

A Doctor at Calvary

The Passion of Our Lord Jesus Christ

as Described by a Surgeon

PIERRE BARBET, M.D.

Translated by

THE EARL OF WICKLOW



IMAGE BOOKS

A DIVISION OF DOUBLEDAY & COMPANY, INC.

GARDEN CITY, NEW YORK

IMAGE BOOKS EDITION, 1963
BY SPECIAL ARRANGEMENT WITH P. J. KENEDY & SONS
IMAGE BOOKS EDITION PUBLISHED FEBRUARY 1963

Nihil Obstat: M. L. Dempsey, S. T. D.
Censor Theol., Dep.

Imprimi Potest: Joannes Carolus
Archiep. Dublinen,
Hiberniae Primas

18 Aug., 1953

A DOCTOR AT CALVARY is a translation of La Passion de N.-S. Jésus Christ selon le Chirurgien by Pierre Barbet, M.D., published by Dillen & Cie, Editeurs, Issoudun (Indre), France, 1950.

All Rights Reserved

PRINTED IN THE UNITED STATES OF AMERICA

CONTENTS

PREFACE	vii
1 THE HOLY SHROUD	1
2 CRUCIFIXION AND ARCHÆOLOGY	37
3 THE CAUSES OF THE RAPID DEATH	72
4 THE PRELIMINARY SUFFERINGS	89
5 THE WOUNDS OF THE HANDS	103
6 THE WOUNDS IN THE FEET	121
7 THE WOUND IN THE HEART	129
8 THE DESCENT FROM THE CROSS, THE JOURNEY TO THE TOMB AND THE ENTOMBMENT	148
9 THE BURIAL	154
10 VILLANDRÉ'S CRUCIFIX	176
11 LAST THOUGHTS	178
12 THE CORPORAL PASSION OF JESUS CHRIST	187
APPENDIX I	208
APPENDIX II	209

ILLUSTRATIONS

Between pages 104 and 105

- | | |
|--------------------|---|
| INTRODUCTORY | The Laying in the Shroud |
| FIGURE I | Frontal Image on the Shroud (Upper Part) <i>Photographic print</i> |
| FIGURE II | Rear Image on the Shroud <i>Photographic print</i> |
| FIGURES III AND IV | Radiograph of a Nailed Hand |
| FIGURE V | Rear Image on the Shroud (Lower Members) |
| FIGURE VI | The Nailing of the Feet |
| FIGURE VII | Frontal Image on the Shroud <i>Photographic proof</i> |
| FIGURE VIII | Frontal Image on the Shroud <i>Reproduction of negative</i> |
| FIGURE IX | Rear Image on the Shroud <i>Reproduction of negative</i> |
| FIGURE X | The Hands on the Shroud <i>Photographic print</i> |
| FIGURE XI | Volckringer—Marks Left by Plants in a Herbal <i>Photographic print and negative</i> |
| FIGURE XII | The Villandre Crucifix |

PREFACE

I have for a long time been asked, but of late with more eagerness, to collect together in one book the results of my anatomical experiments, of my archæological and scriptural researches, finally of my reflections on the Passion of Our Lord Jesus Christ. It is a subject which for more than fifteen years has in truth never been out of my thoughts, and at times has almost engrossed me. For has this world any more important subject for meditation than those sufferings, in which two mysterious truths have become materialised for mankind, the Incarnation and the Redemption? It is clearly both necessary and sufficient that mankind should adhere to these with the whole of their souls, and that they should loyally derive from them their rule of life. But, in this unique event, which is the culminating point of human history, the smallest detail seems to me to have an infinite value. One does not weary of examining the smallest particulars, even when the reticence of the Evangelists makes it necessary for us to build our structure on scientific bases, which, even though they may be neither scriptural nor inspired, are nevertheless reasonably solid hypotheses.

Theologians can imagine and describe to us the moral sufferings, which formed part of the Saviour's Passion, beginning with those in the agony of Gethsemani, when He was overwhelmed with the weight of the sins of the world, and ending with His abandonment by the Father, which drew from Him the cry on the cross: "*Eli, Eli, lamma sabachthani!*" One may even venture to say that He continued to recite to Himself in a low voice the magnificent twenty-first psalm, of which these words are the first verse; a psalm which continues in notes of hope, and ends with a triumphal chant of victory.

But when the same theologians or exegetes wish to describe to us the physical sufferings of Jesus, one is struck with the

difficulty which they find in helping us to take part in them, anyway in thought. The truth is that they scarcely understand them; there is little on this subject which seems more empty than the traditional sermons on the Passion.

Some years ago, my good friend Dr. Pasteau, the president of the Société de Saint-Luc of Catholic Doctors in France, was visiting the Vatican with several high dignitaries of the Church. He was explaining to them, following on my researches, how much we now know about the death of Jesus, about His terrible sufferings, and how He had died, suffering from cramp in all His muscles and from asphyxia. One of them, who was still Cardinal Pacelli, and who, along with the others, had gone pale with grief and compassion, answered him: "We did not know; nobody had ever told us that."

And it is indeed essential that we, who are doctors, anatomists and physiologists, that we who know, should proclaim abroad the terrible truth, that our poor science should no longer be used merely to alleviate the pains of our brothers, but should fulfil a greater office, that of enlightening them.

The primary reason for this ignorance is to be found, we must own, in the dreadful conciseness of the Evangelists: "Pilate . . . having scourged Jesus, delivered Him to them to be crucified . . . and they crucified Him." Every Christian, no matter how little he may be liturgically-minded, hears these two phrases throughout the years, four times during Holy Week, in slightly different versions. But how much does that mean to him in the long reading of the Passion? The solemn chanting continues: one can hear the howls of the Jewish mob and the grave words of the Saviour, and unless it has prepared itself beforehand, the mind lacks the time to dwell on the ghastly sufferings to which these simple words refer.

The Evangelists certainly had no need to be more explicit. For the Christians who had listened to the Apostolic teaching, and who later on read the four Gospels, these two words, "scourging, crucifixion," were all too full of meaning; they had

first-hand experience, and had seen scourgings and crucifixions; they knew what the words meant. But for ourselves, and for our priests, they mean scarcely anything; they tell, indeed, of a cruel punishment, but they paint no definite picture. And one watches the unfortunate preacher desperately trying to express his sincere grief: "Jesus has suffered; He has greatly suffered; He has suffered for our sins."

To the man who knows what this means, who suffers in consequence, to the point of no longer being able to do the Stations of the Cross, there comes a terrible temptation to interrupt the orator, to tell him how much He suffered and in what way He suffered, to explain the quantity and quality of His sufferings, and finally how much He wished to die.

For several years I have had the supreme joy of hearing that in many churches my little *Passion Corporelle*¹ has inspired, enlivened, and sometimes completely replaced the sermon on the Passion. During the war I even experienced the great happiness of being able to read it, at Issy-les-Moulineaux, to three hundred seminarists and their professors; it was in a paradoxical fashion, and by reversing the rôles, a true example of the apostolate of the laity. I shall preach the Passion no more, but it is largely with a view to these clerics that I have wished to divulge my ideas, so that they may nourish their devotion to Jesus crucified and may bring it out in their preaching.

That is why I have decided to collect all these ideas together in one book, which will enable me to develop them more easily. My anatomical experiments took place in the years 1932 and 1935. I described the first to my colleagues of the *Société de Saint-Luc*, whose judgment I valued more than any other. They were generous in their enthusiastic support and gave me the hospitality of their bulletin: in this were published *les mains du Crucifié*, May, 1933; *les pieds du Crucifié et le coup de lance*, March, 1934; *la descente du croix et le transport au tombeau*, March, 1938; *l'ensevelissement*

¹ Translation published by Clonmore & Reynolds, Ltd.

de Jésus, March, 1948.² I published the result of my first researches in a small book, *les Cinq Plaies du Christ*,³ in January, 1935; its fourth edition, supplemented with a chapter on the descent from the cross, appeared in 1948. In 1940 I produced my brochure, *la Passion Corporelle*,⁴ which appeared first of all in *La Vie Spirituelle*. The essay on the burial of Jesus appeared in March, 1948, as the result of a talk given to the Paris branch of the *Société de Saint-Luc*.

I can claim that since I finished my experiments the conclusions to which I came have never been reversed, though I remain open to any new discovery which may show me to have been wrong. It has always been my aim to look on this as a scientific question and to put forward my conclusions as hypotheses, in my opinion solidly established but capable of modification, anyway in their details. But I have never ceased to reflect on this form of torment and on the pictures of the Holy Shroud, the authenticity of which is to my mind assured by a closely-knit web of anatomical proofs.

From this long, continuous meditation there has emerged, without further experiment, a series of complementary explanations which seem to me as luminous as they are simple. We find, for instance, the double flow of blood from the wrist, due to the double movement of straightening and relaxation on the part of the Crucified, and the thoracic flow on the back due to the method of carrying to the tomb. We shall meet with all this later on, and we shall also see how these scientific conclusions are fully in accordance with the Gospels.

May I reassure my readers that in this book I am making no claim that I can provide a complete and definite solution to the problem of the Holy Shroud. God forbid! My aim is more modest, to set out my views as to the actual state of the

² The hands of the Crucified, May, 1933; the feet of the Crucified and the blow with the lance, March, 1934; the descent from the cross and the journey to the tomb, March, 1938; the burial of Jesus, March, 1948.

³ *The Five Wounds of Christ*. Translation published by Clonmore & Reynolds.

⁴ *The Corporal Passion*.

question, following on a long study of the subject, or at least to describe the reasonably homogeneous and logical view which I have been able to reach so far. I shall point out what I consider to be doubtful and what I consider to be definitely admitted as true. That is the spirit of the scientific and experimental method. But I shall never forget that the shroud, as H.H. Pope Pius XI used to say, is still surrounded by many mysteries. The future has no doubt many surprises in store for us.

Another thing which I learnt in the course of my publications, is the difficulty of explaining scientific conclusions to the uninitiated, for these presuppose a whole course of previous teaching. When writing for my colleagues, everything went easily, and I was able to make myself understood in a few words. My natural tendency to be concise had every advantage, since it made my demonstration more precise and compact. But how often have those who were not doctors asked me for further information or have stated objections, the answers to which, as well as the explanations, had already been printed in my work. Yes, it had all been clearly explained, but in sentences too short for one who was not initiated, and there had been no repetitions; I had not made my point strongly enough. In later editions I profited by this experience, and I shall do so even more thoroughly in this book.

As is perhaps known, my anatomical experiments were undertaken after the exposition of the shroud at Turin in 1931. My old friend, Father Armailhac, whom God has now called to heaven, visited the Laënnec conference of students of medicine in Paris, in order to show us the latest photographs, which I myself used. He wished to obtain the opinion of anatomists. It is thus quite natural, since my first aim was to verify the anatomical accuracy of these marks (this aim has since then been considerably enlarged), that I should try to give the reader a short account of this remarkable relic, and of the passionate arguments which it has aroused, even and indeed especially among Catholics.

My studies also led me to inquire into everything which, in

pagan and Christian archæology, in the ancient texts (apart from the Scriptures) and in the history of art can give us some information about this form of punishment which was used by the Romans; in this case the executioners were the Roman legionaries and the judge was a Roman procurator. In a book such as this, which is not bound to be as compact and light as a brochure, I can explain the results of these researches and experiments; I shall not restrict myself but I shall try and avoid all pedantry.

I had kept out of my book on the five wounds everything dealing with the other sufferings of Jesus, previous to His crucifixion: the sweat of blood, the cruelties inflicted on Him as a prisoner, the scourging, the crowning with thorns, the carrying of the cross, astonishing traces of which are to be seen on the Holy Shroud. My aim here, as the completion of my work, is to try and deal with all these questions, always in the same medical spirit.

