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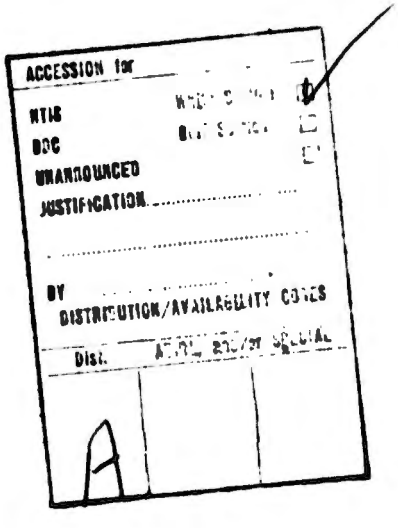
AEROMEDICAL ASPECTS OF HELICOPTER OPERATIONS IN THE TACTICAL SITUATION



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THE GENEVA CONVENTIONS AND LEGAL PROTECTION OF MEDICAL TRANSPORT BY HELICOPTER IN ARMED CONFLICTS /63*

Major General E. Evrard (MC)

1. GENERAL

The intentions expressed by various societies or legal commissions (50th Conference of the International Law Association, Commission of International Medical Law of the ILA at its meeting of January 1962 at Liege, French Society of International Medical Law at its meeting of 14 June 1962) have attracted attention to the problem of protection of the medical helicopter so important for operation of the Medical Corps in time of war. They supplement cries of alarm made by doctors and lawyers. Chief among these are those of Cilleuls (Revue Internationale des Services de Santé, August-September 1962, pp. 407-410), Monnier (Revue du Corps de Santé Militaire, 1967, pp. 392-401), Petchot-Bacqué (Le Médicin de Réserve, March-April 1960, pp. 43-49), de La Pradelle P. (Bulletin Internationale des Services de Santé, August 1954, pp. 376-380), Schickele, A. (Revue Générale de l'Air, 1950, No. 4, pp. 847-854), de Lasala Samper (La proteccion a los heridos, enfermos y naufragos de las fuerzas armadas en compãna, 1964), etc.

The International Society of Military Criminal Law and Law of War has placed this question on its agenda for work in 1964. It made its study group for protection of human life in modern war responsible for producing a detailed study.

The Medical-Legal Commission of Monaco devoted a large part of its fifth session in June 1966 to this problem.

The helicopter is an aircraft since it concerns a vehicle moving about above the ground. When it carries out a medical mission, its protection is derived from Articles 36 and 37 of the First Geneva Convention of 12 August 1949 and from Article 39 of the Second Convention. These texts presently make up the legal protecting statute for medical aviation in international law.

Medical aviation was introduced into the Geneva Convention during its revision in 1929. A special protective statute was granted it. At this time, the term "medical aircraft", as used in the text of the Convention did not, for practical purposes, apply to other than (fixed wing) aircraft. The helicopter had not yet been born.

The armed conflicts occurring after 1929 were used by everyone as proof of the insurmountable difficulties of applying special provisions of the text of the 1929 Convention.

During the Second World War, chiefly, all the belligerents broke with /64
the principles of transport of wounded under the terms of the Geneva Convention.

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* Numbers in the right margin indicate pagination in the original text.

For want of capabilities for effective operation of a medical aviation service responsible, for purposes of its protection, to the clauses of the Geneva Convention, military transport aviation finds itself entrusted with the evacuation of wounded by air. This evacuation thereby becomes an absolutely normal military mission.

The massive evacuation of wounded and sick patients by air is certainly one of the most important developments of the Second World War in the medical-military field. Undoubtedly, present onboard military transport aircraft temporarily set up as medical aircraft and carrying out their flights without taking the requirements of the Convention into account, the medical personnel and the casualties cannot lay claim during transport to any guarantee of protection whatsoever. It became finally necessary to accept the risk involved in the wartime use of a military transport aircraft not satisfying conditions for immunity. However, events have proven that the risk was minimum provided that the belligerent had air superiority in the zone where transport was performed and during period of its accomplishment and provided that zones defended by hostile antiaircraft defense were not overflown.

On the contrary, the risks become enormous when these conditions are not understood since they are absolutely necessary for the putting into play of air transport resources with concern for a sufficient degree of flight safety.

When the Conference responsible for preparing the revision of the Geneva Convention opened in 1949, the terms for medical aviation such as it formed a part of the 1929 Convention appeared, in the light of the events of the Second World War, without any great practical scope.

Nevertheless, the same principles were used again in the Conventions of 12 August 1949. It is true that a number of new arrangements attempted to contribute a little flexibility. The aircraft no longer necessarily have to be painted white, but they should bear the red cross on a white background on their lower, upper and side surfaces. They are authorized to overfly neutral countries under certain conditions. However, on the other hand, in order to be able to take advantage of the protection, not only is the prohibition of overflight of enemy or enemy-occupied territory already provided for in the 1929 text reinforced and specified but, as a major change, the medical aircraft will only be regarded as such "during flights carried out by them at altitudes, times and according to itineraries specifically agreed upon by the belligerents involved".

This clause, to use the expression of a noted lawyer who was one of the pioneers of the International Medical Aviation Statute (Paul de La Pradelle), "nails medical aviation to the ground".

The Korean War only provided vivid confirmation of the irreplaceable role and the considerable value of military transport aircraft for the swift evacuation of wounded to base hospitals in the zones to the rear and interior, i.e., to thousands of kilometers from the areas of operations. No attempt to protect these air transports by legal means was witnessed. Just as was the case during the Second World War, these air transports were integrated into the plans and principles of air logistics and, under the conditions of /65

this very localized conflict, were successfully carried out without the need being felt for an international status of protection.

Nevertheless, at the same time, the Korean War marked the appearance of the helicopter as the "sky ambulance" and this was true even in the combat zone. As an especially suitable and effective military vehicle, it demonstrated brilliant capabilities for the collection of casualties on the spot and their primary evacuation.

