a cycle of studies, and they hoped to keep them six months, a year or even two after their discharge. The results were scarcely what they anticipated and but a very small number of the men agreed to stay on at the School after they had left the army in order to improve their technical knowledge.

There were two reasons for this. First, the men are not used to following a technical course and it has to be more or less compulsory, and, secondly, they prefer the field work and wish to return to it as soon as possible.

One must own that the professors at agricultural schools do not always see things from the viewpoint of the men, for they are accustomed to recruit their pupils from a class of young people who have already acquired a secondary grade of instruction or at any rate a very good primary one; young men who are comparatively easy to manage and who are there with the knowledge and wish of their parents. These professors do not comprehend that if our War Cripples do consent to a complimentary course of instruction they want something essentially practical and not all from books. This is the main reason for the non-success of advanced agricultural instruction for our men.

SUPPLEMENTARY TRADES

Notwithstanding their good-will, our badly crippled men are not able to do the work of an able-bodied man. During the summer season

country people sometimes work sixteen hours a day, but no severely wounded man can do so much. In order to make a good living, he must have some work outside that of the fields, and that is why workshops have been added to agricultural Schools.

At Lyon, M. Chatin teaches his men the well-nigh indispensable trades of wheel-wright and carpenter.

Close to the School of Ondes is the technical one of Grenade where harness-making and the making and repairing of wagons and farm machinery is taught. M. Dronsart has done the same at Montpellier in a region essentially agricultural, and at Rennes we have established shops for the making of harness and baskets and carpenter work so that our farmers may learn the trades they practice later when they are forced temporarily to stop their arduous work in the fields.

Dr. Queuille, Deputy for Correze and President of the Re-educational Commission of the National Office has established in his Region at Neuvic and Ussel some very interesting schools for the farmers of Limousin. The recruitment is purely regional. I cannot do better than to quote him in the 'Inter-allied Review' of November, 1918, on the subject of War Cripples:

"At Neuvic or at Ussel there is little or no agricultural instruction. Our pupils know how to plow, to sow, and to buy and sell intelligently. But they are very poor and the soil is very difficult, their working capacity diminished on account of their wounds and they fear that they may not be able to remain on the land. Let us teach them something by which they can earn a little money at home, which, added to their inadequate pension, will insure them a living. It might be in the development of small rural and local industries, something in wood or iron, it might be the making of cheese or in keeping bees. The program need not be too definite or limited, and experience will surely bring about modifications and additions, but the idea is to teach the disabled man something that he can manufacture at home, in the little hamlet in the heather, or on the plains of Millevaches or in the valley of the Dordogne."

The man on his return home can always keep in touch with the School through which he has passed. Once more I quote Dr. Queuille: "It is in this way that the object and originality of our schools are demonstrated. They will not only provide technical instruction, but they will develop a commercial service, furnish work to their pupils and guarantee payment for it. The re-educational school becomes the accredited representative of the disabled soldier; it is the intermediary between him and the purchaser. The School deals with the inquiries, has the samples of work, receives the orders and distributes them according to the needs of the men. When it is a question of articles passing through the hands of several specialists it makes the transfers, when the sale is completed it delivers the finished article. It takes charge of all financial and business affairs and assigns the profits according to the work accomplished. Also it provides the prosthetic appliances and the raw material." Thus the School not only gives a practical instruction to its War Cripples, but it initiates them into advantages of a cooperative production and secures to them an additional income. Dr. Queuille counts on continuing these schools after the War, and when the recruitment of the disabled soldiers is over to make of it a school for the apprenticeship of young men "who in devoting themselves to the same standard will also receive the same advantages."

We can only wish that the example of Dr. Queuille may be followed in other regions in France.

In addition to the improvement in apparatus and organization of agricultural instruction an active propaganda is doing much to persuade the war cripples to return to the land. Talks with cinema pictures have been given in every region. A great many have taken place at Lyon, and M. Chatin made a valuable report to the Academy of Agriculture, from which I gathered much of the information I have given you today.