I shall also give the opinions I have formed in regard to the descent from the cross and the carrying to the tomb, and the results of my exegetical (I hope the exegetes will forgive me), historical and philological researches, on the subject of the shroud and the burial.

I often wonder, indeed, why I should have been chosen to make these researches. I am aware that for forty years I have taken a keen interest in biblical exegesis, and that I have eagerly pored over that magnificent harvest of works which is one of the glories of the Church in France, from those of Father Lagrange to those of Father de Grandmaison, to mention only two of our writers who are now dead. But there are so many others that one can consult, taking from each the fairest flowers in his garden. I have retained from the solid classical education which I received (according to the usual formula) the capacity to go over the Greek and Latin, but alas, not the Hebrew texts. I have always taken a passionate interest in archæology and in the history of art, and I have studied the manifestations of the Christian spirit, from the frescoes in the catacombs, which I visited over a long period, down to the elaborations of modern art. Finally, I am first

of all a surgeon, and thus well versed in anatomy, which I taught for a long time; I lived for thirteen years in close contact with corpses and I have spent the whole of my career examining the anatomy of the living. I can thus, without presumption, write "the Passion according to the surgeon"; may we say the cultivated surgeon, since that is what it is his absolute duty to be.

The reader may smile, I think, when he reads this naïve *Apologia pro domo*. He should understand that it is not just a list of titles with which I am seeking to justify myself, but an attempt to excuse my boldness. For all this filled me with the desire to face these problems, with the hope that, God willing, I might arrive at their solution. Furthermore, I only undertook my experiments, when I had made sure that none of my colleagues were doing the same.

But I feel reassured, as I read over again the delightful chapter IX of the *Fioretti*, when Brother Masseo, in order to test the humility of his master, kept saying to St. Francis: "*Perche a tte; perche a tte?*—Why you, rather than anyone else?" And Francis answered Brother Masseo: "Because the eyes of God on high have not seen anyone amongst sinners who is any more vile or more unworthy than . . . I am. And for this reason . . . He has chosen me to perform this marvellous work in order to confound the nobility and the greatness and the beauty and the strength and the wisdom of this world, so that it may be understood that all virtue and all good come from Him, and not from creatures, and that no person can glorify himself when in His presence; but if anyone would glorify himself, let him glorify himself in the Lord, to Whom be honour and glory for ever."

I would not finish this preface without thanking, as I should, the Missionaries of the Sacred Heart at Issoudun, and their publisher, my old friend, Dillen, who have between them printed and distributed my little books with a truly fraternal devotion. I cannot do better than confide this book to them, to whom it already owes so much!

A DOCTOR AT CALVARY

THE HOLY SHROUD

The reader who wishes to form a general idea of the problem, should read a little book which is as precise as it is concise, *La Passion selon le Saint Suaire*, by my friend Antoine Legrand (Librairie du Carmel, 27 Rue Madame, Paris). Paul Vignon's second book is also of value, on account of its very rich iconography, *Le Saint Suaire de Turin* (Masson, 1938).

Let us, then, also study the shroud, since I started my experiments in order to discover whether its markings corresponded with the realities of anatomy and physiology. I undertook this study with a completely open mind, being equally ready to affirm that the shroud was an absurd fraud, or to recognise its authenticity, but I was gradually forced to agree, on every single point, that its markings were exact. Furthermore, those which seemed the strangest were those which fitted in best with my experiments. The bloodstained pictures were clearly not drawn by the hand of man; they could be nothing but the counter-drawings made by blood which had been previously coagulated on a human body. No artist would have been able to imagine for himself the minute details of those pictures, each one of which portrayed a detail of what we now know about the coagulation of blood, but which in the 14th century was unknown. But the fact is that not one of us would be able to produce such pictures without falling into some blunder.

It was this homogeneous group of verifications without one single weak link among them, which decided me, relying on the balance of probabilities, to declare that the authenticity of the shroud, from the point of view of anatomy and physiology, is a scientific fact.

A.—THE HISTORY

It is certain that on the day of the Resurrection Peter and John found the shroud of Jesus in the tomb. The synoptics, who, in regard to the burial, only speak of the shroud, on the Sunday found the *othonia*, the linen cloths (Gerson, in 1304, translates this as the shrouds); the shroud clearly formed part of these. St. John, who on the Friday only speaks of the *othonia*, on the Sunday found the *othonia* and the *soudarion*. In company with Monsieur Lévesque we shall see that this *soudarion* means the shroud, in the Aramean in which St. John thought. If we refused to admit this, we should be compelled to place the shroud among the *othonia*.

What did the Apostles do with these? In spite of the natural repugnance of the Jews, for whom everything which comes in contact with death is unclean, especially a linen cloth stained with blood, it is impossible to believe that they did not preserve with the greatest care this relic of God made Man. One is also led to think that they would have been careful to hide it. It had to be protected from destruction by those who were persecuting the young Church. Furthermore, there could be no question of offering it for the veneration of the new Christians, who would be deeply imbued with the horror of the ancient world at the infamy of the cross. We shall return later to that long period, during which the cross was concealed under various symbols. We shall find that it is not till the Vth and VIth centuries that one comes across the first crucifixes, which in their turn were very much toned down; not till the VIIth and VIIIth centuries do they become rather more widely diffused. It is not till the XIIIth century that the devotion to the Passion of Jesus becomes general.

We would at this point add what is only a hypothesis, but we shall see, when studying the formation of the markings (E 2°, same chapter—the work of Volckringer), that it is the result of a mysterious biological phenomenon which has however been duly verified: it is possible that the markings of the body did not become visible on the shroud for a long period of years, though it bore bloodstains from the beginning. It is possible that they became distinct subsequently, in much the

same way that a photographic film conceals its picture till it has been developed.

There is thus an obscure period when the shroud does not appear, indeed when *it cannot appear*. It may well have been carefully concealed, and thus have escaped all occasions of being destroyed. Romans, Persians, Medes and Parthians, each in their turn devastated Jerusalem and Palestine, massacring and dispersing the Christians, pillaging and demolishing their churches. What happened to the shroud? Nicephorus Callistus wrote in his ecclesiastical history that in the year 436 the Empress Pulcheria had built in Constantinople the basilica of St. Mary of the Blachernae and that she deposited there the burial linen of Jesus, which had just been rediscovered. It is there that we shall find the shroud in 1204 (Robert de Clari). Meanwhile, in 1171, according to William de Tyr, the Emperor Manuel Comnenus showed the relics of the Passion to King Amaury of Jerusalem: the lance, the nails, the sponge, the crown of thorns and the shroud, which he kept in the chapel of the Boucoleon. Now, all these things were there, besides a veil of Veronica, said Robert de Clari, except for the shroud which was at the Blachernae, according to the same Clari. It is also worthy of note that Nicephorus, who died in 1250, wrote after the capture of Constantinople, in 1204, where the shroud had disappeared. There may thus have been some confusion.

But a long time previously, in 631, St. Brailion, the Bishop of Saragossa, a learned and prudent man, in his letter No. XLII (P.L.t. LXXX, 689), writes, as if telling of something which had been well known for a long time, "*de sudario quo corpus Domini est involutum*, of the *winding-sheet* in which the body of the Lord was wrapped." And he adds: "The Scriptures do not tell us that it was preserved, but one cannot call those superstitious who believe in the authenticity of this *winding-sheet*." A winding-sheet which had been wrapped round the body of Jesus could only be a shroud; we shall see this in the chapter on the burial. Where then was it during this period?

If we turn to the three books written by Adamnan, the

Benedictine Abbot of Iona, *About the Holy Places, according to the account of Arculphus, a French Bishop*, section III, chapter X, *de Sudario Domini*, (published by Mabillon—*Acta Sanctorum Ordinis Benedictini*), we shall find that Arculphus was a pilgrim in Jerusalem round about the year 640. He there saw and kissed *sudarium Domini quod in sepulcro super caput ipsius fuerat positum*—the winding-sheet of the Lord which was placed over His head in the sepulchre. This follows the words of St. John. Now, this *winding-sheet*, according to Arculphus, was a *long piece of linen* which gave the impression of being about eight feet in length. This was no small cloth; it was the shroud.

St. Bede the Venerable, at the beginning of the VIIIth century, also mentions the testimony of Arculphus, in his *Ecclesiastical History (de locis sanctis)*. About the same period St. John Damascene mentions the *sinclon* as being among the relics venerated by the Christians. We thus already find that *sinclon* and *sudarium* are equally used as synonyms.

It would seem from this that in the VIIth century it was still in Jerusalem or had been brought back there, and that it was only taken to Constantinople at a later date. When? We do not know. Perhaps before the XIIth century, when the pilgrims spoke of the *sudarium quod fuit super caput ejus*; we have just seen that according to Arculphus this referred to the shroud. In any case, it was there in 1204, at the time of the fourth Crusade.

Robert de Clari, a knight from Picardy, who took part in the capture of Constantinople in 1204, leads us on to much firmer ground. (cf. *La Conquête de Constantinople in Classiques français du moyen âge*, Ed. Champion, 1924). Robert is looked upon by historical critics as a man of moderate education, rather naïve, and whose views may be discounted in regard to the policy of the great barons, of which he knew little. But he was an observant and perfectly sincere witness, whenever he was able to see for himself.

Now, he gives a minute description of all the riches and the relics which he saw in the palaces and the *rikes kapeles* of the town, especially in the Boucoleon, which he rather

amusingly calls *el Bouke de Lion*, and in the Blachernae. In the Boucoleon he saw two pieces of the true cross, the head of the lance, two nails, a phial of blood, a tunic and a crown. He also saw (described separately, with a long legend of how it was formed, after Our Lord had appeared to a holy man at Constantinople) what he speaks of as a *toaille*, a linen cloth bearing the face of the Saviour, like the veil of Veronica in Rome, and also a tile on which a tracing of it had appeared.

But it was at the Blachernae that he found the Holy Shroud. The whole account is written in the strange *langue d'oïl* of the XII century, which still lives on in Walloon dialects. It should be read out loud, with a northern accent, perhaps also with Walloon blood in one's veins, if one wishes to enjoy its full richness. He tells that: "And among the others there was a monastery known as Lady Saint Mary of the Blachernae, in which was kept the shroud in which Our Lord was wrapped; on every Friday this was held out, so well that it was possible to see the face of Our Lord. And neither Greek nor Frenchman knew what happened to that shroud after the town was taken."

The shroud was thus stolen, or to be more indulgent, it formed part of the spoils of war. Now, according to Byzantine historians, and Dom Chamard in particular, a shroud corresponding to de Clari's description was deposited in the hands of the Archbishop of Besançon, by Ponce de la Roche, a seigneur from Franche-Comté, the father of Othon de la Roche, who was one of the chief leaders of the Burgundian army in the crusade of 1204. And this shroud, which seems indeed to be ours, was venerated in the cathedral of Saint-Étienne down to 1349. I would note in passing that Vignon, in his book of 1938, has expressed some doubts as to its sojourn in Besançon; this is however very probable.

In the year 1349 the cathedral was laid waste by a terrible fire, and the shroud disappeared for the second time; only its reliquary was found. It had been stolen, and this fact is the true explanation of the false position which it was to occupy and the avatars from which it was to suffer during the following century. The memory of these still arouses prejudice

against it in the minds of certain historians, whose number is steadily growing less, but who refuse to consider the intrinsic value of the sheet or to examine the markings, under the pretext that it can only be *a priori* a forgery—one might as well refuse to study the moon, because we can never see more than the half of it!

The shroud reappears eight years later, in 1357, in the possession of Count Geoffroy de Charny, having been given to him by King Philip VI. The latter must have received it from the robber, who is believed to have been one Vergy. Charny deposited it in the collegiate establishment at Lirey (in the diocese of Troyes) which he had founded a few years previously. Now, at about the same time there reappeared in Besançon another shroud, of which we have numerous copies, and which was clearly a poor and incomplete painted reproduction of the one at Lirey. The representatives of the Committee of Public Safety proved this in 1794, though this was no credit to them, and it was destroyed with the consent of the cathedral clergy.