The low operating altitude of this machine, its relatively low speed, its use in the field of combat itself are just so many characteristics exposing it to risks of attacks by infantry or artillery weapons during its medical mission. It is therefore not astonishing to hear official statements being made recently on the subject of the use of the helicopter in wartime and which deplore the serious gaps existing in the legal international status of the medical helicopter.

In 1954, the French lawyer Paul de La Pradelle, already mentioned above, stated:

"Whether or not it is their intention, in their present state, the Geneva Conventions condemn the use of the helicopter in wartime. Article 36 cannot be applied to the case of the helicopter." (International Bulletin of Health Services, August 1954, pp. 376-380).

In recent publications, doctors and lawyers have continued to ask for a solution to this worrisome situation. The merits of their case rest on the facts: the wars of Algeria and Vietnam have shown that the concepts which were built up during the Korean War on the normal use of the helicopter for medical missions in the combat zone were actually quite optimistic: the serious losses of helicopters, shot down during this type of mission by small arms fire from forward hostile units and small isolated and camouflaged groups bear witness to this fact.

In a report prepared for the 50th Conference of the International Law Association (June 1962), General R. Jovanovic (MC) (Yugoslavia) writes:

"Helicopters, according to the rules presently in force, have not sufficient legal protection, given that they cannot be adapted to conditions foreseen for the medical aircraft and it is precisely these conditions which form the basis for the legal protection."

It should be emphasized that considerable technical advancements have allowed the range of military uses of the helicopter to be enlarged and diversified to a still greater extent. In addition to mission of observation, reconnaissance, photography, troop transport, the helicopter can also carry out true combat missions. Some types of helicopter are presently called assault helicopters.

To wish to reserve the helicopter exclusively for medical missions, as some doctors and lawyers have proposed with some degree of candor, in order to emerge from present impasses, is a pure example of facetiousness compounded by ingenuousness. This is a failure to recognize reality and a plunge made further into the realm of illusions.

The research, resolutions and works which have been chiefly concentrating on the problem of legal protection of the helicopter could suggest that the doctors and lawyers, specialists in international medical law, discouraged by the complications involved in the working out of a protective statute for medical aviation encompassing all aircraft or conscious of the deep disaffection shown up until now by military circles for the immunization of aircraft with a medical mission, would prefer to find a solution limited to the helicopter which, in itself, is especially exposed during its missions of front collection and primary evacuation. /66

Such a concept, tending to give special status to the helicopter, would be unfortunate.

However, technically, it is not justified.

1. It would be unfortunate because it would delay still more the wording of the medical aviation statute. It therefore does not appear to us to be the right moment to abandon the general concept of the aircraft only to become involved in the present technical special features of one type of aircraft under the pretext that its wing is rotating and that it can make "on the spot" maneuvers.

2. This differentiation concept is not justified. Indeed, the unavoidable readaptation of the medical aviation statute to conditions presently forecast for conduct of warfare bear on four essential points. These are precisely those areas in the texts of Conventions I and II which contain gaps, ambiguities and imperfections. They are related not only to the helicopter but to all aircraft types whatever they may be. These are:

a. The definition of protected aircraft: fixed wing aircraft and helicopters.

b. The identification of the medical mission by modern visual or nonvisual supplemental means. These means exist and can be applied to all aircraft including the helicopter. Some of these are simple and are neither bulky or heavy. The use of one or both of them satisfies a real requirement for protecting all types of aircraft.

c. The removal of requirements for prior agreement involving flight altitude, time, etc. These are the requirements which deprive Article 36 of the First Convention of any practical value for all types of medical aircraft. When identification becomes easy and clear for all combatants of the air, land and sea forces on both sides, this clause, fatal for the use of medical aviation, can be abolished because it has been deprived of its justification.

d. The practical delimitation of the legal protection of aircraft on medical missions above different zones of operational areas. This delimitation should be specified for all aircraft types. The helicopter only represents one exception although military doctors and lawyers of international law have, it would appear, presently polarized their interest on this special case of aircraft because the problem of legal protection of the helicopter on medical mission becomes extremely urgent in the combat zone for collection missions on the ground and evacuation to triage and emergency surgical treatment facilities.

We shall confine the scope of the study in these four different sectors exclusively to the problems of the helicopter. /67

After having demonstrated the nature of those gaps and ambiguities which we must cope with, we shall propose a formula for solution seeing to it that not only is it valid for ensuring legal protection of the medical helicopter but also that it would be able to be integrated on the occasion of a revision of the Geneva Conventions into texts capable of ensuring immunization, under certain quite specific conditions, of all medical aircraft types.

2. GAPS, AMBIGUITIES AND IMPERFECTIONS IN THE PRESENT LEGAL STATUTE

2.1 Definition of Protected Aircraft

According to the first paragraph of Article 36 of Convention I, the benefit of protection is granted to "aircraft exclusively used for the evacuation of the wounded and sick as well as for transport of medical personnel and material".

This formula is ambiguous since it can designate either medical aircraft, in the restricted meaning of the term, i.e., aircraft permanently and exclusively assigned to the Medical Corps of the Armed Forces, or operational military aircraft which could be occasionally assigned to a provisional medical mission, whereas they are normally used for hostile purposes (transport of troops or material).

This paragraph of Article 36 has given rise to divergent comments which have still further emphasized the ambiguity. The latter involves both fixed wing aircraft as well as helicopters.

Limiting ourselves to the latter, we should ascertain the disproportion between the availabilities of aircraft and the growing variety of missions which the general staffs can assign them in the conduct of modern warfare. This disproportion does not presently encourage a tendency for their dispersion nor their specialization exclusively for the benefit of one service, chiefly the Medical Corps.

Certainly, in addition to the use of helicopters standardized for occasional medical purposes, the Americans assign helicopters to their medical units. They foresee aeromedical companies provided with helicopters whose pilots belong to the Medical Service Corps.