I have also given lectures to our men at Rennes and at Nantes under the auspices of the American Red Cross.

Some very interesting pamphlets have been published by the Department of Agricultural labor at Paris, one called 'Le Mutilé aux Champs',

which gives our disabled soldiers the most complete information on the various branches of agricultural activity and as to the way they can make the most of their physical strength. It is the result of collaboration of medical and agricultural authorities, is profusely illustrated and has had a great success.

Our Lyonnais colleagues had the happy idea of organizing the first reunion of disabled soldiers. So as to make this of real value, exhibitions of speed have been discouraged and those of strength and endurance preferred. The exhibition has done much to prove the value of agricultural re-adaptation.

We followed this example at Rennes, and my colleague, Dr. Chapon, organized in the years 1917 and 1918 three reunions. At the last one, in June, 1918, we invited some disabled soldier farmers who had received their discharge from the army as long as two years before, and they came by the hundred from Brittany, from the Manche, Mayenne, and even the Vendee to take part. The result was a demonstration of the superior work which could be accomplished by those who had had the benefit of modern prosthetic equipment, and the men who were still wearing the older variety of apparatus were able to see for themselves these advantages. Many wished to return to the Center and all asked for the improved apparatus.

The state comes to the aid of her crippled soldiers as far as possible. Recent laws have facilitated the acquisition of small holdings of land; loans for short, medium or long terms have been arranged, and the loans which were at the rate of two per cent. at first are now free.

A law dating from before the war renders immune the family property, provided it does not surpass 8,000 francs. This sum being now insufficient, it will shortly be increased.

All these conditions are favorable to the return of the soldier to the land, and in addition to the state aid several private societies stand ready to help them. Agricultural societies have promised their aid and support in the purchase of necessary implements and machines.

A certain sum for each man is placed at the disposal of the Centers for prosthetic equipment. For arm amputations this provides the ring,

the hook, and a professional tool. But this does not complete the necessary outfit for the man. In large cities, where money is more easily found, private societies have helped to supply this deficiency. At Rennes we have managed it in a different way. I have asked aid from the Departmental Assemblies, which we call General Advisory Councils. My appeal has been answered and the Cotes du Nord, Finisterre, Ilet Vilaine, Loire Inferieure, and the Manche of Morbihan has placed at our disposal a sum which enables us to give to every farmer who has followed the agricultural re-adaptation all necessary tools. The Society for the Assistance of Disabled Soldiers of Mayenne has likewise offered us pecuniary aid for the farmers coming from that department. For the men from the invaded district who do not come within the scope of our Center, but of whom nevertheless a number have been equipped and have followed the agricultural re-adaptation, the Association for the Assistance of Disabled Soldiers on one hand, and the American Red Cross on the other, have come to our assistance, and we have been able to meet all demands.

The results of agricultural re-adaptation have been really wonderful. Out of 1,214 disabled soldier farmers examined at the Lyon Center before November, 1917, 936 have gone back to the land. I am certain that these results have been even better since. At Rennes we have had the satisfaction of knowing that whereas before the creation of the Center of Re-adaptation, barely fifty per cent. of the men with arm amputations had the courage to return to their old trades, now that they have learned the use of the right tools and understand that everyone will have what he needs at the time of his discharge from the army, ninety per cent. of them will do so.

Another interesting point is that men who were not originally farmers and who were unable to return to their old calling, have taken the agricultural re-adaptation with the intention of settling on the land. M. Chatin mentions that in November, 1917, thirty-one men did this, and the proportion is still larger at Rennes where the choice of trades is less varied than at Lyon. Ten per cent. of the men who were not originally far-

mers have decided to become so after following agricultural re-adaptation. Most of them are men with arm amputations who come from farmer families.