The shroud at Lirey was also the object of the hostility of the Bishops of Troyes, first of all Henry of Poitiers, and thirty years later Peter d'Arcy, who objected to it being exposed by the canons of Lirey. They complained that the faithful were deserting the relics at Troyes, and were going in large crowds to Lirey. The Charnys quickly took back the relic, and kept it for thirty years.

In 1389 they presented their cause to the legate of the new Avignon Pope, that Clement VII who had just started the Western schism, and then to the anti-Pope himself. Both of these authorised the exposition in spite of Bishop Peter d'Arcy's prohibition. Then, when the latter complained, Clement VII ended by deciding (a somewhat unworthy solution) that the Bishop could no longer oppose the expositions, but that a declaration should be made at each one that this was a painting representing the true shroud of Our Lord.

In the memorandum which he presented to Clement, Peter d'Arcy made grave and malicious accusations of simony against the canons of Lirey. He further claimed that his pred-

ecessor had made an inquiry and had received the admission of the artist who had painted the cloth.

No traces have even been found of this inquiry or of these avowals; if there was a painter, it is probable that he was the one who copied the shroud of Lirey to make that of Besançon. The fact is that all the decisions were the result of private interests and were based on the argument that the Gospels remain silent in regard to the existence of the markings. It seems that no impartial examination was ever made of the sheet itself; had this been done, they would have seen, as one can see to-day, that there is no trace of painting. But the pseudo-Pope Clement VII never seems to have concerned himself with this.

It is not easy to summarise these rather squalid disputes. But it seems that the poor shroud was only guilty of one fault, it was without its credentials. How could it have had them, if its presence at Lirey was the result of a double theft, in regard to the second of which the King of France was compromised as a receiver of stolen goods. And it was this absence of an identity card which was held on all sides as an objection against the last owner, Marguerite de Charny, when she took it to Chimay in Belgium. In consequence, after a number of journeyings to and fro, she made a present of it in 1452 to Anne de Lusignan, the wife of the Duke of Savoy.

That is how it came to Chambéry, and became what it still is, the property of the house of Savoy which was formerly reigning in Italy. Please God it will one day come to rest in the hands of the Sovereign Pontiff, the successor of St. Peter and the Vicar of Jesus Christ, the only person on earth in whose custody it should be.

From then onwards the history of the shroud is well known. The Duke of Savoy had a chapel built for it at Chambéry. There was a series of expositions, and according to Antony de Lalaing the chronicler, it was made to undergo some strange tests in order to prove its authenticity. It was several times boiled in oil and also washed, but it was found impossible to remove the markings. A horrifying idea, if in-

deed the chronicle is to be trusted, but it anyway shows they had an obstinate determination to make themselves sure.

As if the ways of men were not enough, a fire broke out in the chapel in 1532, which narrowly missed destroying the relic. A drop of molten silver had burnt its way through the corner of the sheet where it was folded in its reliquary, and thus it is spangled with a double series of burns which we shall find equally spaced. These two holes are fortunately on each side of the central marking. The water used to put out the fire has left broad symmetrical rings along the whole length of the shroud. This was its second fire after its second robbery.

The fortunate result of this was a canonical inquiry so as to establish the genuine character of the damaged shroud; and the repairs made by the Poor Clares of Chambéry were accompanied by an official descriptive report which was drawn up by these holy women.

The shroud then made various journeys, following on the political vicissitudes of its proprietor; it finally arrived at Turin in 1578 where it was venerated by St. Charles Borromeo. The latter had taken a vow to go to Chambéry, but the Duke of Savoy spared him the labour of crossing the Alps, so that he went on foot only from Milan to Turin.

It was later deposited in the chapel adjoining the cathedral of St. John, where it is shown but rarely; exposition depends on permission being granted by the house of Savoy, who are not lavish in granting it. The last expositions took place in 1898 (when the first photograph was taken), in 1931 and 1933. Permission for the last one was obtained owing to its being the traditional centenary (though this is probably not exact) of the death of Jesus.

B.—THE HOLY SHROUD AND THE POPES

We have seen how the attitude of the anti-Pope Clement VII was as ambiguous as it was obviously political. The hypercritical historian Ulysses Chevalier seems to attach a special importance to his vacillating opinion, because he believes

that this supplies him with an argument against the shroud, but he might, with more impartiality, have balanced this with the constant veneration shown by the later legitimate Popes. Once the shroud had found a home at Chambéry, Paul II attached a collegiate establishment, with twelve canons, to the church where it had been installed by Duke Amedeus IX. Sixtus IV, in 1480, bestowed on it the name of the *Sainte Chapelle*. Julius II, in 1506, granted it a Mass and an Office of its own, for its feast-day which was fixed for May 4th. Leo X extended this feast to the whole of Savoy, and Gregory XIII to Piedmont as well, with the further grant of a plenary indulgence to pilgrims.

And they all, in their solemn pronouncements, declare that this shroud is indeed the one in which Jesus was placed in the tomb. They all add that the relics of the Humanity of the Saviour which it contains, that is to say His Blood, deserve and indeed require to be venerated and adored. This is precisely that cult of *latría*, against which the two Bishops of Troyes protested with such violence, finally winning the approval of the anti-Pope Clement VII. And this is all the more important, because many decisions taken by the anti-Popes of Avignon were, once the schism was ended, approved by their legitimate Roman successors.

It would almost be necessary to mention them all, in order to tell of the many marks of veneration which they lavished, and of the indulgences which they granted and confirmed on its behalf. Pius VII solemnly prostrated himself before it in 1814, when he returned in triumph to the Papal States, and Leo XIII showed joy and emotion when he saw the first photograph of the shroud in 1898.

We then come, without speaking of our present Pope before he has himself made a pronouncement, to His Holiness Pius XI, of venerated memory. Those who came into close contact with him, and I had the honour to be among them, know how rigorous and exacting was the scientific precision which guided that surprisingly lucid mind; he would be content with nothing less than good reasoning based on solid facts. Mgr. Ratti had seen the exposition in 1898, and he remem-

bered the supple quality of the material, the fineness of the lines, the absence of all colouring material, and the perfection of the anatomy of the body. But he had worked for many years at the Ambrosian Library, where the spirit of the Bollandists held sway, who are adepts at showing up false relics or fabricated legends; he had been well broken in by this at times very severe discipline. Now, from 1931 onwards he had the photographs of the shroud in his possession and made a careful study of them. He kept them within easy reach, according to his usual custom. He read everything which appeared on the subject, and my own *Five Wounds* (I know this from a reliable source, who was a friend of both of us). And as usual he did so with his pen in his hand, taking notes in the course of his reading. He did me the honour of wishing to see me. He went over the problem from every point of view, as he knew so well how to do, conscientiously, scientifically, slowly. He did not ignore any of the historical difficulties; this was his speciality, and he had at his disposal the Vatican archives, in which he was the supreme expert, as the Popes of the XVIth century already had the archives of Avignon.

But, as Father Armailhac has written: "Divine Providence ruled that it should be the best qualified of the Popes, the one least to be suspected of naïve piety, the one most expert in documents, who was to pronounce the verdict." This verdict, we must realise, was neither dogmatic nor infallible. It was no more than a personal scientific opinion; but it derives all its value from the eminent character of the man, combined with his pontifical dignity.

After five years of work and reflection, he formed his opinion, and as was his way, took the first opportunity of declaring it publicly: he would bring his allocutions, sometimes by an unexpected turn of thought, round to the subject which he had in mind.

On September 5th, 1936, he received a pilgrimage of young men belonging to Catholic Action, who were returning from the shrine of Our Lady of Pompeii. As souvenirs he gave them pictures of the Holy Shroud, and, after speaking to them of the Blessed Virgin, he said to them: ". . . These are pic-

tures of her Divine Son, and one may perhaps say the most thought-provoking, the most beautiful, the most precious that one can imagine. They come precisely from *that object which still remains mysterious, but which has certainly not been made by human hands (one can say that this is now proved), that is the Holy Shroud of Turin (ma certamente non di fattura umana; questo già si può dir dimostrato)*. We have used the word mysterious," he continued, "because that holy thing is still surrounded by considerable mystery; but it certainly is *something more sacred than anything else*; and indeed (one can henceforth say that the genuineness of it is proved in the most positive way, *even when setting aside all ideas of faith or of Christian piety*), it is not a human work (*certo non è opera umana*)." (*Osservatore Romano*, 7-8 Sept., 1936.)

He was to preserve this conviction till his death. He expressed it in the same terms, on September 23rd of the same year, to the collaborators of the *Vie Spirituelle*. A short time before his death, on February 3rd, 1939, in a solemn audience, in which he was celebrating many anniversaries which had precious memories for him, he once again distributed pictures of the Holy Face on the shroud.

This learned historian, this man of science, had not only looked at the marks on the shroud, but had studied them carefully. He would not have countersigned a phrase which greatly distresses me, a remark of the good Father de Jerp-harnion, whose splendid work on the rock-hewn churches of Cappadocia I have read with delight: "*We deliberately avoid lingering* (my italics) before a series of developments by which we are shown how, on the shroud, all kinds of markings and tracings correspond with the smallest details of the Passion and the Burial of Christ." Such *a priori* scepticism has no scientific justification and can only lead to sterility.

Exactly the opposite position seems to me worthy of a man of learning, to whatever branch he may belong. All relics only draw the proofs of their authority from documents, from solemn attestations, from the certificate of authenticity which accompany them. Without these, they have no real

value. I should like to know how many of these relics have certificates of authenticity which go back to their origins. On the contrary, there is but one in the world which would preserve its complete value, even if it was without historical backing, and that because it has intrinsic proofs of its authenticity. It bears them in itself. That relic is the Holy Shroud. Let us now spend a little time looking at the markings and tracings which it contains.

C.—GENERAL DESCRIPTION

1. *The Linen.*—The shroud is a piece of linen 43 inches broad, 14¼ ft. in length. Vignon put forward the hypothesis that formerly it was considerably longer, and that the shroud was shortened by cuttings made from the end by the Byzantine emperors for the purpose of gifts. It would seem, however, as has been stated in writing by Antoine Legrand and Father d'Armailhac (*Dossiers du Saint Suaire*, November, 1939), that there is nothing missing at the end of the shroud. A closer examination of the front of the picture of the legs shows that it is complete and reaches to the end of the feet (cf. Chapter VI, end). On the other hand there has been a lateral cutting at this point, which has been filled in by a piece of stuff similar to that used by the Poor Clares to mend the burns.

It has been possible to make a leisurely study of the structure of this linen, thanks to Enrie's enlarged photographs, which show the surface enlarged seven times. One is able to examine it in all its details, better than with a magnifying glass, and this has been done by competent judges, both in France and in Italy. Expert investigation has found that it consists of a linen fabric with herring-bone stripes; to weave it a loom with four pedals would have been required. The woof of this, according to Timossi, an expert in Turin, contains 40 threads to two-fifths of an inch. It is a tissue of pure linen, close and opaque, made of coarse thread of which the fibre is unbleached. This is very interesting, for the photographic examination of the tissue has demonstrated that all

the images on the shroud are the result of a simple impregnation of the threads; an impregnation which would have been facilitated by the fact that linen is an excellent absorbent. This examination definitely rules out the hypothesis which has been constantly repeated that it is a painting and therefore a fake. We shall return later to our opponents who would make out that it is a painting.

Such a material most certainly belongs to the age of Jesus. Similar fabrics have been found at Palmyra and at Doura Europos. It even seems that Syria and Mesopotamia were centres for this type of weaving, especially Syria. One would thus expect to find it among the wares on sale in Jerusalem round about the year 30. Pieces of linen have been discovered at Autinoé, of the same breadth but considerably longer (cf. the detailed study in Vignon, *Saint Suaire*, 1938).