Nevertheless, the number of these helicopters specifically and exclusively medical only represents a small percentage of the American helicopter inventory.

On the other hand, in France and in England, to name only two countries which likewise have available a great number of helicopters, no provisions have been presently made for military helicopter units which are exclusively reserved for medical transport. This is likewise the case in Belgium. Each country has, in this field, its special concept.

It is to be assumed that most of the military Medical Corps, even if /68
they have their own medical helicopters, will have to count on, in time of war, in order to cover all their requirements where evacuation is concerned, multiple purpose aircraft which can be converted into a medical version on request.

Certainly, all the military Medical Corps, aware of the missions awaiting them in wartime, take into account the fact that they should have available an inventory well filled with medical helicopters in accordance with the requirements of the Convention. For lack of being able to achieve this ideal goal, it is important that at least the aircraft placed at their disposal, under any terms and conditions whatsoever (attachment, assignment for a specific duration to a medical unit, etc.) clearly bear in this case the identification signs provided for medical aircraft, at the present time the red cross, while waiting for better, in spite of the inadequacies of the system.

This is especially important in the case of light helicopters assigned to medical units for collection and primary evacuation missions in the forward area.

In all logic, the annotations of Convention I of 1949, published under the direction of Mr. Pictet [5], allow an aircraft provisionally used for a rescue mission the benefit of protection provided it complies with the clauses of Article 36. It is clear that in wartime there would only rarely be the time to paint, remove and repaint red crosses on a white background, depending on the nature of the various missions taking place during one day or one phase of military operations.

It is fortunate that most types of helicopters allow a very quick and convenient attachment of movable panels carrying red crosses on a white background. It is regrettable that this system could not be generally used on all types of helicopters. The speed of movement, not as great as that of fixed wing aircraft, allows the ripping off of these panels during flight to be avoided. Given the absence of control surfaces with helicopters, there is no occasion for suspecting, as is the case for fixed wing aircraft, that these panels will block or degrade vital parts of the aircraft if they should become detached in flight under the effect of movement of air.

For most helicopters, that is to say those which have remained standardized and can be converted at any time into a medical version, we are therefore confronted with a much more favorable situation practically speaking than for the fixed wing aircraft insofar as concerns the present requirements of Article 36 in case of fast alternating of medical missions with purely military missions, at least insofar as concerns the red cross identification sign.

The first question which should be stated and resolved without ambiguity in the texts is therefore that of knowing whether this practice based on extremely favorable experience during recent conflicts should be confirmed by reserving the benefit of the definition of the Convention for standardized helicopters occasionally carrying out a medical mission.

It is quite clear that a future statute for medical aviation can neither

condemn such a practice nor remain indifferent to it. It should, on the contrary, encourage it and guarantee the immunity of the medical mission carried out under such conditions.

However, this should in no way exclude the parallel investigation for /69
setting up an inventory of medical helicopters in the strongest meaning of the term within nations who have none nor its expansion within States which already have them available.

Although the experience of recent conflicts has not been favorable to the concept of an inventory of exclusively medical helicopters, the lawyers encouraging this concept defend the idea under a variant which would allow the setting up on a permanent basis, in time of hostilities, of a medical air fleet placed subordinate to the Medical Corps of the belligerents and which, in no case, could be used for war operations. It would be a matter of placing at the disposal of the belligerents, on the condition, undoubtedly, that there would never be a standardization for military purposes of air resources (aircraft and helicopters), both public and private, which the neutral States and international institutions, placed by nature of by past history above the hostilities, would be capable of placing at the disposal of the belligerents. These aircraft would form the subject of a special registration. The future will tell whether such a concept is feasible on a material basis. In spite of the practical difficulties which it involves, it is, in any case, legally defensible. It had already formed the subject of a proposal of the Principality of Monaco as well as Finland during the Geneva Diplomatic Conference of 1949, a proposal which was rejected at that time, undoubtedly owing to its novel character.

Our conclusion on this analysis of the situation insofar as concerns aircraft stemming from the definition of Article 36 will be clear. The future protective statute for the medical helicopter should removal all equivocation, at the same time taking into consideration without ambiguity two categories of aircraft:

a. The standardized military helicopters carrying out occasional medical missions on condition that they point themselves out during these medical missions by identification means provided for this purpose on an international basis. This category should presently receive a priority rank since these aircraft are the most numerous.

b. Medical helicopters especially and exclusively reserved for medical purposes.

This multipurpose solution removes all ambiguity and takes into account the disproportion which will always exist in a theater of active military operations between the number of helicopters available for the Medical Corps and the number of victims whose life depends on a prompt evacuation to a treatment facility.

2.2 Indication and Identification of Helicopters on Medical Mission

It is clear that it is the wounded which should be protected. The transportation resources should not be protected for themselves, but, because

they are transporting either casualties or medical material. It is therefore important to be able to clearly and unequivocally identify the aircraft carrying out a medical transport mission.

The Convention believed it had solved this essential problem of the identification by placing the red cross emblem on a background of white paint on the lower, upper and side surfaces of the aircraft. (Article 36 of the First Convention, paragraph 2)

The traditional symbol for the red cross and the currently accepted symbols (red cross, red lion and sun) still preserve for their users and for the third parties who have agreed to award them a high moral value as a symbol of immunity. It is therefore not possible to validly object to their use. /70

Is this means of identification effective in the case of aircraft? At the present time, it is certainly no longer so if it ever has been.

First of all, it goes without saying that this means has no utility when night flying is concerned.

During daytime flight, it is not always possible to easily make out the white color and the red cross. This is especially true owing to the effect of reflections of the sun and in foggy weather.

The helicopter practically always flies below 350 meters. The altitude during operations will most often be in the vicinity of 15-20 meters over routing camouflaged to the maximum from enemy eyes. Its speed of movement is by far less than that of the fixed wing aircraft.