In view of the results obtained, Dr. Mourier, Under Secretary of State of the Service de Sante desires to make this general for the whole of France. A circular dated January 7, 1919, makes agricultural re-adaptation in a measure obligatory, and I believe I shall do well to give you the entire text:

"With the desire of inducing farmers to return to the land, I wish to call your attention particularly to the importance that I attach to demonstrating to disabled farmers the apparatus and special tools which will enable them to do so. This procedure, irrespective of a complete agricultural re-education, will convince them of the possibility of re-adaptation. As soon as their condition permits of it, disabled soldier farmers will be directed by the heads of Centers of Prosthetic Equipment and of Physiotherapy to an agricultural school near their Center. The Director of this School will send to the National Office for Disabled Soldiers, 6 Avenue Constant Coquelin, Paris, a request for credit for the purchase of the necessary tools and agricultural machines chosen from the accompanying catalogue. In each school a few disabled men, by preference the most disabled and the most successfully-trained can be retained as monitors and a salary equal to that of a normal workman will be assured from the National Office. Every day these men must receive some instruction in field work such as sowing, spading, using a pick, trundling a wheelbarrow, harnessing and unharnessing a horse, driving a horse or a plow, loading a wagon, managing a reaper, etc.

The duration of this special course of instruction need not exceed two weeks, but may always be prolonged by those who desire to make further improvement or to take a complete course in agriculture.

If the Head of the Center of Prosthetic Equipment does not find the necessary resources in the

neighboring agricultural school for this instruction, he must create one in his Center. To do this he must make an immediate estimate of what he needs and send it to the National Office who, after an inquiry, will grant the necessary credits.

This special course of instruction should be given during or after the prosthetic equipment and physiotherapeutical treatments so as not to delay the date of discharge from the army. They may be regarded either as an adjunct of physiotherapy or as complementary to his equipment and the closest collaboration should exist between the Heads of the Centers and the Directors of the agricultural schools. Before making a decision about a disabled man the Heads of the Centers must take into account the results of this trial re-adaptation and the efficacy of the prosthetic equipment with a view to his future work. This will prove valuable in determining whether a treatment should be continued or an appliance modified to meet the special needs of the cripple before he returns to civil life.

War cripples who are already discharged, and who have returned to their homes, may be admitted to a short course of re-adaptation under the same conditions which regulate their admission to a school of re-education.

At the end of each month the Directors of the Schools of agricultural adaptation and the Heads of the Centres of physiotherapy and of prosthetic equipment must submit a report on the results of these instructions, in double form. One will be sent to me, the other will go to the National Office."

LOUIS MOURIER.

You see the return of our war cripples to the land is under way. Too much cannot be done for them, for to them France owes her triumph over barbarism and her power to drive the invader from the land and to whom she must further look for the cultivation of it.

GIFT
APR 18 1919

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Education of the Public

Dr. Maurice Bourrillon

President, Comité Permanent Interallié; Director, Institut National Professionnel des Invalides de la Guerre, St Maurice, Paris, France



An Address at the International Conference on Rehabilitation of the Disabled, Section XX,
New York, March 18 to March 21, 1919

The problem of the disabled soldier found the public throughout the world ill-prepared to understand a subject so new and so unforeseen. Almost everywhere people gave themselves up, at first, to very natural sentiments of gratitude and generosity toward their glorious defenders. Then, shortly afterwards, they have realized that in order to assure a worthy and secure existence to their wounded they would have to approach the multiple sides of the problem with greater clairvoyance and deliberation. Every people has wanted to know in what manner its Allies, and even its enemies, have reached or attempted to reach a solution. The gropings and the experiments of all have been published in conferences and pamphlets, and we have at last arrived at a time when we should deduce from these attempts or these achievements general principles which the different nations can adapt to their own peculiar customs, laws, and economic conditions.

To put all material relating to the disabled within easy reach of all is the task set for itself by the Permanent Inter-Allied Committee. The formation of this Committee was decided upon at the first Inter-Allied Conference, which was held in Paris in July of 1917. Each Government represented at this Conference delegated highly qualified persons to represent it on the Committee and voted important annual subventions for it.

