

THE SHROUD OF TURIN IN 2002: THE NEW IMAGE*

1- Tuesday, 23 July 2002. The Shroud lay on the 'Microtecnica couch' in the decorous humility of its nakedness regained. It had left its chapel and the 'Alenia casket' five weeks earlier and was about to return. On the arrival of Mons. Lanzetti, all those who had been waiting in the glass-lined corridor entered the 'new sacristy'. A few moments of contemplative silence were followed by a brief comment on the present event in the history of the Shroud. Then the Auxiliary Bishop, acting on behalf of the Archbishop, who had gone to Toronto to join the Pope on the occasion of World Youth Day, led a prayer. Next the procession that was to accompany the Shroud back to its chapel was formed. It was with an aching heart that Mechthild Flury Lemberg and Irene Tomedi stood to one side and watched the procession move away: "it seemed like a funeral cortège". Then when all was over their inner feelings came out: "During our work we took care not to think too much about the mysterious object that was passing under our hands and determined to keep our minds on what we had to do. Yet each time we finished a day's work a shiver of wonderment returned. Towards the end there was an ever-growing desire to remain with the Shroud, to be able to speak to that Sufferer. But now there is no time left". An impression shared by all who had been intensely involved in the events of the previous five weeks. From the evening of Thursday 20 June to the evening of Tuesday 23 July, 2002, the Shroud remained outside its casket and its chapel. It now returned, in a way rejuvenated. But how many things had happened since it was first laid in the 'Alenia casket' in November 2000 at the end of the two Expositions!

2- The idea of undertaking conservation work on the Shroud, based on the repairs made by the Poor Clares of Chambéry in 1534, had been considered long before by the members of the Shroud Conservation Committee.

Cardinal Saldarini had been entrusted with the Shroud at the time of the most heated polemics following the carbon dating analyses. His instructions were to refrain from considering further scientific research and embark upon a systematic approach to the question of conservation¹. So in 1991 he formed a small group whose task was to prepare a meeting of persons competent to work on the question. We were all new to this approach and greatly influenced by a past that hung like a millstone. Strict secrecy in all our doings had to be maintained from the beginning. Following a day spent in preparation at Pianezza, a small and still somewhat informal committee spent several hours on 7 September 1992 in what is now called the 'old sacristy' of the Cathedral (though historians will tell you it is not the earliest) examining the Shroud to work out some ideas and opinions on how it should be conserved. A host of proposals were put forward for improving its condition which, being obviously the outcome of its long history, was not in keeping with the results that could be achieved by applying modern techniques for the conservation of ancient fabrics.

The main concern was expressed with regard to the increasingly numerous and harmful wrinkles on the sindonic figure, especially the face. Everyone agreed that the Shroud should no longer be kept rolled up and that it should also be freed from the numerous restraints that were binding it: the upper 'lining' and the blue-green silk surround with silver stiffeners in its short sides. Removal of the patches - seemingly a utopian idea - was also brought up, resuming a discussion already broached in 1969 during the work of the scientific committee formed by Cardinal Pellegrino.

3- But nothing was done. The Shroud had to be taken back to its niche in the 'glory' on Bertola's altar and no one knew when it would ever be taken out again. Providence, however, moved events in a mysterious way and only later did we begin to glimpse them as a part of a plan. On 4 May 1990, the Feast Day of the Shroud, just as Mass was drawing to a close, some chunks of marble fell from the ribbing of Guarini's cupola. No one was hit, but the authorities decided to close the chapel and undertake a thorough restoration of the cupola.

What was to become of the Shroud? The cardinal discussed the matter with the competent Superintendences and decided to transfer it to the choir of the Cathedral in a glass monument designed by architect Bruno. On 24 February 1993, Ash Wednesday, the Shroud left the chapel that had been erected for it and inaugurated three hundred years earlier, in 1694. For four years it remained in the choir, until, ten days after Easter of 1997, when in the night of Friday - Saturday, April 11 - 12, a furious fire broke out throwing panic in the Cathedral. The flames spread to a wing of the Royal Palace and wreaked havoc in Guarini's chapel. No harm came to the Shroud, but it was taken away for a year.