It would seem that the identification by the distinctive symbol of the Convention (red cross on white background) is more convenient than for the fixed wing aircraft. This is not true at all. Let us note first of all that the surfaces available for the symbol of the red cross are often smaller or less visible than those of the fixed wing aircraft since the helicopter has no wing and one part of its cabin often includes a large windowed surface. The difficulties of detection and then identification are subject to the same hazards as for the fixed wing aircraft when the observer is located on the ground, in the air or on the surface of the sea.

During overcast or foggy weather or in hours of twilight, the identification will be quite difficult if not impossible. The helicopter will always be a target which stands out against the horizon, is heard from far off, cannot be totally camouflaged and whose identification is only possible from very close up when only the symbols painted or placed on its surface are used.

The medical missions of the helicopter take place under flying conditions extremely different from those of aircraft entrusted with similar missions.

Although it is correct that in mountainous or accidented terrain they can quite easily escape attacks from the air provided they succeed in avoiding the surprise attack, their low altitude of operations makes them more easily vulnerable to small arms fire coming from the ground.

The overflight of combat zones risks placing them in extremely dangerous situations unless the character of this mission is clearly and distinctly communicated to the troops of both sides as soon as the helicopter is visible, i.e., long before it is possible to make out whether it carries red crosses on a white background. Finally, the helicopter when approached by advanced enemy units or guerilla groups runs the risk of becoming, even when it is still above friendly territory, an excellent target.

Insofar as concerns identification by air patrols, it should be noted /71
that, owing to drawbacks involved with the color white, there has been a recent acceptance of fluorescent yellow-amber color for fixed wing aircraft and helicopters of the rescue and recovery services, for training aircraft as well as transport aircraft assigned for the transportation of important persons.

In addition, attack by fighter interceptors is no longer carried out at short distance. The aircraft, no matter what type it is, is detected by radar and then identified as friend or enemy. Even when it is recognized by direct sighting, the fighter commences the attack at the limit of range of his weapons well before it is possible to recognize the red cross or the white paint.

The range of radar detection resources and weapons of interdiction as represented by surface-to-air and air-to-air missiles makes this idea of identification by the red cross symbol obsolete if not null and void.

Certainly, the second sentence of paragraph 2 of Article 36 (First Convention) provides that medical aircraft "will be supplied with all manner of display or means of recognition as specified by agreement between the belligerents, either at the beginning or during hostilities." However, then it is much too late. This general agreement should be made in peacetime. Medical evacuations by air will take place as early as the first day of a war and will especially involve helicopters.

With respect to the illusory and utopian character of an identification exclusively based on a red cross painted on a white background, it is important to specify those other means of display or identification which could be proposed on the occasion of a revision of the Convention.

In a study [1] which was published in 1965, we sought to specify the modern visual and nonvisual resources which would allow a swift and unquestionable identification of a medical air mission by all combatants of the three forces without requiring unusual or complex equipment. Further, since detection always precedes identification, we only used those for which the interval of time between detection and identification is reduced to the minimum.

As far as the fixed wing aircraft is concerned, the review and study of various existing resources has allowed us to use one indirect visual method: a secondary radar of the IFF-SIF type, selected, through the intermediary of the ICAO, in one of the modes used. In principle, this would be mode 3A which is common to civilian and military use. This method would allow air controllers operating for fighter interception and for missile bases, to

instantly identify at a very great distance the aircraft on a medical mission. This system, whose effectiveness can only be reached at an altitude greater than 1000 meters, would clearly not be suitable for helicopters.

Fortunately for the latter, a direct visual method is enough owing to its movements as low altitude: indication by flashing or rotating colored lights. Furthermore, nothing prevents this method from being used by all aircraft no matter what their type.

The distance allowing identification owing to the color of the equipment or to colored symbols on the surface of the aircraft (colored strips, red cross, etc.) is on the order of a kilometer. It can be greater when fluorescent yellow-amber is concerned.

The identification based on the aircraft silhouette, painting of all or /72
a part of the surface and on the presence of a red cross on a white background is inadequate by day and impossible by night.

The transmission of luminous signals increases by at least three times, by day as well as by night, the distance for detection and identification of an aircraft with respect to the distance based on the silhouette and color, given like atmospheric conditions. It would therefore be desirable to use this type of method. For daytime flying, a red light is found to be most easily seen on a gray-blue background of sky or in an atmospheric fog. The nighttime detection of a red light is likewise excellent. The nighttime detection of aircraft, just by the navigation lights presently in use, is already possible at 700 meters with overcast sky; at 1400 meters, with clear sky; at 2000 meters when there is a quarter moon; and at 3000 meters with full moon. In addition, the early application of systems having a much greater range is forecast. The detection and identification are much easier when a succession of flashes is used rather than a continuous light. Since the colors presently used for navigational lights are red, white and green, it is probable that another color should be used for the rotating identification light of the medical mission. In addition, transport aircraft already have a red rotating identification light which can be seen as far as 10 kilometers. The result is that the acceptance of a means of identification by colored light would require the preliminary agreement of the International Civil Aviation Organization (ICAO). However, this light would also have to have characteristics such that its use could neither lead to confusion nor lend itself to abuse.

It would therefore be up to the Convention to determine these characteristics such as, for example, the frequency of flashes per minute and their duration. Nothing would prevent using a system of code by short and long flashes insofar as it helps identification by all combatants.

The intensity of this light should likewise be specified. It is certain that a minimum, to be determined by experts, should be imposed.

In order not to degrade the aerodynamic qualities of the fixed wing aircraft or of the helicopter and to avoid sources of confusion, there are grounds for specifying the one or more locations of these lights. It appears that a location under the nose of the fixed wing aircraft and on the lower

surface of the helicopter would represent a priority location. Experts could easily come to agreement on these points of detail.