2. *The Marks of Burning.*—Those who start studying the imprints are usually at first struck and disconcerted by the marks of burning which are ranged down both sides of the central picture. Their colour, which is more intense and blacker, eclipses to a certain extent the other markings, which are far less pronounced. The most important are in rows in two series of six, similar in form and dimension, except the four end ones which are merely partial. From this one can easily perceive where it was folded, by studying it in both directions, its length and its breadth; there must have been a series of 48 thicknesses. As the burning took place on one corner of the fabric which was folded rectangular-wise in the reliquary, it has entered into all the folds, thus producing the two series of holes. The corner was fortunately near the two outer edges, so that almost the whole central rectangle has thus been left intact, and only the shoulders and the arm in the frontal picture have been injured.

The burns are surrounded by reddish colouring such as would be left by an iron that was too hot, and in their centres portions of the fabric have been destroyed. These have been replaced by fresh pieces, the work of the Poor Clares of Chambéry. The water which was used to quench the fire has spread out across the fabric, leaving a dark ring like char-

coal, and producing a number of other encircled areas, also in a symmetrical series, but running through the middle.

On the same lines as the large ones there are other less noticeable burns, in a series of small round reddish stains. They must have been caused by an earlier fire. These are indeed to be found on a copy which was made in 1516, and is now at Lierre in Belgium, so would have been made by an earlier fire than that at Chambéry (perhaps the one at Besançon).

3. *The Folds*.—Apart from the burns, one can be led astray at first sight by a certain number of transverse marks, which are black on the positive print, and white on the reproductions of the plate, and which stretch like bars across the picture. They are the folds in the material, which could not be straightened out by stretching in its light frame. The dark marks are their shadows.

4. *The Bodily Impressions*.—Down the central part of the shroud, one can see two impressions made by the body, with the two marks made by the head near to each other but not touching. One is the front picture of the body, the other the back one. When one remembers that the pictures were made by a corpse, the explanation is simple. The body would have been laid on its back on half the length of the shroud, which would then have been folded over the head to cover the front, reaching right down to the feet. A miniature by G. B. della Rovere (XVIIth century) gives a perfect presentation of how this would have been done. One can also see that, as the body imprinted its image on the shroud, the two impressions would each be inverted.

One must get this clear in one's mind: if a man is standing facing you, his right side will be to your left and vice versa. If he has his back to you, his right side will be to your right side and vice versa. This will be found on the facsimile of the photographic plate, which, as it inverts the picture of the shroud, gives the picture of the corpse itself. But in the impression on the shroud, and the positive print, the picture of the front appears as if one were looking into a glass; the right

side, and the wound, will be to your right, and reciprocally. The same applies to the picture of the back.

The brownish colour of these impressions is due, as we have said, to the staining of each thread, which has been more or less impregnated.

The whole picture reveals a perfectly proportioned anatomy; it is well-made and robust and is that of a man about six foot high. The face, in spite of the strange effect of all these impressions, which when photographed give the effect of a negative, is beautiful and imposing. It is surrounded by two masses of hair, which seem to be rather pushed forward. It is probable that the bandage round the chin, which would be intended to keep the mouth shut, would pass behind these masses of hair; on the top of the head it must have pressed against the shroud, which would account for the space between the back and front pictures of the head.

The lower members show up very well in the picture of the back, and there is a perfect impression of the right foot. In the picture of the front, the lower part of the legs is not clear, as if the shroud had been held back from the insteps. But we shall see all these details when we study the wounds one by one.

The most striking thing in this ensemble of bodily impressions is the remarkable effect of relief which they give. Not one line, not one contour or shadow has been drawn, and yet the forms stand out strangely from the background. This receives further confirmation from a fact: never have I seen a copy, whether picture or drawing, which resembles the face on the shroud. On the other hand, the medal made of it in bas-relief by my friend Dr. Villandre evokes it in the most impressive fashion.

5. *The Marks of Blood.*—One finds these on all sides and we will study them in detail: there are the wounds of the scourging, of the crowning with thorns, of all the ill-usage that took place, the carrying of the cross, the crucifixion, even of the blow of the lance received after death, which drained the veins of their blood.

All the marks of blood have a special colour which stands

out against the brownish tone of the body. They are carmine, a little bit mauve, as Vignon used to say. They vary in depth and intensity according to the wounds, and even in the length and breadth of each one, giving an effect of varying thickness which is at times astonishing, as if one saw the congealed blood in relief.

Another important peculiarity: while in the imprint left by the body everything is in light and shade, merging imperceptibly and without defined boundaries, the marks of blood have a far more precise outline. They even stand out very clearly in the reduced photographs. However, on the life-size photographs, while they preserve this clearness and give the impression of being thicker at the edges, here and there they seem to be surrounded by an aureole of a much paler colour, like a sort of halo. We shall see that this is produced by the serum which transudes from blood which has recently congealed on the skin.

I shall constantly revert to the principal fact regarding these images of blood, and I must insist on it from the beginning, because those who have not studied medicine and had to live in an atmosphere of blood, will find it hard to grasp. *The thing which immediately strikes a surgeon and which can be confirmed later by a more exhaustive study, is the definite appearance of blood congealed on the skin*, borne by all the blood-marks. You see! It is so definite to me, that unconsciously I am already speaking of blood-marks. It is thus, as we shall see, that these images of blood were formed.

When, in May, 1933, I was writing my first article on the wounds in the hands, my only documents, excellent as they were, were photographs. All the images were thus more or less black. Authors, especially Noguier de Malijay, insisted on the monochrome quality of the shroud, in spite of ancient and reliable witnesses, such as the Poor Clares of Chambéry. Therefore, having seen the shroud by the light of day in 1933, I wrote the following testimony in the first edition of *les Cinq Plaies du Christ*:¹

¹ *The Five Wounds of Christ*. English translation by M. Apraxine. (Clonmore & Reynolds.)

“At the last exposition, which took place in 1933, by special dispensation, on account of the jubilee year of the Passion, I went to Turin and on October 14th I was able to spend a long time studying the shroud, which was exposed in a monumental frame above the high altar, and was illuminated by strong electric projectors. The picture was just as it had been described, and brownish in colour; the wounds were simply darker than the rest, and stood out more or less from the whole human silhouette.

“But, on Sunday, October 15th, which was the closing day, the relic was taken out of the heavy frame in which it was exposed under glass, and twenty-five prelates bore it with all due solemnity in its light frame, out to the terrace of the cathedral so that it should be venerated by the vast crowd who were filling the square, behind a double line of foot soldiers. I was in front of them, on the steps of the terrace, and Cardinal Fossati, the Archbishop of Turin, was so kind as to have the frame placed for a few minutes on the edge of the terrace, so that we might have the chance of looking at it. The sun had just gone down behind the houses on the other side of the square, and the bright but diffused light was ideal for studying it. I have thus seen the shroud by the light of day, without any glass screening it, from a distance of less than a yard, and I suddenly experienced one of the most powerful emotions of my life. For, without expecting it, I saw that all the images of the wounds were of a colour quite different from that of the rest of the body; and this colour was that of dried blood which had sunk into the stuff. There was thus more than the brown stains on the shroud reproducing the outline of a corpse.

“The blood itself had coloured the stuff by direct contact, and that is why *the images of the wounds are positive while all the rest is negative.*

“It is difficult for one unversed in painting to define the exact colour, but the foundation was red (mauve carmine, said M. Vignon, who had a fine sense of colour), diluted more or less according to the wounds; it was strongest at the side, at the head, the hands and the feet; it was paler, but

nevertheless fully visible, in the innumerable marks of the scourging . . . but a surgeon could understand, with no possibility of doubt, that it was blood which had sunk into the linen, and *this blood was the Blood of Christ!*

"I have a long experience of Italians, and I find their lively reactions very attractive; but I must own that on that day I was surprised: the crowd broke out in applause.

"As for me, my soul, both as a Catholic and a surgeon, was overcome by this sudden revelation. I was quelled by this Real Presence, the evidence for which was so impressive. I went down on my knees and I adored in silence."

I have been reproached in an ironical fashion which makes one grieve for the authors, on account of the phrase: "A surgeon could understand, with no possibility of doubt, that it was blood which had sunk into the linen." I may have erred on the side of conciseness, but I am not so naïve as I may seem. One might say that there are those who cannot read and those who do not wish to read. I have therefore added this little paragraph in the second edition.

"It is fully understood that a rigorously scientific proof that these stains are due to blood would require (if they were allowed) physical or chemical examinations; for example, the search by means of the spectroscope for rays of hæmoglobin or its derivatives. But, as it has been proved that the other images are not the work of the hand of man, that this shroud has contained a corpse, *can the marks of these wounds, which are so rich in details as genuine as they are unexpected, owe their colour to anything but blood?*"

As I have more space in this book than I would have in a brochure, I propose to develop my thought, and this will lead me to insist on a highly important point if we would understand these images of blood. It is that of their formation. We shall study this shortly, in section E of this chapter.

D.—THE PHOTOGRAPHS

On this subject I shall only state the essential facts. I cannot too strongly advise any reader who is interested to obtain

the book by my friend Giuseppe Enrie, the official photographer of the shroud (to whom we owe much precious work), *La Santa Sindone rivelata dalla fotografia*. There is a good French translation by my dear friend, now dead, M. Porché (Librairie du Carmel, 27 Rue Madame, Paris VI). The proofs of the photographs can only be obtained from Enrie, Via Garibaldi 26, Turin. (There is a depot for France at the above library.)

1. *Technique*.—Enrie has produced twelve photographs, nine of which are of the shroud taken out of its frame and exposed to a high-power and carefully arranged light. Three of these are of the whole fabric. The others are photographs of the various details: two of the Holy Face, one of which is on a scale of two-thirds of the original, and the other life-size; one of the Holy Face with the upper part of the bust, also to a scale of two-thirds, and one of the back. There is finally one of the wound in the hand, enlarged seven times, which enables us to study the state of the tissue in every detail. The twelfth one shows us the complete exposition.

All these were taken on orthochromatic plates. Technicians will find all the details in Enrie's book. I need scarcely add that these photographs have received no touching-up, and have undergone no process other than that of normal development. Apart from the scrupulous conscientiousness of my friend Enrie, this fact has been certified before a notary public, by a commission of expert photographers. The authenticity of all the reproductions has been vouched for by the Archbishop of Turin, Cardinal Fossati. Besides, all the details of these official photographs are confirmed by the numerous snapshots taken by amateurs during the expositions of 1931 and 1933, some of them in full daylight, on the closing day; I know something about this. But let us return to what is to be seen in these photographs.

2. *Results*.—In a word, everything in the photographic plates connected with the images of the body is positive, as should be the case in a reproduction on paper when a body has been photographed. In this case, on the contrary, it is the reproduction on paper which gives a negative image of the

body, because of the fact that this is how it is on the shroud itself. The marks made by the body on the shroud are thus like a negative; they have all the characteristics of an ordinary photographic plate; everything is inverted, black is white, and white is black. The only difference is that the negative image on the shroud shows no shadow, as is always the case when a normal object is photographed.

On the other hand, and this is of the greatest importance, the burns (as is obvious), but also the marks of blood, are clearly positive on the shroud: on the photographic plate they come out white. These then are positive, normal images on the shroud. The linen background, as would be expected, comes out black on the plate.

This leads us to a most important conclusion: the marks of the body have been produced by a process, which, if, as we believe, it was a natural one, bears a certain likeness to the phenomenon of photography. The marks of blood, on the other hand, can only have been made by direct contact; they are the marks of congealed blood; we shall return to this later.