At the first meeting of this Committee, Paris was chosen as permanent headquarters. The honor deeply touched the nation—that France which more than any other country has suffered

in the flesh of her children—and was valued as homage rendered to her sufferings and the valor of her soldiers.

Now any person desiring information on the experiments conducted and the methods employed for solving the innumerable problems connected with crippled and disabled soldiers, will find at the headquarters of the Committee all the documents and advice he can wish.

A magazine, which at present appears every two months, but which probably will become a monthly, publishes original articles and reviews the works of authoritative writers of all countries.

A museum collects appliances, machines, and tools, which facilitate the daily life and work of the disabled.

Finally, a library contains the greater part of the books, pamphlets, magazines, etc., on the subject of the disabled which have appeared in the whole world. Cuts, photographs, slides for simple projections and moving picture films have also been collected to be used as propaganda in a room which is to be constructed; these slides and films can also be taken on tour through the Allied countries.

You thus see the important role which the Inter-Allied Committee is to play in enlightening the *mutilés* and the public on the best methods to use in reconstructing the lives of men to whom, whatever we do, we can never pay the debt of gratitude we owe them.

Moreover, the Permanent Committee has decided that all the organizations which it has grouped together in its Institute shall be from now on so managed as to permit the application

for industrial cripples of all the measures found efficacious for war cripples. There are great similarities between these different classes of disabled, from the individual, economic, and social points of view, and it is surprising that up to the present most countries have considered the enormous number of men thrown out of factories and shops by industrial accidents as useless and costly failures. Here again the cruel experiences of the war should give us valuable teaching.

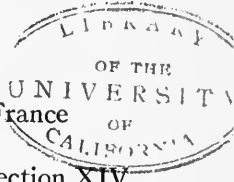
The constantly growing development of the work of the Permanent Inter-Allied Committee obliges it to enlarge its quarters and staff. The Committee hopes that there will not be lacking generous aid to enable it to increase its activities. It hopes to disseminate among all peoples the clear, complete, and rational ideas which are indispensable for a solution, at the same time generous and practical, of the complex problems raised by the rehabilitation of our glorious defenders and our good workmen.

Methods of Training

Dr. André Treves

Chief of Staff, Centre d'Appareillage et de Rééducation Professionnelle, Rennes, France

A Paper Presented at the International Conference on Rehabilitation of the Disabled, Section XIV,
New York, March 18 to March 21, 1919



Can professional re-education be seriously undertaken in the hospital or must it be deferred until the patient has been discharged and his medical treatment ended?

This question must be considered from various points of view:

1. In the hospital proper the wounded must often undergo painful treatment, the frequent and painful dressing of wounds. If the wounds are serious, the patients will suffer from fatigue. It seems clear that no re-education whatever, no work even, is possible in these cases.

2. When the wounded man is in sight of recovery, and the wound-dressings have become less frequent and painful, or when the sick man enters upon convalescence, two further possibilities may present themselves:

(a) If a nearly complete recovery is anticipated, the sick or wounded man will not readily resume serious work; at the most he will be able to apply himself to little tasks or to occupations involving slight fatigue. He will be able, however, to listen to moral or instructional talks, to improve somewhat his general education, etc.

(b) If it is a question of a more serious wound or disease involving a loss of working capacity, a re-adaptation, a new occupational orientation, it seems to me that resumption of work should begin as early as

possible. Under these circumstances, the intimate relations existing between the centers for surgical dressings, for physiotherapy, and for neurology, on the one hand, and the schools for occupational re-education on the other, have rendered and will continue to render the greatest service.

In my opinion it is very bad practice to wait until the patient has been discharged, for it often happens that his discharge cannot be secured except after prolonged delays. The patient will acquire an inveterate habit of idleness; if he returns home before he has resumed work, he will stick to his bad habits; at home he is no longer under the orders of the *Service de Santé* or any other real authority. He is no longer subject to the domination of a physician or a school director who will endeavor to inculcate in him the idea of duty and of work. The pity of those about him is a bad influence, above all during the first days. He gets used to occupying himself with easy little tasks—to 'puttering about'; and not until long after does he awake to the fact that his earnings are inadequate, even when added to his pension, and if he does not throw himself upon public charity—the worst solution—he turns finally to the re-education school which should have received him many months before.