Such a light system could be installed permanently without difficulty on all helicopters and even on all transport aircraft. It would operate on the electrical power supply of the aircraft. When the mission has a medical character, it would be enough for the pilot to trigger the automatic operation until the end of the medical mission.

In the specification relating to this light signal for identifying the medical mission, we propose the following characteristics:

Color: Red
Character: Intermittent lights in form of flashes
Frequency of flashing: 60 flashes per minute
Duration of one flash: 0.5 second /73
Duration between flashes: 0.5 second
Power: 500 watts minimum
Location:

A.	Fixed wing aircraft:	Forward on the fuselage a little below the nose of the aircraft
B.	Helicopter:	Forward on the fuselage, lower surface

In the case of both types of aircraft, the light beam is directed downward at 90° to the path of movement of the aircraft and forms an angle of 75° with the longitudinal axis of the aircraft.

The objection will perhaps be raised that this system of identification, without being unaware of the red cross on a white background, is substituted for it to a certain extent. The reply is easy. Indeed, this would not be the first time that variants are applied to the distinctive symbol intended to ensure protection for the conventions. Has not an official value been granted to other symbols? Has there not been acceptance of the red crescent or the lion and red sun in order to comply with certain susceptibilities of a religious type, whereas the red cross symbol, as everyone knows, is the Swiss emblem with colors reversed and that this symbol was selected out of respect for Switzerland, fatherland of Dunant and without attaching to it the least religious meaning? Since this precedent exists and is sanctioned by the Conventions, why not accept on a universal basis, as a supplement to the traditional symbol, one more symbol, a simple effective light code reserved for air resources? Finally, don't the ambulance vehicles of civilian rescue services of a number of countries and even those of the military Medical Corps already use lighting systems for assisting travel on congested highways and passing crossroads without being obliged to comply with traffic regulations?

If a luminous method of this type was accepted and universally recognized, it would have the advantage of being able to profit from the many advancements made during research on methods of illumination for day and night photography.

Thus, it is that there are presently available simple and powerful luminous devices which have an all-weather day and night capability. Since their

range is only limited by the line of sight in the case of the ground combatant, they allow simultaneous detection and identification.

2.3 Discontinuance of the Preliminary Agreement on the Flight Plan

Article 36 of Convention I of 1949 provides that medical aircraft will only be respected "during flights which they shall carry out at altitudes, at times and according to routes specifically agreed upon by all belligerents involved."

A limitation on the use of aircraft which was quite stringent was introduced in 1949 under the pretext of ensuring flight safety. This was because identification was believed impossible since it was only based on the red cross symbol.

The text of Article 36 of Convention I of 1949, nevertheless, does not specify the echelon to be used.

In modern warfare, whether atomic or conventional, the evacuation of losses by air is an essential thing. The same is true for guerrilla type operations. /74

The functioning of the Medical Corps is no longer conceivable without it. Also, it is clear that the requirements for a medical evacuation in a large-scale armed conflict and, a fortiori, in a total war, will never be able to wait for an agreement on a preliminary basis to be reached between belligerents, an agreement to a certain extent problematical.

Furthermore, the question arises as to the practical utility of a convention which provides for the establishment of another convention, more limited certainly, but to be established under the difficult conditions of a conflict in order to become effective.

Requirements of this kind, in themselves, take all practical value away from Article 36. These difficulties, which kill any possibility for a rational organization of legally protected medical air transports, are especially serious insofar as concerns the use of helicopters for medical purposes. It is thought of calling on the helicopter in the forward area practically for the pickup and transport of serious, untreated or hastily treated serious casualties in the forward area. It is not understood how, under these emergency conditions, it would be possible to provide the times, altitudes, routes, paths, flight plans within the scope of a preliminary agreement between belligerents involved as required by Article 36 (First Convention).

This clause should be completely abolished. This is the one which "nails to the ground" medical aviation such as it is provided for in the present legal statute.

Even though identification becomes easy and clear for all combatants of the ground, air and naval forces on both sides, this clause, fatal for the use of medical aviation and more particularly for the use of the helicopter on medical mission, in time of armed conflict, should be abolished since it is devoid of meaning.

2.4 Practical Delimitation of Legal Protection of Helicopters on Medical Mission Above the Different Areas of the Theaters of Operations

This delimitation should be specified for all types of aircraft. The helicopter does not form an exception although military doctors and lawyers of international law may have, it appears, presently polarized their interest on this special case of aircraft because the problem of legal protection of the helicopter on medical mission appears on an urgent basis in the combat zone for missions of collection on the ground and evacuation to facilities for triage and emergency surgical treatment. In order to put the problem on a realistic basis, two factors should be taken into account:

1. The unarmed military helicopters, both heavy as well as light, will be used for the benefit of the Medical Corps quite often under circumstances other than at the extreme front. This will involve the evacuation of patients from mobile surgical hospitals and mobile or semimobile evacuation hospitals located in the division sectors, to treatment facilities for specific or specialized treatment in the zone of operations or to airfields for the purpose of an evacuation by long-range aircraft. The risks during these evacuations are variable. They are a function of current air superiority. They will chiefly concern the possibility of a surprise attack carried out by a single hostile fighter aircraft or a hostile air patrol on a low altitude "intruder" mission. When the identification of the medical mission underway is made by a suitable light display, an attack directed against a helicopter can no longer have any justification or excuse since the crew of the helicopter cannot, in the area which it is overflying, perform observation of lines of movements of the enemy since it is much too far away from them. /75

As the medical evacuation missions are carried out farther and farther away from the combat and forward zones, the risks of these surprise attacks are reduced considerably although not to a point where it would be possible to totally disregard a legal protection.