It is impossible to give a clear summary of all Enrie's considerations; his book must be read. A word is needed however to explain that the facsimiles of these photographic plates, those which give a normal, positive portrayal of the Holy Face, for instance, have all the impeccability of the original plates. There has been no interference with them. The plates have been reproduced, not on paper, but on a sensitive plate.

3. *Conclusions.*—I will give here only the conclusions reached by Enrie himself:

(a) The negative marks are absolutely exact; the characteristics of this strange image, which has not been made by the hand of man, are to be found at every point, apart from the stains of blood.

(b) There are certainly no traces of colouring, of marks made by a paint-brush, or of other artifices such as would be employed by a draughtsman or a forger.

(c) The light and shade has no contours, it is without lines

or stippling, but there are scarcely perceptible gradations, which remind one of a photographic process.

(d) The marks of blood, which are positive on the negative image of the Redeemer, are on the contrary strongly marked, and show the characteristics of an impression made by contact; there are also irregularities in their structure, which point to their natural origin.

(e) The anatomy and the pattern are true to life: the physical characteristics reveal both the personality and the race; they have not been altered by serious swellings and by a fracture of the nose, as was imagined after the photographs were taken in 1898, when the fabric had not been carefully stretched out.—(Enrie will please forgive me; but, apart from the abrasions and the wounds, there is a swelling in the right zygomatic region, and there is a fracture of the posterior nasal cartilage.)

(f) The parts corresponding to shadows are absolutely devoid of impression, for they allow the fabric to be seen intact.

(g) The facsimile of the photographic negative of the face displays with marvellous exactness some negative qualities of the imprint, for it reveals, not only a form, but also a spiritual content: the expression.

I do not wish to insist on this last conclusion. I will leave it to the reader to look at the images; they are more eloquent than I could ever be. In that face, which is definitely Semitic, one finds, in spite of the tortures and the wounds, such an effect of serene majesty that an unspeakable impression is left. If one would understand it a little, one must remember that if the Sacred Humanity had just died in that body the Divinity is always present with the certainty of the coming Resurrection.

No artist has ever imagined a face approaching this one. And I would not be so cruel as to remember the copies and the imitations which people have tried to make, nor even the after-touches which do away with the furrows. As Virgil said to Dante in his *Inferno*: "*Non ragionam di lor, ma guarda e passa*—Do not let us speak of them, but look and pass on!"

E.—THE FORMATION OF THE IMPRESSIONS

1. *Blood-stained Impressions.*—We shall begin with these because, to speak the truth, they are the only ones of which we can imagine the formation in a way that is both certain and complete. As a Christian will have guessed, this almost raises the question of the circumstances of the Resurrection, which are a mystery. Even the hypercritics will not demand that I should supply them with a scientific explanation.

The marks of blood on the shroud are not graphic pictures, as are the bodily impressions. I do not say photographic, for as we do not know the way in which these latter were formed, we do not know if light played a part; anyway, as we have seen, they are very like photographic negatives. The blood-stained impressions are not pictures; they are counter-drawings and they are made by blood. But in what form? Liquid or congealed blood? Are they from clots which had dried already or recently formed clots, which were still exuding their serum?

We may start by dispelling a false idea, which is expressed in words that I have too often heard used by one of the oldest and firmest defenders of the shroud: "A flow of clots." Although I knew what to expect, I could not help giving a start each time. No! A clot which has been formed on the skin sticks to it and dries.

Another point: a clot is never formed in the body, or more exactly in the veins, in which the blood always remains liquid. The "thrombus" which appears in veins afflicted with phlebitis is an entirely different thing anatomically, and it is only to be found in unhealthy veins, with which we are not concerned here.

Blood remains liquid in corpses; we shall return to this when dealing with the wound of the heart. It becomes concentrated in the veins; at death the arteries empty themselves into the capillaries and into the veins, owing to the final contraction of the ventricles and to their own elasticity. It remains liquid in the veins for a very long time, usually

till putrefaction sets in. It even remains *alive* for *several hours* and is capable of being transfused into a living man.

When blood leaves the veins owing to a wound, if collected in a receptacle it can be seen coagulating rapidly, that is to say it becomes a sort of red jelly, which we call a clot. This clot is formed by the transformation of a substance which is dissolved in the blood, fibrinogen, into another solid substance, fibrin; this latter contains within its meshes red blood cells, whence its red colour. Coagulation takes place in a very short time, never longer than a few minutes. Secondly, the clot grows smaller, and exudes its liquid content, the serum. It then gradually dries.

Thus, if blood should issue from a dead or a living body through a wound in the skin, a considerable amount of this will flow in liquid form along the skin, and, by reason of its weight, can fall to the ground. A part, by reason of its viscosity, will adhere to the skin (in larger quantities if this should be horizontal), and it will there coagulate rapidly. If the flow of blood continues, fresh levels of liquid blood will spread over the previous ones, and in their turn will coagulate. If the blood meets with an obstacle during its downward flow, it accumulates above it; the clot at this point will thus be thicker.

The clot grows smaller on the skin as in a receptacle, owing to the expulsion of the serum and the drying process which follows. But, when the surface is broad and shallow, this drying up will clearly take place more rapidly.

It will be understood that I am only giving these elementary explanations for those who are not doctors. They seem to me to be indispensable, for I have so often come across serious misunderstandings even among highly cultivated people. We thus see that the shroud may have been stained, either by liquid blood, or by clots which were still fresh and moist, or by dried clots. We also see that around the clot, if this was still fresh, it could be stained by the serum which had been exuded. To which category do our blood-marks belong?

Liquid blood is an exception and almost unique. I can only find traces of the blood which flowed from the holes in

the feet, on the way to and within the tomb, in the direction of the heels. The greater part coagulated elsewhere on the soles of the feet, and these clots left their traces on the shroud when they were still fresh. One part, however, flowed beyond the feet into the folds, crossing these folds from one side to the other, forming symmetrical images which we shall meet with again.

Some of the clots must still have been fresh enough to remain moist. One of these *may be* the large original clot of the heart wound, by reason of its thickness. The clots of the large flow of blood across the back of the body certainly form part of this group (cf. C. VIII), clots which were formed in the hollow of a sheet twisted beneath the loins into a band for the purpose of bearing the body to the tomb. The greater part of this abundant flow of blood, which issued from the inferior vena cava, and found its way out through the gaping wound of the heart, must have fallen to the ground on the way. Only a small part of it, which was able to reach the skin between the folds of the band and to adhere to it on account of its viscosity, became coagulated in the form of numberless windings, such as are characteristic of the flow of blood at the back. These clots were clearly quite fresh, when the body was laid down on the shroud; they left their trace very easily, with an abundance of serum around the marks.

Most of the clots were more or less dry at the time of the burial. How were they also able to leave their trace? We must understand that once the corpse had been installed, it was hermetically enclosed in a shroud and in linen cloths, all of which were impregnated with thirty kilograms of myrrh and of aloes; its wrappings would be practically impervious. We must also remember that the corpse would continue to give out moisture for some time. One tends to forget that all the cells of a corpse continue to live, each one on its own, those of the skin like the others, and that they die individually after different lengths of time. If the higher-grade and the nervous cells are the most fragile, yet the others last for some time; total death only sets in with putrefaction. Now our Faith tells us that Jesus never knew corruption; and

every part of the shroud confirms us in this certainty. On the other hand all the wounds, all the abrasions with which the body was covered continued to exude a more or less infected lymph as when it was still alive, but in liquid form.

The result of all this was that the body was bathed in a watery atmosphere, which made all the clots on the skin and in the various wounds damp once more. And this brings us back once again to the fresh clots, *apart from the serum*.

Now, by this I do not mean that the fibrin became liquid again, which would be something quite different. Vignon, who was completely imbued with his aloeticoammoniacal theory of vaporographic impressions (a theory which he, however, found much less satisfactory from 1938 onwards) thought that it was ammonia which had again dissolved the fibrin and had liquefied the clots. He made an experiment by placing some clots on a substance which had been soaked in a solution of ammonia. In any case it would no longer have been normal, living blood, but a coloured liquid, susceptible of flowing, incapable of reoagulating. Such flows, taking place in a horizontal position in the tomb, would have been disastrous for our blood-stained images; in fact, there is no coloured flow on the shroud; there are only counter-drawings of clots.

Vignon's hypothesis is thus unable to account for our blood-stained images; on the contrary, it only makes for confusion. More than that, it has no basis in fact, nor has his theory of ammoniacal browning by the aloes. It is true that the fibrin will dissolve in a solution of ammonia; but I find no signs of ammonia on the shroud.

There is certainly a little urea, which may have been left by the sweat drying on the skin; there is also some in the blood and in the lymph which was exuded by the wounds. In no case would the amount of urea be considerable. But anyway, this urea has none of the properties of ammonia. It would need to be transformed into carbamate, and then into carbonate of ammonia. Now a transformation such as this would take a long time, much longer than the length of the period spent in the tomb. The presence of a special micro-

organism, the *micrococcus ureae*, would also be needed. There is no reason why this should have existed on the surface of the body. My friend, Volckringer, who was pharmacist at the Hôpital Saint-Joseph, experimented by placing some urea on the skin of an animal; the vapours of ammonia did not appear for twenty hours. The reaction is delayed and even *held up* by all antiseptics, even mild ones, such as *aloes* for example! There is thus scanty encouragement for Vignon's hypothesis.

The two necessary conditions for the formation of ammonia, time and ferment, are absent, and for this reason I have always remained sceptical about this theory.

On the other hand it seems to me quite possible that clots which had become more or less dry, would, without liquefying the fibrin, in a damp atmosphere become sufficiently moistened to form a fairly soft kind of paste. Thus transformed they would be well able to impregnate the linen with which they came in contact and to leave counter-drawings on it with fairly definite outlines, which would reproduce the shape of the clots.

The colour of these counter-drawings would vary in intensity according to the thickness of the clots. Vignon saw clearly that when a drop of congealed blood grows smaller, its thickness is greater in the circumference than in the centre. And that is why many of these counter-drawings are highly coloured at the circumference and have in their centre a zone of milder colour.

And this is how, in my opinion, almost all the blood-stained images were formed—but I must return to the images produced by the flow of liquid blood, and to the possibilities which this blood would have offered an ingenious forger. Everyone who has had any experience knows that the stain made by blood on linen does not remain always the same, in particular if the linen has not been specially prepared. On a compress, when used in an operation, a drop of blood can be seen diffusing itself rapidly, the stain enlarges as it spreads into the tissue, but it does so with more speed in certain directions, following the threads of the material. If, for in-

stance, it consists of plain twill, as is usually the case, around a central zone which is more or less round, one can see four little prolongations following the threads of the warp and the woof, which thus forms a little cross.

The phenomenon is even more striking if, instead of blood, one uses a few drops of some more volatile liquid, such as tincture of iodine; the material becomes spangled with little brown crosses. This *irregular* and guided diffusion is all the more noticeable in proportion as the thread is capable of absorbing liquid. Now, as we have seen, the thread from which the linen of the shroud was woven, which is coarsely spun from unbleached fibre, is an excellent absorbent.

It is in fact noticeable that the edges of the two liquid flows which are on the shroud on the outside of the soles of the feet, instead of having the clear outline of the clots on the hands or the forehead, for example, are *irregular* and *inverted*. It would be interesting to have a photograph which had been directly enlarged in order to compare it with the one which Enrie made of the wrist. In the latter one can see that the coloration of the blood-stained imprint is solely the result of each thread being impregnated, each of which preserves its form and its separate existence. There is no clogging, not the slightest thickness of colouring matter between the threads of the material.

By reason of this detail a forger would have had the greatest difficulty in imitating blood-stained imprints, if he used blood as his colouring matter. Never would he have succeeded in producing those stains with clearly marked edges, which with such outstanding truthfulness reproduce the shape of the clots as they were formed naturally on the skin. May I say, in parenthesis, that this demolishes beforehand certain theories which will be put forward by opponents of the shroud, on the day when the physical examination, which would have taken place long ago were it not for the inertia of the proprietors, will perhaps have demonstrated scientifically that the stains were made by blood.