Provision of Artificial Limbs and Prostheses

Dr. André Treves

Chief of Staff, Centre d'Appareillage et de Rééducation Professionnelle, Rennes, France

An Address at the International Conference on Rehabilitation of the Disabled, Section VIII,
New York, March 18 to March 21, 1919



I am going to present to you briefly the status of the problem in France and indicate why I think that we have adopted a good system.

(a) *Is it better to provide permanent appliances in the military hospitals or to furnish temporary appliances at once and permanent appliances only after discharge?*

To answer this question it is necessary to distinguish between the men who have had a leg amputated and those with any other kind of lesion. To the latter, in my opinion, the question is not applicable, at least not in France. Our men receive their temporary appliance in a few days. The construction of the permanent appliance requires a few weeks, that is, just the time necessary to permit the men to grow accustomed to wearing the temporary appliance and to learn how to manage it.

Men who have lost a leg are in a different situation; almost all of them want an artificial leg of the American type, and we encourage them in this preference. Now, the stump of a leg amputated below the knee is in condition to wear an apparatus only after the passage of three or four months, the stump of a thigh only after five or six months. The temporary appliance is furnished immediately to men with a leg amputated at the thigh, and in a few days to those whose leg has been amputated below the knee, for whom very careful fitting is required. Usually we send men supplied with temporary appliances to their homes if they are able to work. These are the majority, about seventy-five per cent. After two months they present themselves for the doctor's examination, then again every month until their permanent apparatus is ordered for them. The convales-

cents have meanwhile granted to them permits to attend a re-educational school outside when the school attached to the artificial limb center possesses no shop for teaching their chosen trades. Those who cannot work we keep in the hospital. This is agreeable to their families as it relieves them of the expense. Those who do not want to work we also keep. They have thus before them the example of more industrious comrades; they are open to the exhortations of the doctor or the school director; and they usually end by deciding to abandon their idle ways, while if they had gone home, they would have been confirmed in their laziness. We are convinced that this procedure has many advantages from the point of view of the disabled man's state of mind.

(b) *Should there be one standard type of appliance or should the man be free to choose from different commercial models?*

In France, we do not hesitate to approve the former method, for the following reasons:

(1) If the man is free to order an appliance, he is at the mercy of a more or less honest manufacturer. The Government pays for the appliance whether it is good or bad; the man therefore holds the Government responsible, and puts in a claim against the Government if he is dissatisfied with his appliance. The Government is then obliged to order him another.

(2) Disabled men frequently move to another place, and in that case often have difficulty in finding the exact kind of appliance which pleases them. Furthermore, if repairs or replacement are necessary, the difficulties caused by a change of residence can be considerable.

It is evident that the adoption of a standard type of appliance with very strict specifications

entails the risk of estopping all progress. But we have been able to steer clear of that reef. The Committee for Orthopedic Studies (*Commission d'Études de l'Orthopédie*), composed of leading orthopedic surgeons, has established certain standard types of appliances, especially for amputations, but any improvement devised by the physicians of artificial limb centers, or by the disabled themselves, or, what occurs much more rarely, by the manufacturers, whose methods are purely empirical, is brought before the meetings of the Committee. It is then examined by the Committee or by a sub-committee appointed to experiment with it, and finally adopted or rejected. The fact that an appliance or an improvement has been accepted by the Committee does not mean that it must be adopted by the heads of the prosthetic appliance centers. Several types may be allowed, as is the case, for example, for sciatic or radial paralysis, for which there are several accepted devices, all with their own advantages. Little by little the less useful devices are eliminated and only the really good ones are kept.