4- The events of these intervening years encouraged the Conservation Committee during its meetings to take another look at the ideas it had been working on since 1992. Cardinal Saldarini had become increasingly convinced that it was no longer possible to put off the decision to provide for the permanent safekeeping of the Shroud, laid out full length and at rest on a couch. This, however, raised a problem. Guarini's chapel had been designed on a circular ground plan to accommodate a casket measuring a little more than a meter. Now one had to place there a casket four times larger without modifying the original architecture. Suggestions, trials and proposals were advanced in endless discussions between architects, representatives of the Superintendences, and members of the Committee. But before a satisfactory solution had been found, the fire intervened and damage to the Chapel was so extensive that the problem would have to be shelved for many years. It was readily agreed that the new 'Chapel of the Holy Shroud' should be in the Cathedral below the royal tribune at the left end of the transept².

The time was now ripe for a review of the whole question of the conservation of the Shroud. Alan Adler, an American scientist who combined a rare degree of competence and authority with a unique love of the Shroud, was invited to join the Committee in 1994. He had been closely associated with Father Rinaldi, a Piedmontese Salesian transplanted to America, where he spread a deep interest in the Shroud³. Adler now became the providential link with American researchers and the important results of their investigations. He came to Turin on several occasions, including the symposium held at Villa Gualino in March 2000, but died suddenly on June 12 before the second Exposition. We owe him many suggestions for conservation, for example, that of preserving the Shroud in an inert gas atmosphere.

5- Adler worried about the possibility of the damaging effects of material from the 1532 fire that was trapped under the patches applied by the nuns of Chambéry. When he spoke during the Committee meetings, he did not retreat from the most advanced hypotheses. One of these (certainly not new, as mentioned above, but backed now by the weight of his authority) was to remove the patches and the Holland cloth. This idea remained as a dead letter until the official photos taken in 2000 revealed how much pulverous material had accumulated between the patches and the backing cloth.

In preceding years, some steps had been taken to free the Shroud as, for instance, the removal of the silk surround with its silver stiffeners. They had all shown the benefit to a fabric that was now allowed to breathe. Would it not be advisable to carry the project to a definite conclusion? After long reflection, the issue was clarified in the words expressed by Dr. Carla Enrica Spantigati, a member of the Conservation Committee and Superintendent of the Artistic and Historical Heritage of Piedmont. The nearly five hundred years spent by the Shroud in the company of its Holland cloth and its patches had established a characteristic of a stable tradition in the life of the Shroud familiar to generations of worshippers and visitors. In respect of this history and to all who have known the Shroud with these characteristics, it would be wise to continue the present situation. Were it to be shown, however, that there were well founded reasons for thinking that a substantial advantage for conservation would be conferred upon the Shroud by the removal of its patches and Holland cloth, then the sentiments of a traditional past must give way to the needs urgently arising from the object itself.

All the members of the Committee agreed with this line of reasoning. A document was composed and signed by all, and presented to Cardinal Poletto, the Papal Custodian of the Shroud⁴. Cardinal Poletto examined the document and decided to send it to the Pope. The Secretary of State, Cardinal Sodano, carried it to the Pope, who personally took it under consideration and gave his permission to go ahead with the measures proposed. Cardinal Sodano's reply is dated 3 November 2001.

6- Having obtained permission, it was advisable to proceed without delay. But there were still many problems to resolve. First of all, where to take the Shroud for conducting the work. The destruction of the Twin Towers in New York, on 11 September 2001, had brought home to the opulent West a full awareness of its vulnerability. Italy's major cities are full of predictable targets and the Shroud topped Turin's list. A meeting attended by the city's civic and religious authorities had discussed the need to find a refuge for the Shroud concluding, however, in favor of the status quo. But now, would not moving the Shroud increase the danger? If the news were to leak out, a chain of perverse reactions could bring harm to an object so precious.

Several locations were considered. In the end, however, Cardinal Poletto, the Papal Custodian, opted for the 'new sacristy', which had already been the scene of all the operations preceding and following the last two Expositions. The Shroud would thus remain within the bounds of the Cathedral; every necessary precaution would be taken. The first of these was silence⁵; for major security reasons it was decided to tell all those who might seek information that nothing at all was going on. The police were alerted, together with the private surveillance organization "Cittadini dell'ordine" (one of whose guards had been on duty at every Exposition since 1978). A fence was erected, aimed to serve as a kind of rampart between the 'new sacristy' and the piazza, while seeming merely to be an extension of the one surrounding the work going on below the Cathedral.