2. It is quite otherwise in the forward zone or in areas with a moving front or even in areas held by groups of hostile partisans carrying out guerrilla warfare. The helicopter, like any aircraft, will always be considered by combatants as a magnificent observation platform with a view to the front when it is located in the vicinity of hostile positions. Even when it carries the red cross, the belligerents will find it difficult to accept this capability for observing and collecting data allowed during performance of the medical mission. In addition, to these same circumstances, already dangerous in themselves, of lift and transport with enemy contact, a new element could be added arising from the low altitude movements of the helicopter. Although the latter are interpreted as a search for wounded, the enemy has the right to refuse immunity for the aircraft. Indeed, the Commentary of Geneva of 1949, published under the direction of Mr. J. Pictet, mentioned above, states:

"No moreso than in 1929, it has not been deemed possible to immunize aircraft carrying out a search for wounded, and this is because of reasons of military security." (Volume I, page 320)

Since Article 36 concerned speaks of medical aircraft and not fixed wing aircraft, this Commentary is likewise logically applicable to helicopters. The question can be asked, what remains of the protection conferred by Article 36 to a medical helicopter flying at low altitude within range of the weapons of hostile elements in the accomplishment of its mission since most of its maneuvers and especially those preparatory to landing can be interpreted as a search for wounded.

The conclusions stemming from these considerations appear clear to us.

a. The overflight of hostile territories, areas or positions occupied by the enemy will always be denied to helicopters. It is useless to contemplate this possibility within a protecting international statute. A failure would be certain. The third paragraph of Article 36 provides, furthermore, that, unless there is an agreement to the contrary, the overflight of enemy or enemy-occupied territory will be forbidden.

We believe that it is important to insert into the text of the future statute this reservation regarding agreement to the contrary. In reality, such an agreement can be valid in special circumstances (for example, a surrounded position) and allow evacuation of wounded while overflying enemy lines. This would be the equivalent of the cartels which in former times, in the 16th /76
and 17 centuries, had to their credit a great number of charitable operations in favor of military casualties of heavily beseiged places.

b. Insofar as concerns missions at the extreme front, in immediate proximity of units in contact with the enemy, on what basis can the limits of legal protection of medical helicopters be established? One of the most difficult points of the future status contemplated is clearly to be found here. In order to avoid abuses, it is not possible to grant a guarantee of immunity to helicopters on medical mission during overflight of areas of contact of belligerent combat units.

Nevertheless, this idea of area of contact of combat units requires specifications.

The Commentary of the Geneva Convention I (Pictet, J., Volume I, page 320) stipulates: "The aircraft are assimilated like ground medical vehicles to mobile facilities."

Now, the protection of mobile medical facilities is regulated by Articles 19, 21 and 22 of the First Convention. By transferring to the medical helicopters those conditions required for guaranteeing compliance and protection granted by these articles, it appears that a reasonable basis for interpretation and solution could be found.

Taking guidance from Article 21, it can also be considered that "the protection owed helicopters on medical mission will only stop when usage of them has been made to carry out, in addition to their humanitarian tasks, acts harmful to the enemy. Nevertheless, the protection will only stop following receipt of a demand specifying, when convenient, a reasonable delay and which would remain cancelled." Among the prejudicial acts to be considered here, the location and observation of positions and movements of the enemy should clearly be placed at the very top.

It must be realized that, if justified complaints of abuses are to be avoided, the movement of casualties in the combat zone is condemned to remain more often than not what it has always been: a slow and painful routing of the casualty to a first aid station by stretcher bearers who conceal themselves as much as possible and keep themselves sheltered, if they can, from the firing.

It is regrettable that this movement is carried out under conditions which are so laborious, so dangerous and so slow at a time when an aircraft is available whose characteristics are ideal for simplifying and accelerating evacuation of the seriously wounded. Nevertheless, these regrets change nothing of the fact that the helicopter, while being a line of sight target for the enemy, is also at this time more often than not a potential observation post for the positions and movements of this enemy. Although we can complain of the impossibility of having all restrictions dropped which fetter legal protection of the "ambulance", it must be understood that the presence of an ambulance vehicle moving over a hilltop in view of the enemy or parking there, with a view aiming down on the positions of this enemy, would be, it too, difficult for the latter to tolerate with application of Article 35.

These considerations have chiefly been concerned only with the aspects /7
of the medical use of helicopters as a function of military requirements as well as those of medical tactics. Certainly, the proposals made will only in practice end up by awarding a still imperfect protection to medical missions entrusted to the helicopter since those missions taking place on the extreme front, even in contact with the front line, will often be excluded from this protection owing to the tactical situation. Nevertheless, these limits will have the advantage of being specified by written texts. The situation will therefore be clear. The legally protected missions would furthermore represent most of the missions which will be assigned in time of war or armed conflict to helicopters placed at the disposal of the Medical Corps. Those missions which would be excluded of themselves from the benefit of legal protection are certainly the most spectacular and more often than not depend on their success for a display of valor. It should be stated, nevertheless, that these are quite small in number.

For certain very exposed cases of the extreme front, it would be up to the general staffs and to their medical advisors, lacking legal protection, to ensure protection by armed means, air or otherwise, or take the calculated risk inherent in any war operation.

c. It is possible for a medical helicopter, on mission in a zone of contact with belligerent combat units, to overfly an enemy or enemy-occupied territory as a result of a misunderstanding concerning its actual position or that of the enemy. In this case, it is not possible to challenge the latter in the legitimacy of a check.

The statute of protection should nevertheless provide for respect for the aircraft while, at the same time, requiring it to obey any summons to come down either on land or water. There would likewise be grounds for providing, in the case of a forced or accidental landing, for the fate of the sick and wounded as well as for that of the crew, medical personnel, and the aircraft according to the category to which the latter is assigned.

Similar arrangements should also be planned for the case of overflight of the territory of neutral powers, accompanied or not by stopover, accidental or forced landing.

Such are, according to us, the essential bases allowing the place of the medical helicopter to be reconsidered within the scope of the revised and modernized legal protective statute for the medical aircraft.