(c) *Provision and manufacture of artificial limbs.*

The Government obtains the appliances which it supplies to the *mutilés* from civilian firms in the larger cities, such as Paris or Lyons. These firms are well subsidized for the purpose. The army workshops for the manufacture of prostheses, which were organized by the Medical Service in all appliance centers, have become an important source of supply in the towns lacking other local facilities. There was such a shop in the Paris center, but it was destroyed by fire and its reconstruction has been judged useless by reason of the existence in the city of a large number of manufacturers. Only a small shop for rapid repairs has been built in its place. At Rennes, on the contrary, in the center of which I am director, the army shops for making appliances have had a great development. Of 800 appliances provided on an average each month, 600 are made in our shops; 200 of these are orthopedic boots. We order outside only the pegs for thigh amputations, of which we always have a stock on hand, and the American legs.

Good Paris firms visit us regularly to get our orders for the latter, and the Frees-Clarke firm has established in our town a branch which renders us valuable service.

This procedure, varying according to local resources, has appreciably cut down the time required for the provision of both temporary and permanent appliances.

When an appliance must be replaced, the owner has to return to the center. We have on file his former measurements and the cast of his stump, but usually there have been such changes that everything must be done over again. The inconvenience of a journey to the center is not great, for amputation cases are required to take it only once in four or five years and other cases, needing simpler appliances or shoes, at the most once a year. Travelling and hospital expenses are paid by the Government, and there are so many centers that the men do not have to go far or lose much time.

We believe that a medical specialist should pass upon all appliances furnished by manufacturers. Every new or replaced appliance is inspected for the materials of which it is constructed by a permanent committee of control which visits the factory itself. It is accepted only after having been passed upon by the chief physician of the center and a committee of three doctors assisted by a technical expert. The appliance may be accepted at once, sent back for changes, or definitely rejected, in which case it is indelibly stamped as defective. There is no appeal from the decision of the committee. If a manufacturer does not give satisfaction, he may be barred from the patronage of the Medical Service. This has happened fairly often, especially during the early months of the war.

If the appliance is judged satisfactory, the man for whom it is intended remains eight days at the center or goes home and returns after fifteen days so that the authorities at the center may make sure that it is a good fit before they finally accept it.

For repairs, the man sends his appliance to the center free of cost. When the repairs are necessitated by defective construction, the appliance is sent on to the manufacturer,

repaired, and returned to the center. It is then inspected and sent back to the owner without charge. The man is not inconvenienced by being temporarily deprived of his appliance since he possesses a second for just those occasions. In case of very considerable repairs it may be necessary for the man to go to the center.

Recently Dr. Mourier, Under-Secretary of State for the Medical Service, ordered the organization of repair sub-centers in towns having facilities for the work. The man can either take or send his appliance to these centers. The chief physician of the main center visits the sub-centers each month to see that important repairs are done properly.

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Institute

INTERNATIONAL CONFERENCE ON REHABILITATION OF THE DISABLED

Rehabilitation of Crippled Children; in France

Dr. André Trèves

Chief of Staff, Center d'Appareillage et de Rééducation Professionnelle, Rennes, France

Discussion at the International Conference on Rehabilitation of the Disabled, Section XXV
New York, March 18 to March 21, 1919

