Fig. 1: Photographic negative. The left leg is slightly raised and twisted in respect to the right leg.
Whoever has the possibility to observe the imprints visible on the Shroud with the eye of a physician, and afterwards to conduct an objective examination of the image presented in negative on the sheet, can discover some realities extremely interesting from the medico-scientific point of view.

As is known, the imprint of the body, front and back, has the characteristics of a negative; that is, the lights and darks are inverted, right and left are reversed. On the photographic negative of the imprint, a positive image is obtained, showing a man from whose face transpires a profound spirituality and on whose body are the marks of the Passion as they are described in the Gospels concerning Christ; marks of the scourging, the crown of thorns, crucifixion, and transpiercing of the right hemithorax.

Further observation reveals that the imprint of the left leg is shorter than that of the right; the leg is lifted forward at the knee because on the cross the left foot of this man was nailed over the right (Fig. 1). The three-dimensional images of the Shroud made by the American scientists Jackson and Jumper show this detail very clearly.

But whoever is accustomed to examine sick persons every day looks closely at the blood imprints resulting from the crown of thorns and the crucifixion. From the bloodflows produced by such a coronation and from certain details relative to the nailing of the feet, one is led to exclude a man-made production of the Shroud and, moreover, to gain a clear idea of the sufferings of this crucified man.

Already in this journal,1 we demonstrated, with medico-scientific arguments, the impossibility of a medieval artifact; a suggestion that has come into prominence recently. Impossibility that stands out with clear certainty from the objective examination of the blood imprints produced by the crown of thorns. These imprints on the forehead denote the flows of arterial and venous blood; so this clever artist living between 1200 and 1350, using red ochre, painted these flows to perfection in their different modes of

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coagulation on the skin 300 years before the discovery of blood circulation! In fact, Andrea Cesalpino, in 1593, set in motion all those studies which eventually formulated the difference in the coagulation of arterial and venous blood flowing on the skin from perforation of the respective blood vessels.*

Having ascertained the authenticity of the Shroud in the sense that it is not the work of an artist, there is only one logical deduction: the existence of the imprints on the sheet indicates that the linen covered the corpse of a crucified man, who sustained the wounds of those particular blood vessels.

A careful examination of the wound on the left wrist in relation to the nailing of the left foot over the right takes us back to the scene on Calvary described by the evangelists, and we notice that the conditions of the man whose image we see on the Shroud coincide with the corresponding conditions of Christ. Let me explain myself better. Observing the blood clot on the left wrist as seen on the Shroud (Fig. 2), we notice a very important detail already remarked by Barbet: From the point where the nail penetrated, the flow is not single but it branches into two flows, A and B, forming an angle. And since, whatever position the arms would take on the cross, each flow had to be perpendicular to the ground according to the law of gravity, one can deduce that this man assumed two positions: one of slumping (A) and one of straightening up (B); obligatory positions to avoid the asphyxia brought on by the mechanics of suspension. Consequently, in order to breathe and to speak, this Crucified had to pivot on the nail in his feet.

What is more, since the left leg was nailed over the right, the movements of slumping and of straightening up altered the position of the head: bowed downward and forward in the slumping position, leaning to the right in the erect position. It was Mons. Giulio Ricci, studying the kinetics of crucifixion, who pointed out the different positions of the head as indicated by the three blood-flows on the forehead, A₁, A₂, and A₃ (Fig. 3). The directions they take reveal the two different positions of the head, imposed by the alternate slumping and straightening up.

Furthermore, in point A₃, from which issues a bloodflow with definitely venous characteristics, the specific medico-legal study of the crowning with thorns showed the wound to be located in the frontal branch of the left superficial temple vein, whereas point A₁ perforated the frontal branch of the right superficial temple artery. Three factors are to be considered:

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* These studies culminated in the work of William Harvey, English physician, who was born in 1578, the same year the Shroud was removed to Turin. Credited with having discovered how blood circulates in the body, Harvey published his research in *Exercitatio anatomica de motu cordis et sanguinis in animalibus* in 1628. Ed.
Fig. 2: The image of the blood clot on the left wrist. From the square wound where the nail was driven in, the two rivulets show the two positions: A, slumping, and B, straightening up.

Fig. 3: The rivulets of blood on the forehead show the two positions of the head during slumping and straightening up. At A1, the point in which a thorn penetrated the frontal branch of the right superficial temple artery. A3 indicates the point of perforation of the frontal branch of the left superficial temple vein.
1 - The artist painted an image reproducing wounds that are described in the Gospels so that the faithful would believe that this was the sheet in which Christ was buried.