As I lacked the chance of making such decisive experiments, it was precisely the study of these pictures of the clots

which led me to the conclusion that they really were counter-drawings of congealed blood. I shall describe these at greater length, for instance in connection with the crowning with thorns (see C. IV, D). But I could repeat the same demonstration in connection with all the blood-stained pictures. In the eyes of a surgeon they possess a most striking realism, which I have never yet seen in any painting.

All painters, apart from those who portray wounds that have no relation to reality, paint flows of blood with more or less parallel edges, and are well content as long as they follow the laws of gravity, as for example, in making them flow from the hand towards the elbow. But these are flows of liquid blood, of blood which is not clotted. And they imagine that they are thus being realistic.

There is no flow of blood on the shroud; there are only the counter-drawings of clots; these clots represent that part of the blood which has congealed on the skin, while flowing over it. If I sometimes refer to flows of blood, when describing the shroud, it is because these clots tell us of the past when that blood *flowed on the skin*: in the same way beautiful writing, though now motionless, evokes the movement of the pen by which it was traced.

Actually, those pictures which are meant to be the most realistic are the ones which contain the most blatant physiological errors. We shall find that this is specially the case in regard to marks of blood. When a crucifix is designed to stir our emotions by displaying to us the atrocious nature of the torture, so much the further is it from the truth. I know I shall be attacked for this, but still, it has to be said; if from the artistic standpoint I am able to appreciate the pictorial values of a Grünewald, the contorted way in which he paints the Crucified seems to me purely grotesque. I can assure you that the Passion was both *more simple* and infinitely *more tragic* than that.

After the exposition of 1933 I wrote *les Cinq Plaies*.² I already *knew*, after studying the marks of blood, that it really

² *The Five Wounds of Christ*. Translated by M. Apraxine. (Clonmore & Reynolds.)

was blood which had formed these images of clots. I had recognised them, just as one recognises the image of a familiar face. I had a mistaken conviction that these marks were of the same colour as the remainder, and I had actually seen monochrome images on the linen by electric light. And suddenly, by the light of day, I saw that they had this carmine colour, which added one more note to the conviction which I had already formed. I thus had the right to state, without abandoning any scientific precision, that "the surgeon *understood*, without any shadow of doubt, that it was blood by which the linen was impregnated, and that this blood was the Blood of Christ." In this I was certainly being more scientific than those who refuse to look at the shroud.

And have we finished with this study of clots? Alas! We are far from this and there will always be immense difficulties to be resolved. Spectroscopy, photography in all the zones of the spectrum, infra-red in particular, radiography, and everything else that we could imagine—since it seems impossible to achieve a chemical examination, all this research will perhaps tell us one day that a corpse covered with wounds lay for some hours in this shroud. Nothing will explain to us *how it left it*, while leaving on the shroud a fine and unblemished impression of the body and the marks of its bleeding. A man would not be able to remove the body of another, without destroying them.

It is certain that this Body, in its glorious Resurrection, could leave the shroud with the same ease as when it entered the cenacle *januis clausis*—"when the doors were shut." This final difficulty brings us to what is, humanly speaking, more or less a physical impossibility. Science at this point can do no more than keep silence, for it is outside its domain. But the man of learning at least has a glimpse that here is a palpable proof of the Resurrection.

When I had published the first edition of *les Cinq Plaies*, I went to the *École pratique* to read it to my old friend, Professor Hovelacque. He was devoted to the subject of anatomy, which he taught to the faculty in Paris, but he was far from being a believer. He approved of my experiments and con-

clusions with growing enthusiasm. When he had finished reading he put down my booklet, and he remained silent for a short while in a state of meditation. Then he suddenly burst out with that fine frankness on which our friendship had been built up, and exclaimed: "But then, my friend . . . Jesus Christ *did* rise again!" Rarely in my life have I known such deep and happy emotion as at this reaction of an unbeliever when faced with a purely scientific work, from which he was drawing incalculable consequences. He died a few months later, and I dare to hope that God has rewarded him.

2. *The Bodily Impressions.*—May we say at once, that if we know full well what these impressions are not, we have no precise idea of how they came to appear. To this we may add that we do not know when they appeared. One is reminded of that negative knowledge of God, which has been so well expounded by St. Bonaventure.

What exactly are they not? Either a forgery, a piece of trickery, or the work of human hands—this, I think, can no longer be affirmed. If this were a painting, it would have been done at the latest in the 14th century, when the shroud reappeared at Lirey. Need one go over again all the impossibilities underlying this hypothesis? Such a painting would contain a negative image, an unimaginable conception before the invention of photography. And nobody need say that the shroud was reversed by the Poor Clares of Chambéry; the Lierre copy, which dates from before their day, already shows the wound of the heart on the left. This negative presents so much difficulty that all the ancient copyists tried to interpret it in a positive image, which misrepresented all the details. Even modern artists, such as Reffo and Cussetti, who have copied the shroud having full knowledge of the subject, have not succeeded; their copies, which seem to bear a resemblance to the original, show on photographic plates positive images very different from those on the shroud. This is because the lights and shades on the shroud, when reproduced negatively, have an absolute perfection such as no painter can achieve, and which one only finds in nature or in objective photography.

There is not a trace of painting to be seen, even in Enrie's highly enlarged direct photographs. (To make this clear, one should explain that this is not just a matter of enlarging a photograph, but of an apparatus which produces on the plate an image enlarged seven times, such as a magnifying glass of the same power would supply to the eye.) These images, as shown by Viale, the director of the civic museums in Turin, have no style of their own; they are impersonal. They have nothing in common with any medieval French or Piedmontese style.

How could an artist, who was painting a shroud destined for public exposition, have dared to do an unheard-of thing, that of portraying a Christ who was entirely naked? How would he have come to contradict the traditional iconography, with a nail in the wrist, with a thumb hidden in the palm of the hand (which has often been repeated by those who have copied the shroud), with a Crucified Being who only shows one pierced hand and one pierced foot, with that curious flow across the back? How could he, while knowing nothing of the physiology of the blood, conceive of clots so true to life and how was he able to paint them on linen which had not been specially prepared? All artists have painted flows of blood for us; not one of them has thought of painting clots.

I will waste no time on the objection that the painting became negative owing to the weakening of the colours; this has been disposed of in a learned manner by Enrie. The darkest parts of the plate are those which correspond to the parts of the shroud which consist of bare linen; a colour which does not exist cannot be reversed. I have furthermore on twenty occasions seen the Assisi Cimabue; this is quite different from a negative like that of the shroud.

We can say, then, that there was no painting. Images of clots such as those on the shroud could not be produced with any colouring matter. But there are still some disappointments and uncertainties ahead of us. A corpse must have lain in that shroud—why should it have been that of Christ and not of some other man? Let us deal quickly with an objection which I have often heard brought forward. This body

bore all the stigmata of the Passion. All those, I shall be asked, which one would find on a crucified man? Yes, in fact including those of the scourging and of the wound in the heart from the lance. (The body would in this case have been returned to the family, as we shall see, Chapter II, c, 6°.) But only one crucified man was, to our knowledge, crowned with thorns, and that was Our Saviour. And then, if this was not the shroud of Christ, why was it so faithfully preserved? Finally, what man condemned to death could show in his face such nobility and such divine majesty? I will not insist on this last point; let the reader decide for himself when he has in all humility contemplated the face.

According to Vignon's theory, which is the oldest, the markings are due to a browning of the aloes which was spread over the linen, owing to the exhalation of ammonia by the body. These vapours would act in inverse ratio to the distance between the outlines of the body and the surface of the shroud. (The future will perhaps tell us whether there is any truth in this last phrase; I certainly do not see how it can apply to the image produced beneath the corpse; but let us pass on!) These vapours would be due to the decomposition of the urea (formed by the sweat and blood which had accumulated on the surface of the corpse?) At this point I refuse to follow him. We have recently seen, in regard to the cloths which are supposed to have been liquefied by dissolving fibrin, how this transformation of urea into carbonate of ammonia was both problematic and a slow process. Vignon's theory, which seems so attractive at first sight, raises yet further difficulties; its foundations especially seem to be unsound. Vignon himself during his last years, and from 1938 onwards, does not seem to have had the same confidence in it.

My good friend Don Scotti, a Salesian, is a doctor of medicine and also an excellent chemist. He has made considerable researches in aloes since 1931, in regard to its components and its derivatives, of which I am not in a position to give a clear résumé. For example, *aloetine*, when it comes into contact with water or with alkaline, takes on a dark brown colour, as it becomes transformed into *aloeresinotannol*. Linen, which

has been plunged for a few minutes in a solution of aloine, of which the chief colouring matter is *aloemodine*, as a result of simple contact with the air will in the space of two months take on a colour of rose carmine. The subsequent action of the light of the sun will make these colours yet more vivid. We can thus already see the possibility of a slow and progressive disclosure of the marks on the linen.

Judica and Romanese have, since 1939, obtained markings from corpses. What brings them together and also connects them with Scotti, is that they rule out ammonia. Both of them work by light contact. But Judica obtains his markings by spreading blood on the body and impregnating the linen with oil and with essence of terebinth. The images are brought out by exposition to steam. Romanese merely sprinkles the body with powdered physiological serum (solution of chloride of sodium) and sprinkles the linen with powdered aloes. The images obtained by these two processes are, it must be owned, far from the perfection of the face on the shroud. But they are something quite new, which should greatly encourage further researches along these lines.

I would now end up with an extremely stimulating work, which was published in 1942 by my friend Volckringer, the chief apothecary in the Hôpital Saint-Joseph, whose experiments with urea we have already considered. He has also made researches into the formation of colours, much on the lines of those made by Scotti. In this work (*Le problème des empreintes devant la science*—Librairie du Carmel, 27 Rue Madame, Paris, 6°), he has produced something quite original, combined with a fine collection of pictures, the only ones which can be said to approach the perfection of those on the shroud. It is a fact that these were also formed *naturally* and, as we shall see, without ammonia, without aloes, and some of them without direct contact. He is not dealing, it is true, with animal tissues; he is dealing with vegetable tissues; but they are living tissues, and one knows the analogies that there are between the two kingdoms. One can for instance say that urea, uric acid, allantoin and allantoic acid are to be found in plants. Desgrez has even shown how vegetable chlorophyl

and animal hæmatoporphyrin will, under the action of ultra-violet rays, become transformed into the same urobiline.

By examining old herbals Volckringer has established the presence on the paper of quite special types of images, representing the plants which have been preserved. Once it was well and truly dried, the plant would soon lose most of its external characteristics. Being fixed, as it is, on a sheet of paper between two other sheets, we frequently find one upper and two lower images, the second being formed on the enveloping sheet, *through the sheet supporting* the plant. The presence or absence of chlorophyl was noticeable, and similar images were produced by the roots.

None of these images were to be found in recent herbals. They were, for instance, very clear in a herbal of 1836, while there were scarcely any markings in a herbal of 1908, which at the time was 34 years old.

These images seemed to resist all reagents, except ammonia; this latter greatly weakened the colouring, which it threw back in a brown circle on the edge of the area to which it was applied.

These images were "like a light design in sepia, perfect in continuity: examination under a magnifying glass revealed no fine lines, but a collection of stains without clearly defined boundaries." They would seem to be like the impressions on the shroud, and this is not all. "One could distinguish on the impression, which is sepia in colour, the veins of the leaves, in their smallest ramifications, and where the stalk had been cut . . . the folds and the reciprocal positions of the various parts of the plant, thanks to the comparison of the upper and the lower impressions. . . . The whole plant is faithfully reproduced in the two images."