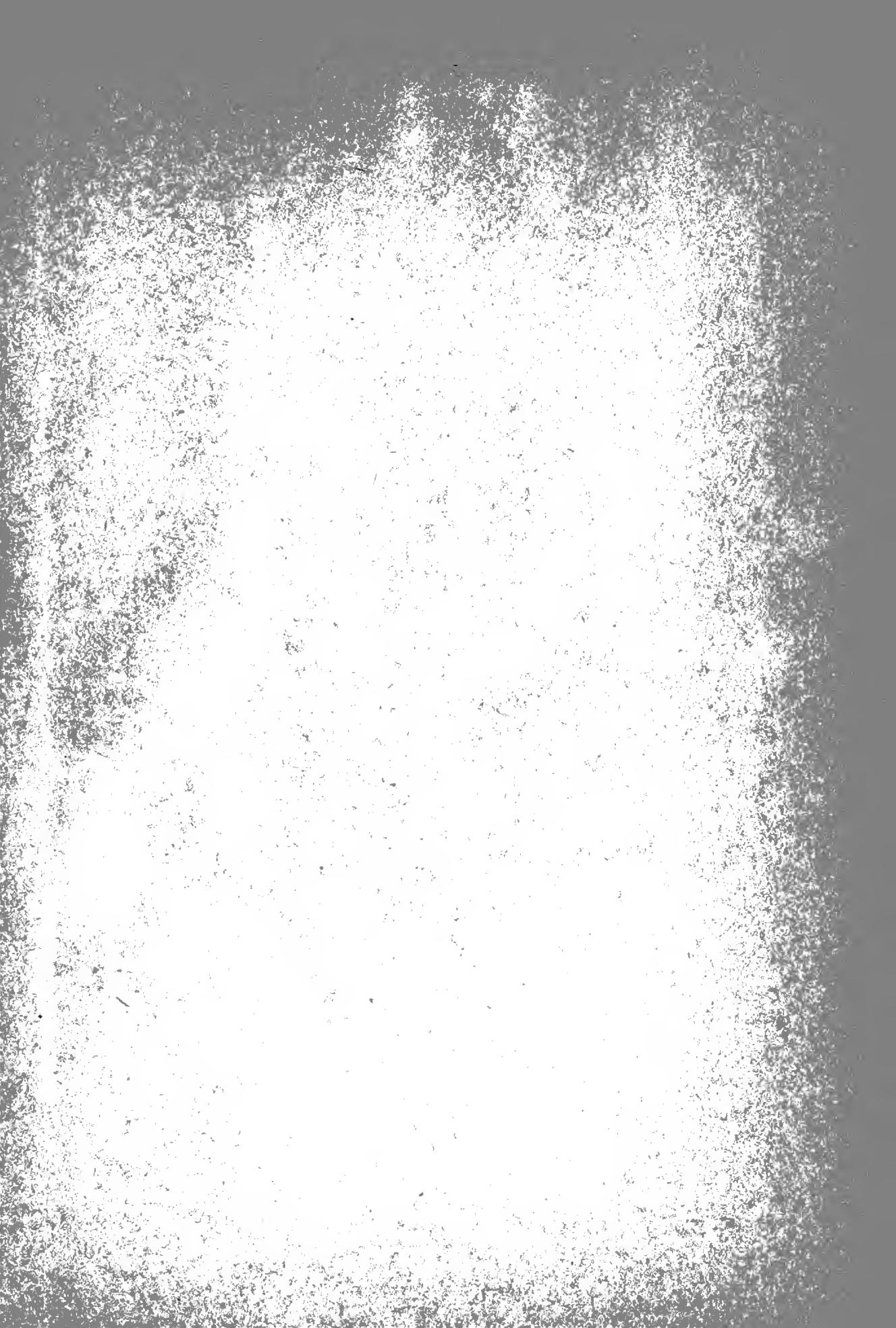
I regret somewhat having consented to speak on this subject, for I must confess that there is in France no scientific nor practical and above all no methodical organization of the work. Individual attempts have been made but they have had an entirely empirical character. There is, however, one school in the rue Lecourbe at Paris, directed by the Brothers of St. John, where crippled children can learn various trades; I do not know whether similar institutions have been established elsewhere in France.

In my department of the "Hospital for Sick Children" at Paris, where children suffering from

orthopedic troubles remain for a long time, kindly persons visit them every day to give them the instruction they are missing by not being able to attend the elementary school. The same thing occurs, I believe, in almost all hospitals of the kind.

It may be said that vocational re-education, or rather education, is really organized in France only for blind children and deaf-and-dumb children. This has had excellent results. I may also mention that Dr. Bourneville has organized in a hospital at the gates of Paris a special educational service for backward children, which has accomplished surprising results.





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