In summary, the proposals contained in these conclusions tend to contribute in depth modifications in the concept and wording of the present status since they involve the four following basic fields:

1. The precise definition of protected aircraft which are:

   a. Medical helicopters in the strict sense, i.e., those exclusively and permanently assigned to the medical service and

   b. Helicopters occasionally and temporarily on medical mission.

2. The display of both of these categories of protected helicopters: in addition to the distinctive symbol of the Geneva Conventions, they should have available a direct visual system for luminous display usable under all weather conditions and at any distance allowing their immunity to be respected.

3. The discontinuance of any preliminary agreement between belligerents /78
concerning the flight plan of medical helicopters.

4. The terms and conditions of their use on medical mission and above all their operational areas. Except when a special agreement is made, helicopters which are premanently or temporarily assigned medical mission will not be able to overfly enemy territory, enemy-occupied territory and areas of contact of belligerent combat units. In case of overflight of a prohibited area, the helicopter will not be the target of an attack but will be ordered to land.

In the case of accidental or forced landing on the above-mentioned territories or in a neutral country, the medical helicopters in the strict sense could only be seized on the condition of being used by the captor for exclusively medical purposes. The aircraft of international institutions will be placed at the disposal of the latter with their crew.

3. DRAFT OF NEW LEGAL STATUTE FOR MEDICAL AVIATION

Finding gaps is one thing. Making constructive and coherent proposals to fill them is another thing. It is often the most difficult one. This is certainly the case with immunization of medical air transports in general and that of medical evacuations by helicopter in particular.

Poorly stated in 1929, the problem cannot truly be solved on the basis of the texts of 1929 and 1949.

In some military circles, the importance of this question is sometimes challenged. It is true that, in the conflicts of the last 30 years, inasmuch as the air medical missions carried out within the scope of military transport complied with certain operational principles, they did not cause the wounded to run any unreasonable risk. Nevertheless, these rules cannot always be easily followed. This is especially the case when we look at the conditions where it is desired to use the light helicopters and the heavy helicopters in combat, forward and rear areas, and in counter-guerrilla operations.

The situation has also roused the authorities of the military Medical Corps, the Societies of International Medical Law and, lastly, the International Committee of the Red Cross.

The latter, after the appearance in 1965 of the above-mentioned study in which I had already developed the arguments reported above, has requested the Medical-Legal Commission of Monaco to examine it and prepare a draft of provisions having as their goal the regulation of a status of immunity for medical aviation in time of conflict. This would be in the form of a revision of the Geneva Conventions or a special agreement which would be annexed to their present text.

The text worked out by the Medical-Legal Commission of Monaco applies to operating conditions, not only of medical helicopters and helicopters on medical mission but even to operating conditions of medical aircraft in general. It responds to the ideas forming the subject of this report. It appears in extenso as an annex and is the work of doctors and lawyers specialized in international law. It represents a readaptation of the status to the technical and operational characteristics of modern air warfare. /79

If it is accepted, should we conclude that all difficulties will be smoothed over for all that?

It is to be presumed the answer is no.

In order for a system of protection to have any opportunities for application in wartime, two things are absolutely necessary.

a. <u>First of all, the confidence of the contracting parties</u> with respect to an international statute protecting within the scope of specified limits all forms of air medical missions. Confidence is given or is refused. In wartime, it is always brittle. This is one more reason to try and build it above all on a clear concept of the technical and military realities of modern warfare. Good will is necessary but is not enough. Disregarding these realities would be like building on sand as was done in 1929 and again in 1949.

b. <u>In the second place, in the case of the two belligerents concerned, the regard for the law of war and international humanitarian conventions</u>. Now, the wording of the humanitarian conventions and the special statutes which they contain is dominated by a conventional European concept of warfare which dates back at the very least to the 18th century. In addition to this, a new art of warfare has been developing under our very eyes

and put into application by countries of the Third World. The new concept of revolutionary warfare pursues its goals by means of the guerrilla alone and abolishes the clear distinction which has always existed between civilians and military personnel, noncombatants and combatants. With such a concept of warfare, will the belligerent following its principles be worried about observing with regard to his enemy a convention that he has not signed since he did not have the power and of which he will always be able to say, as a consequence, that it did not obligate him?

Thus, it is at a time when everything suggested believing that the gaps to be filled in the establishment of a modern statute for the medical helicopter only stemmed from certain purely technical aspects of air warfare and concepts of operation of aircraft, we find ourselves brought back, with respect to the legal wording of conventions, to this problem as old as warfare itself: the good faith of the parties in compliance with treaties and principles which do honor to humanity even in the midst of war and in the combat environments.

In this respect, we the doctors and technicians can do nothing.

In spite of the limits of our task, we believe, nevertheless, that the text which has just been submitted to the International Committee of the Red Cross by the Medical-Legal Commission of Monaco and which takes largely into consideration, in its concisiveness, the ideas and realities which were developed above, will contribute ultimately to provide at some future day a solution, better because it is more realistic, to the international legal statute for the medical helicopter within the scope of the Geneva Conventions.

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ANNEX 1* /81

Specification of Additional Means of Identification
for Aircraft on Medical Mission

1. LIGHT SIGNALS

Color: Red
Character: intermittent lights in form of flashes
Frequency of flashing: 60 flashes per minute
Duration of one flash: 0.5 second
Duration between flashes: 0.5 second
Power: 500 watts at the minimum
Location:
A. Fixed wing aircraft: Forward on the fuselage a little below the nose of the aircraft
B. Helicopter: Forward on the fuselage, lower surface.

In case of both of these types of aircraft, the light beam is directed downward perpendicular to the direction of movement of the aircraft and forms an angle of 75° with the longitudinal axis of the aircraft and an angle of 15° with the angle of yaw.

2. SECONDARY RADAR (SIF)

Mode: 3A
Code: A code will be defined by international agreement in mode 3A.