And now we come to the most interesting point. Volckringer photographed these impressions and he found that on the photographic plate "in the reversed image the most prominent part of the plant came out light, while the more distant parts came out dark." The whole image gives an extraordinary effect of relief, and stands out naturally against a black background.

The plate thus gives us a normal, positive image of the plant which was formerly placed between those sheets of paper. Now, this plant has been reduced to the condition of a corpse, "a uniform and more or less crumpled mass," brown or blackish in colour; all relief has more or less disappeared, the veins are scarcely visible and the details have been greatly weakened. The negative of this corpse gives the same crumpled effect, the same absence of relief." And *this plant already had this appearance, a long time before the first marks of this excellent impression appeared, an impression which resembles that on the shroud.*

Volckringer ends by apologising that he has provided another problem for solution, instead of a solution for the problem of the shroud. However, this fresh fact makes it possible for us to say with some confidence how the impressions on the shroud were formed, and this is most important; we know we are dealing with a natural phenomenon, nature having spontaneously furnished us with a similar example.

Furthermore, may we not infer from this that the shroud, when found in the tomb, perhaps only bore marks of blood? Is it not possible that the bodily impressions only appeared gradually, after long years? This hypothesis, which was first derived from a French photographer, M. Desgranges, was already being pointed out in 1929 by Noguier de Malijay.

As can be seen, much still remains to be done to elucidate the question of the impressions on the shroud. We are always being asked why we have not carried out such-and-such researches or experiments—this would end by being rather irritating, were it not at the same time rather ridiculous. We did not wait for those who oppose the shroud's authenticity to suggest that we should ask for permission to make scientific experiments. We asked for these before they did; indeed, we asked for more. May I state once and for all: had the shroud been our property, this would all have been done at least seventeen years ago, for a programme had already been completed by 1933, and since then we have merely been trying to perfect it.

While waiting for that happy day one may perhaps conclude with the words of an obstinate opponent of its authenticity, Father Braun, in his article in the *Nouvelle Revue de Théologie* (November–December, 1930, p. 1041). The italics are mine and it is with joy that I have underlined the words, for all roads lead to Rome: “Certainly the *striking* impression which has been left on the *venerable strip of linen of Turin*, its astonishing *realism*, its *impersonal* and almost sculptural character, which is certainly something quite foreign to medieval painting, remain a mystery.”

And to complete my thought, I would add, in company with our Holy Father Pope Pius XI: “There is still much mystery surrounding this sacred object; but it is certainly sacred as perhaps no other thing is sacred: and assuredly (one can say this is an acknowledged fact, even apart from all ideas of faith or of Christian piety), it is certainly not a human work —*certo non è opera umana.*” (September 6th, 1936.)

CRUCIFIXION AND ARCHÆOLOGY

It is certainly not without interest, before studying the actual sufferings of Jesus, to investigate what archæology, in all its forms, literary texts and artistic documents, has to tell us about crucifixion. For this chapter I am specially indebted to Father Holzmeister, S.J., who has published a masterly and almost exhaustive study on the subject, in *Verbum Domini*, the review of the Pontifical Biblical Institute (May, July, August, September, 1934), under the title *Crux Domini ejusque crucifixio ex archæologia romana illustrantur*. The abundance and the precision of his sources have enabled him to reach conclusions, most of which seem to be irrefutable. As I do not propose to give all his references here, apart from a few of those which I have verified, and others which did not come from him, I would strongly recommend anyone who can obtain the articles, or the booklet which was made up from them, and who can read Latin, not to be content with the extracts which I have made. I shall, however, venture to point out the very few questions on which I disagree with him. I shall reserve the causes of the death of Jesus for a special chapter; medical knowledge is, indeed, required for this chapter, which was not possessed by the ancient authors, nor by exegetes in general, nor by this special author.

I shall also deal with certain information which we can obtain from the history of art. But, out of respect for the value of this work, I wish on the whole to keep to its order and to its divisions.

A.—THE PRACTICE OF CRUCIFIXION

It seems that the Greeks, who had a horror of crucifixion, did not practise it. We do not find its entering Hellenic history till the conquests of Alexander, when he borrowed it from the

Persians. It was inflicted under the *diadochi*, under the Seleucids, such as Antiochus Epiphanes, in Syria, and in Egypt under the Ptolemies. In Syracuse, which was a Greek town, it had perhaps been borrowed by Denis the Tyrant from the Carthaginians.

It seems that the Romans adopted it following the example of Carthage, where it was frequently practised. As we shall see in section B, with them it was the final point of an evolution which started with a simple and reasonably harmless punishment, which was in ancient days inflicted on slaves. At Rome they started, during the wars, by crucifying deserters and thieves, but above all conquered rebels. Nowhere was this last reason resorted to so much as in the land of Israel, from the 2,000 seditious Jews who were crucified by the Legate to Syria, Quintilius Varus, after the death of Herod the Great, down to the hecatombs of the siege of Jerusalem, when the Romans crucified as many as 500 Jews a day, according to Josephus, a Jewish historian who was, however, not unfavorable to the masters of the world.

In times of peace it was the punishment meted out above all to slaves. A number of authors refer to it (Livy, Cicero and Tacitus). The comedies of Plautus, which teem with slaves, are full of direct allusions to what they seem to consider as their natural end: "My father, my grandfather, my great grandfather, my great great grandfather thus ended their career." (*Miles gloriosus*.)

This was first reserved for their organised revolts, such as that of Spartacus; after its repression there were 6,000 crosses marking out the road, the whole way from Capua to Rome. Later, proprietors were given the right of life and death over their slaves, who were looked upon as cattle. The death order was: "*Pone crucem servo*—place the cross on the slave," and not place the slave on the cross. We shall return to this important question of the *patibulum*, when we come to study the cross. (B, 2°, C, 3°, D, 4°.)

If this order was first given because of the flight of the poor man or for other serious offences, it ended by being issued for lesser reasons. We should also remember that, in ac-

cordance with an old and horrible custom, if the master of a house was assassinated and the criminal could not be found, all the slaves of the household were executed.

Even Roman citizens were on occasion crucified, and this not only by Caius Licinius and Labienus, on whom Cicero heaps bitter reproaches for this reason. From a series of texts it seems that this was done with some regularity, but that the victims were mainly humble citizens, who were either emancipated slaves or provincials. Cicero's invective would seem to claim that citizenship brought with it exemption from this. But in his time this was not an absolute guarantee, and one could cite, even according to him, a number of *cives romani* who were legally crucified.

B.—THE INSTRUMENTS OF CRUCIFIXION

The cross, according to the general rule, the regulation cross, if one may so express it, was made of two distinct pieces. The authors of the Septuagint already call them "*xulon didumon*—the double wood" (Josue VIII, 29). The one, which was vertical, and was a permanent fixture, was the "*stipes crucis*"; the other, which was movable and was fixed horizontally on the first, was the "*patibulum*."

1°. *The stipes crucis*.—In ordinary language, the trunk of the cross, for *stipes* can mean a trunk (of a tree), a stake and even a pale. This was what in early times was meant by the word cross. "*Crux*," like "*stauros*" in Greek, meant no more than a stake fixed vertically in the ground, much the same as "*skolops*" which means a pale; indeed the words *stauros* and *skolops* could be interchanged, so that certain authors have used the word "*anaskolopisein*" (to empale) in regard to the crucifixion of St. Peter and that of Our Lord Jesus Christ.

The word "*crux*" then came to mean the combination of the two pieces of wood, as we understand it to-day. But as we shall see, a stranger thing yet, the words *crux* and *stauros* were used, by synecdoche, in reference to the movable *patibulum* only: *Crucem portare*—*stauron basatsein*—To carry one's cross.

As for St. Andrew's cross, in the form of an X, it is unknown in the ancient authors.

How high was this *stipes*? Father Holzmeister distinguishes the "*crux humilis*," which would have been low, from the "*crux sublimis*," which would have been high. But all the examples he quotes show clearly that the *crux sublimis* was reserved for personages whom it was specially desired to display, such as Regulus or Bomilcar at Carthage, or the Spanish assassin to whom it was ironically granted by Cæsar Galba, because he had claimed to be a Roman citizen.

On the contrary, most crosses were low, *humilis*. This allowed the wild beasts who were let loose in the arena to attack the crucified easily, and also the wolves of the Esquiline who used to devour the corpses (on the slopes of the Esquiline at Rome there were a large number of *stipites* permanently fixed). Suetonius gives a horrible account of Nero, who used to enter the arena disguised as a wild beast, so as to satisfy his sadism.

We should also note that crucifixion would be greatly simplified for the executioners by the use of low crosses, especially when work was pressing and there was a large number of condemned men. One should never, when studying a form of punishment which was practised almost daily, forget this idea of convenience, perfected by long use. One has to try and enter into the attitude of the executioner.

2°. *Patibulum-Furca*.—The horizontal piece of wood had a rather curious origin, anyway in Rome; it started by being a "*furca*." The *furca* was a piece of wood in the form of an inverted V on which the shaft of the two-wheeled carts was rested when they were in the stables. When a slave was to be punished, the *furca* was placed astride the nape of his neck, his hands were bound to the two arms, and he was marched through the neighbourhood, while he was made to proclaim his offence.

This march of expiation was before long combined with the stripping and scourging of the man under sentence during its whole length. It was then found more convenient to hang the *furca* to a vertical stake, which made it possible to give even

severer floggings. In the time of Nero (cf. Suetonius, the death of Nero) this was known as the punishment "*more majorum*," according to ancestral custom. "*Nulla causa est*," wrote Plautus, "*quin pendentem me virgis verberes*—I give you the right to have me beaten with rods, hanging from the cross" (*Casina*, v. 1003). "*Verberibus cædere pendens*—you shall be broken with blows whilst hanging" (*Mostellaria*, v. 1167).

But as a *furca* was not always obtainable, they began to use a long piece of wood, which was used for barring doors and was called the *patibulum* (from *patere*, to be open). It is thus that the horizontal part of the cross, which was no longer taken from a door, as can be imagined, became a rectilinear beam, which was borne by the condemned man from the tribunal to the place of the *stipites*. He usually bore it against the nape of his neck, with his arms stretched out and bound to it, so that he could give no resistance. One thus understands why the words of the death sentence were: "Place the cross on the slave." It was this *patibulum* which Tertullian compared to the great single main-yard of the Roman ships.

Under Constantine and his successors, when crucifixion had been abolished, another *furca* is to be found. It is a fairly tall stake, ending in a fork, like the letter Y. The condemned man was hung from it by the neck, and was quickly strangled. This was completely different from the lingering death of the cross.

3°. *The joining of the two pieces of wood*.—The two pieces of wood were thus separate; we shall find further proofs of this when dealing with the carrying of the cross (Chapter IV, E). How was the *patibulum* fixed on the *stipes*? It would seem that this could be done in two ways, either by inserting it into one of the faces of the *stipes*, or by placing it on its upper end; one would thus have either a † or a T, like the capital *Tau* of the Greek alphabet. There seems to be no ancient text to shed light on this problem in a definite way, and it is not till one comes to Juste Lipse (XVIth century) that one finds the two methods being named; he refers to the † as the

crux immissa or *capitata*, and to the T as the *crux commissa*.

Almost all modern archæologists think that the Roman cross was a T. (See Dom Leclerc, *Dict., d'Archéologie.*) In Christian art both forms are to be found in every century, though the *Tau* seems to be the most ancient; we shall return to this in regard to the cross of Christ (D, 5°). It is certain, if one thinks of it from the point of view of the executioners, that the T was far easier for a carpenter to make. It was only necessary to hollow out a mortice in the middle of the *patibulum*, and to fine down the top of the *stipes* so as to form a tenon. With a medium-sized cross, not more than two metres high, the fixing could easily be done at arm's length. May I be so bold as to add that the *patibulum* which is shown at Santa Croce, on the stairs leading to the chapel of the relics, as being that of the good thief, has just such a mortice.