2 - All the wounds which Christ suffered according to the Gospel accounts are seen on the image of the crucified man on the Shroud.

3 - Although it has been demonstrated by medico-scientific arguments that the idea of a man-made artifact is without foundation, a scientist cannot immediately identify the man of the Shroud with Christ. However, he has the duty to confront his observations with what the Gospels report about the crucifixion.

But what the evangelists write about the crucifixion and burial of Christ has nothing whatever to do with a sheet, which without any doubt was used. I say without any doubt, because the apostle and evangelist Matthew, who lived through the tragedy of Golgotha and therefore knew first-hand the details referred by Joseph of Arimathea regarding the burial, states explicitly: "And Joseph, taking the body, wrapped it in a clean sheet" (Mt. 27:59).

I repeat that what the evangelists say has nothing to do with the sheet insofar as it certainly never occurred to them that one day, by some chance, that burial sheet could be handed down to a world twenty centuries in the future. And so, as a scientist who has excluded the possibility of a man-made artifact, I place before me the imprints of the left wrist, of the left leg nailed over the right, and three of the bloodflows from the crown of thorns. These latter, starting from the point of the thorns' infixion, take separate paths as they descend, denoting the alternating positions of the head during the two movements of slumping and straightening up. It is my duty to confront all this with what the evangelists have described; and I find that the Gospel reports are totally unrelated to these observations of ours. These details, in fact, were demonstrated 700 years after the work of the presumed artist — but the evangelists never mentioned them.

Consequently, there is no way the artist could have been inspired by what the Gospels described in order to make his work of art more credible. Simply because these details are not mentioned in the Gospels.

So now, since this reason too excludes a clever artist and his artwork, for me, a scientist, the only thing left is to compare the man of the Shroud, who presents himself to me in this particular aspect of slumping and straightening up on the cross, with what the Gospels expressly do not say, but which, only now, in the light of an attentive study of the bloodflows, we have discovered.

Shroud scholar Giulio Ricci, after patient and meticulous study, has graphically represented the movements of slumping and straightening up. He refers to a comparison of the respiratory difficulties to which the man on the Shroud was subjected and those of the Crucified Man of the Gospels, who on the cross, for the extreme difficulty in breathing, could speak only a few short
phrases. The Seven Words, broken, stifled, uttered almost with breath stuck in his throat.

He heard the diabolical shouts of his tormenters and had pity on them. With great effort, pushing himself up on the nail in his feet in order to breathe and speak, He asks the Father: *Father, forgive them; they don't know what they are doing*; and again He slumps. Nearby, He sees John and his Mother, and to her He entrusts humanity, personified by John: *Here is your son ... Here is your Mother*. The Good Thief realizes that this Man is God, and repents: *This day you will be with me in Paradise.* And then we hear the cry of Christ forsaken, in which we distinctly detect a desperate respiratory difficulty, of asthmatic breathing, emitted almost in monosyllables, as He calls: *Eli, Eli, lama sabactani?* (My God, my God, why have you abandoned me? First line of Psa. 22). And then: *I thirst.*

Consider that the hematidrosis had caused a serious loss of fluid; consider that, having been captured immediately afterward in the Garden of Olives, He had no opportunity to drink; consider the scourging, the crowning with thorns, the wounds of crucifixion, all of which caused abundant loss of body fluids; and this cry of Christ — *I thirst* — reverberates from the cross in its cruelest reality.... Then hoarsely: *It is finished.* And in a last supreme effort, lifting himself up on the nail in his feet against a spasmodic and piercingly painful tetanic contraction, He turns again to the Father: *Father, into your hands I commend my spirit* (Psa. 31:6).

The seven phrases uttered in the moments of straightening up allow us to superimpose the conditions of the man whose image is seen on the Shroud onto the conditions suffered by Christ; they are still another proof of the authenticity of the Shroud. Comprehension of the Shroud eliminates the famous medieval artist, for he could never have imagined, much less depicted, *what is not reported* by the evangelists.

NOTES

1. See also **Rodante**: "The Coronation of Thorns in the Light of the Shroud", *Spectrum* #1, Dec. 1981.

2. **Pierre Barbey**: *Le Cinque piaghe di Cristo*, S.E.I. 1940.