3. RADIO

Reserve a UHF frequency to be specified by international agreement on which the aircraft on medical mission transmit in order to make known the exclusive presence of casualties onboard.

*Cf. Article 4, section 2 of the "Draft of Rules Relating to Aeromedical Transports in Time of Armed Conflict" (Medical-Legal Commission of Monaco Resolution I, 4 June 1966)

ANNEX 2

Medical-Legal Commission of Monaco
Fifth Session

1. DRAFT OF RULES RELATING TO AEROMEDICAL TRANSPORTS IN TIME OF ARMED CONFLICT

Considering that the principle of respect in all circumstances for wounded, sick and shipwrecked personnel of the Armed Forces is a fundamental principle of the humanitarian conventions of Geneva and that it is important to ensure their application with the maximum resources and effectiveness:

Considering that this major concern should stimulate the governments to augment the provisions of the Conventions of 12 August 1949, either on the occasion of a revision of the latter or, without waiting for this revision, by the means of a supplementary agreement to be concluded in the form of an annexed Memorandum;

That the action thus recommended should have as its goal in time of armed conflict:

1. the expansion by utilization of a great number of aircraft of the air transport of wounded and sick as well as medical personnel and material;

2. providing maximum guarantee for the safety of transports used for this purpose by suitable technical and legal regulations;

Considering that the technical progress made in the field of communications and telecommunications involving navigation and air defense allow the assigning to aircraft used for medical purposes means of identification and display capable of reinforcing the safeguard effect of traditional protective symbols;*

Convinced, on the other hand, of the necessity of freeing use of aircraft on medical mission from the obligation presently provided for in the conventions of setting up on a preliminary basis a flight plan approved by the belligerents involved, owing to difficulties inherent in the circumstances of hostilities;

The Medical-Legal Commission of Monaco desires that the necessary steps be taken in order to place in effect the following rules.

Article 1

The military aircraft of the parties to the conflict, used temporarily but in exclusivity, for the evacuation of wounded and sick as well as the

* All means suggested by Article 36, paragraph 2 of Convention I of 1949.

transport of medical personnel and material, will not be the subject of attacks but will be respected and protected throughout the duration of their mission.

Article 2 /83

The aircraft which will be exclusively assigned, during time of peace as well as during hostilities, to the Medical Corps of the Armed Services, will be respected and protected in all circumstances.

Independently of government aircraft specially set up for this purpose, the civilian aircraft in all categories will be able to be transformed from the very beginning or during hostilities into medical aircraft on the condition of not being reassigned throughout the whole duration of a conflict.

The neutral powers, national societies of the Red Cross and rescue societies which are officially recognized can place medical aircraft at the disposal of one or more of the parties to the conflict.

Article 3

The aircraft of intergovernmental organizations, specialized institutes of the United Nations, International Committee of the Red Cross which could be assigned for the above-mentioned purposes, will likewise be respected and protected in all circumstances.

Article 4

The aircraft mentioned in the preceding articles will clearly bear the distinctive symbol of the red cross on a white background (crescent, lion and sun).

They shall be provided, in addition, as a function of the circumstance of their use, with a permanent system of optical light display or instantaneous electrical and radioelectrical identification,* or a combination of both.

Article 5

It is forbidden for aircraft affected by the present provisions to overfly enemy territory, a territory occupied by enemy ground or naval forces and areas of contact of combat units of the belligerents.

Nevertheless, waivers can be accepted in application of an agreement specially concluded by the parties to the conflict, between each other or with an international organization.

Article 6

The aircraft affected by the present provisions, overflying an enemy or enemy-occupied territory, will be respected but will have to obey requests to land either on the ground or on water.

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* Cf. Annex

In case of a landing, whether by chance or forced, on the above-mentioned territories and lacking a contrary arrangement between the parties to the conflict, the wounded and sick transported can be made prisoners of war. The medical personnel as well as the crew sill be treated consistent with the rules of the present Convention.*

The aircraft affected by Article 2 can only be seized on condition of /84
being used by the captor for medical purposes.

The aircraft affected by Article 3, as well as all embarked personnel, will be authorized to continue their mission following verification.

Article 7

The aircraft affected by the present provisions can overfly, when necessary, the territory of neutral powers and stop over there. They should inform the neutral power of their passage and comply with any request.

Nevertheless, the neutral power will be able to specify the conditions or restrictions both with regard to the overflight of its territory as well as landing on the latter. These conditions or restrictions will be applied uniformly to all parties to the conflict.

Article 8

In case of landing in a neutral country, by necessity or on request, the aircraft will be able to again depart with its occupants, after a possible check carried out by the neutral power. They shall only be held back in cases where this check reveals acts incompatible with the humanitarian mission of the aircraft.

The wounded or sick disembarked with the consent of local authority should, in the absence of a contrary arrangement of a neutral State with the parties to the conflict, be held by the neutral State when international law requires it in such a manner that they could not again take part in operations of war. The costs of hospitalization and interment will be born by the power on whom the wounded and sick are dependent.

When the aircraft which has landed in neutral territory is not in condition to again depart, its crew and medical personnel will be returned.

In the case of aircraft, crew and medical personnel belonging to a neutral country, the general rules of the Convention will be applied as concern the rights and duties of neutral Powers and persons in time of war.

Note: Articles 39 and 40 of the Second Convention should be replaced by similar provisions.
Article 22 of the Fourth Convention should be modified along the same lines.

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* Cf. Convention I, Article 24 and follows

DISCUSSION

Brig. Gen. Lauschner asked whether the Geneva Convention would extend to the protection of search and rescue helicopters operating over water. Maj. Gen. Evrard replied that he felt that this would be very hard to achieve since it would be very hard to differentiate between such operations and antisubmarine operations. In reply to an inquiry about the value of the Monaco Conference, Maj. Gen. Evrard stated that the most difficult problems particularly those of definition of zones and identification had been solved at that meeting.