4°. *The Sedile*.—It is possible that, in certain cases, there was fixed on the front of the *stipes*, about half-way down, a kind of horizontal hook of wood, which would pass between the thighs and support the perineum. The reason for supposing this is to be found in three phrases of Seneca's (*Epistolæ morales*), in which he speaks of "*sedere cruce*—to sit on the cross," and even of "*acuta sedere cruce*," as if this hook had a sharp edge like the wooden horses used for the punishment of medieval wrong-doers. The third text speaks of "*patibulo pendere, extendi, et sustineri*—to hang from the *patibulum*, to be stretched and supported." St. Justin also speaks of "*crucis lignum, quod medium est infixum, sicut cornu eminet, in quo insident crucifixi*—this wood of the cross which is fixed in the middle, which sticks upwards like a horn, on which those who are crucified are seated." St. Irenæus says that the cross has five extremities; it is on the fifth that the crucified man rests. Tertullian also speaks (*Adv., Marcionem*), of the "*sedilis excessus*," which recalls the horn of the unicorn. The word "*sedile*" simply means some sort of seat, and it is probably following this passage that modern writers apply it to this piece of wood; I have never, to my knowledge, seen it called by any other name.

We shall see, when we come to study the causes of death in crucifixion, that the object of it was to prolong the agony, by diminishing the dragging on the hands, which was the cause of tetany and asphyxia. It is more than probable that all crosses did not have it, and that it was only added with the intention of prolonging the torture. One can easily imagine, when there were hundreds of crosses to be made, that the carpenters were not eager to make their work more complicated, by an addition which they knew to be useless.

We shall find elsewhere, when we study the wounds in the hands (Chapter V), the reasons by which I am convinced that this support was absent in the cross of Jesus. Furthermore, this partly explains the relatively short duration of the agony.

The *sedile* has scarcely ever been represented by artists, painters or sculptors. This fact is no argument against its historic existence, even in the Passion of Christ. It is clear that the reason for this is the question of reverence. It is for quite other reasons that I would rule it out.

5°. *Suppedaneum*.—However, artists have frequently represented, and modern artists almost always represent, the feet of Jesus as resting on a horizontal or oblique bracket, to which they are nailed. I shall return later to this "*suppedaneum*," which Father Holzmeister claims was *unknown to every ancient author*. It is first mentioned by Gregory of Tours (VIth century—*De Gloria Martyrii*). We shall see, when we come to study the nailing of the feet (Dr, 6°, this chapter), how this product of the artistic imagination came to be developed.

6°. *The instruments for fixing*.—One has to acknowledge that the nailing of the hands and feet was the habitual method of fixing the body to the cross, whatever may have been the reasons for condemnation or the social status of the condemned. Slaves were nailed as were freemen, Jews as were Romans.

The initial error, which attributes to Jesus the monopoly of the nails, may be attributed to Tertullian, who wrote that: "He alone was crucified in this remarkable fashion" (*Adv. Marcionem*). This error was revived in our day by Mommsen,

who was certainly an eminent historian, but many of whose theses have since then been very much questioned. This is not the first time that the growth of knowledge has inflicted some bitter defeats on the Germanic claims to infallibility. It is owing to Tertullian that Christian iconography so often represents Jesus as nailed between two thieves bound with ropes.

In fact the two methods of fixing (nails and ropes) were in use among the Romans from the beginning. But they were used separately. One must insist there is no text which suggests or leads one to believe that two methods were ever used at the same time, on the same crucified being. The experts knew well that three nails, or four at the most, were quite enough to achieve a rapid and firm crucifixion. All else is pure imagination.

I even believe that nailing was the most usual method. In a large number of texts not only is there a definite reference to the nails, but also to the flow of blood which would spread from the wounds over the cross. One thus finds in the *Golden Ass* of Apuleius: "Those witches who go to collect the blood of murderers fixed to the cross, so that they may practise their shameful magic." More striking still, the technical term which is most frequently used in Greek for crucifixion is "*proshèloun*" or its synonym "*kathèloun*," to nail; they both have the same root, the noun "*hèlos*," which means a nail. And when Xenophon of Ephesus records that in Egypt the crucified were bound by their hands and feet to the cross, he expressly notes that it was a local custom, which proves that elsewhere nailing was more usual.

And let it not be said that the use of ropes was the special manner for slaves! Plautus, to whom one must always refer for the customs of the slave world, speaks of "*adfigere*" and "*offigere*." "*Te cruci ipsum propediem adfigent alii*—Others will soon nail you to the cross" (*Persa*, v. 295). "Who will let himself be crucified instead of me?" says the slave Tranion; "*ego dabo ei talentum, primus qui in crucem excucerrit, sed ea lege ut offigantur bis pedes, bis bracchia*—I will give a talent to the first man who shall have run to the cross, but on

condition that his feet are nailed twice, and his arms twice" (*Mostellaria*, v. 359, 360). The use of the word *bis* (twice), according to the context, simply means that he asks ironically for two nails for each of the four members, so as to be the more certain that his substitute shall not escape. The last word, *bracchia* (the arms), already brings out (exaggeratedly) what we will demonstrate experimentally: crucifixion was not through the palms of the hands but through the wrists.

C.—THE ACCOMPANIMENTS OF CRUCIFIXION

The details of these seem to have been clearly laid down in a series of laws and interior regulations. This, however, did not prevent certain sadistic vagaries on the part of the executioners.

1°. *The preliminary scourging.*—We are not dealing here with scourging ordered as a separate torture, nor even with a method of killing condemned men, but only with the scourging which was a *legal preliminary* to every execution. Everyone punished with death as a preliminary was always scourged, whether he was to die on the cross or otherwise; by beheading (Livy) or at the stake (Josephus). Only those were exempt, according to Mommsen, who were senators, soldiers or women who had the freedom of the city.

However, in the case of beheading, the scourging was done with the rods from the bundles of the lictor: "*Nudatos virgis cædunt secutique percutiunt*—They strip them and beat them with rods and strike them with an axe." (Livy.)

As we have seen, scourging was an ancient custom in Rome. It was also inflicted under Alexander and Antiochus Epiphanes and at Carthage. One keeps on coming across the formulæ "*proaikistheis anestaurothe—verberatos crucibus adfixit*—crucifying after scourging."

This scourging, which as we have seen was formerly inflicted on the cross, now took place in the area of the tribunal. The condemned man was bound to a column (probably with his hands above his head). As Plautus wrote: "*Abducite hunc*

intro atque astringite ad columnam fortiter—Take him inside and bind him firmly to the column" (*Bacchides*).

The scourging was preceded by the stripping of the condemned man, who began his journey to the place of execution naked and scourged, and carrying his *patibulum* (Valerius Maximus—Cicero).

With what sort of an instrument was the scourging carried out? We have seen that those who were to be beheaded were beaten with the lictor's rod; for the other form of scourging a distinctively Roman instrument was used; the *flagrum*. It had a short handle, to which were attached several long, thick thongs, usually two of them. At a little distance from the end balls of lead or the small bones of sheep were inserted, "*tali*," such as were used for playing at knuckle-bones; these were the ankle-bones of the sheep.

The thongs would cut the skin and the balls and the little bones would dig deep contused wounds into it. There would be a good deal of hæmorrhage and considerable lowering of vital resistance. We shall have all too many chances of verifying on the shroud of Jesus the wounds which this terrible instrument could inflict, and the blood-stained marks which it left on the skin.

In Hebrew law the number of strokes was strictly limited to 40. But the Pharisees, who were scrupulous people, wishing to make sure that this number was not exceeded, had reduced the quantity to 39. The Romans imposed no limitation, apart from the necessity of not killing the victim; he had to be able to carry his *patibulum* and to die on the cross, in the regulation way. Sometimes, as Horace tells us (Epode IV), he was "*sectum flagellis—præconis ad fastidium*—so torn by the whips as to disgust those in charge."

2°. *The carrying of the cross.*—The condemned man, having first of all been scourged, went on foot and without clothes, but carrying his *patibulum*, from the tribunal to the place of execution, where the *stipes* awaited him, among a number of others like it.

We should state at once that the expression "*crucem portare*—in Greek *stauron bastazein*—to bear one's cross," is only to

be found in the Greek or rabbinic texts (Plutarch, Artemidorus, Chariton, in the Jewish commentaries on Genesis and in the New Testament). In Latin it is only to be found in the Latin versions of the Bible: *Crucem portare, ferre, bajulare*. It is by synoche, as we have seen, that the word cross means its horizontal part.

Among the Latins one never finds this phrase "*crucem ferre*," though we have noticed the formula used in the sentence, "*pone crucem servo*." But we do find "*patibulum ferre*"—to carry one's *patibulum*. The details of how this was done are told by Denis of Halicarnassus in his Roman history. The *patibulum* was placed on the shoulders and on the two arms outstretched, after which it was bound with cords to the chest, the arms and the hands. The condemned man thus only carried the *patibulum*.

Once again we find, among all the texts to which we could refer, that Plautus sums it all up in a concise phrase:

"*Patibulum ferat per urbem, deinde affigatur cruce*—Let him bear his cross through the town, then let him be nailed to the cross" (*Carbonaria*). The "*patibulatus*" was the condemned man bearing his cross (Plautus, *passim*).

The "*stipes crucis*," on the other hand, was awaiting the condemned man at the place of execution, Cicero (*pro Rabinio*) inveighs against Labienus that "*in Campo Martio . . . crucem ad civium supplicium defigi et constitui jussit*—In the Field of Mars he had the cross permanently set up for the punishment of citizens." One finds references to this "setting up permanently" in the Verrines and in Josephus.

In Rome, the Montfaucon¹ was in the Esquiline Fields, which have been made famous by Horace, and where, according to Saglio (Dict., Daremberg), there was quite a forest of crosses, a great plantation of *stipites*. It was outside the Esquiline Gate. For those who know Rome, this was near the Piazza Vittorio Emanuele, a short distance beyond the church of Santa Maria Maggiore, as one goes out from the centre of the city.

¹ The ancient place of execution in Paris.

There is a final argument that this was the established custom, which is that the *patibulum* already weighed about 110 pounds so that the complete cross would have weighed more than 220 pounds. It must have required great effort to carry the *patibulum*, for a man who had been subjected to a severe scourging, which would have caused considerable loss of blood and a decline in his strength. How could he have carried a complete cross weighing more than 220 pounds? For it was not just a question of dragging it. One finds in all the texts "*portare, bajulare, bastazein,*" to carry, but never "*trahere, surein,*" to drag.

May we end by saying that the bearer of the cross was preceded by an inscription on wood, the "*titulus,*" giving his name and stating the crime for which he was condemned. The *titulus* was later fastened on to the cross.

3°. *The method of crucifixion.*—All that we have said so far in regard to the carrying of the *patibulum* only and of its being fixed on to the *stipes crucis* on the spot, points to the method of crucifixion set out in the formula of Firmicus Maternus (*Mathem.*): "*Patibulo suffixus in crucem tollitur*—(The condemned man) having been nailed to the *patibulum* is raised up on to the cross."

If the crucifixion is done by binding with ropes, all that needs to be done is to affix the *patibulum*, to which the victim is already bound, and then to bind his feet to the *stipes* with a few turns of the rope. If he is to be nailed, the victim is unbound and then laid down on the ground, with his shoulders on the *patibulum*. His hands are held out and nailed to the two ends of the *patibulum*. The man is then raised up with the *patibulum*, which is fixed on to the top of the *stipes*. After this his feet are nailed down flat against the latter.

This raising up should be fairly easy to do, especially if the cross was not more than two metres high. Four men could easily hold up at arm's length the *patibulum* and the condemned man, both of which together would not weigh more than 286 pounds. If need be the victim could be lifted backwards up a little ladder placed against the *stipes*. If the