7- The preparations were slowed by careful thought and discussions on the details of the operation. Everyone agreed that the old Holland cloth was due for a museum, given its fragile and sullied condition. What would happen to the patches? They would have to share the same fate as the Holland cloth. Did that mean new patches should be substituted? Although there was a precise leaning toward "no" in the November 2000 proposal, and this orientation had been accepted by the papal custodian and by the Pope himself, the door was left open for further reflection: the final decisions could be made during the course of the work.

It soon became apparent, however, that there was no need to return to the discussion. Mechthild Flury-Lemberg came to the last preparatory meeting with a specimen of the work she proposed to do. On a piece of Shroud-like cloth (prepared and dyed by Piero Vercelli) a burn mark had been produced similar to those on the Shroud, and underneath the hole a piece of the lining that would be used to substitute the original Holland cloth was applied. This Shroud-like cloth and its lining were perfectly joined by almost invisible stitches. The committee unanimously agreed that the result was totally convincing and readily confirmed its original decision to simply remove the patches without substituting them.

I do not want to bore the reader with a description of all the preparatory work that led to the final result. To say that an excellent job was done is somewhat meaningless, but in human terms it is possible to affirm that every effort was made to leave nothing to chance and to avoid every possible kind of risk.

8- One great concern remained: to document as much as possible what would happen and to gather as many data as possible to place at the disposition of the scientific community. When the work was finished, the aspect of the Shroud would be partly new, but an Exposition that would permit the viewing of a large number of persons was out of the question. Therefore it was necessary to provide for an immediate gathering of images to distribute as soon as possible. Moreover, during the course of the work, the underside of the Shroud, the side customarily hidden, would be visible when the Holland cloth and patches were removed. But this would be only a temporary exposure because it was absolutely necessary to attach a new lining. The Shroud linen has certainly remained exceptionally strong considering the many vicissitudes that have studded its history. Even so, it needs a backing cloth both to allow it to be safely handled when an Exposition takes place and, above all, to hold firmly the parts damaged by the fire of 1532. Once the new lining was in place, the back of the Shroud would again be invisible for who knows how long.

It was thought that the solution was to provide images in several forms. Studio Giandurante, that had produced the official photos of 1997 and 2000, was commissioned to provide new traditional photos of

the front of the Shroud (with ordinary and digital cameras) and the first (and for a long time to come, the only) traditional photos of the backside of the cloth in its entirety as well as details in reduced size. Provision was made for total scanning of front and back by Paolo Soardo's team at the Istituto Elettrotecnico Nazionale Galileo Ferraris, that in 2000 had already conducted a partial scan of the Shroud. Giuliano Marchisiano and his assistants would take care that the main moments of the work would be documented by instant photographs to illustrate the reports. Television coverage of the more significant moments was entrusted to Daniele D'Aria and Vittorio Billera from Telesubalpina.

9- The possibility of gathering other data was also discussed and one had to face, as usual, limitations of time and the nature of the Shroud itself, because it was necessary to avoid any risk. For example, X-ray fluorescence spectroscopy was excluded since it is a delicate technique and some of the results obtained in 1978 still exist, while the Committee decided to carry out reflectance (UV VIS), fluorescence and Raman spectra measurements. The eventual removal of tiny specimens from the back of the Shroud was the subject of considerable discussion. The general opinion was that this should not be done as the "visual findings only" criterion had been adopted. It was pointed out, however, that a long time would probably elapse before any other operations could be conducted on the back. A compromise was reached when Cardinal Poletto gave permission for the removal of some specimens with scotch tape (completed by vacuum in the same places) reserving them for his sole use and filing in his Shroud archives. In the end, however, the course of events showed that the discussion was partly superfluous, since an unexpected amount of material for future examination was collected when the patches were removed and the burn holes were cleaned.

10- One chapter of the story concerns the preparation of the equipment used for the various phases of the work. The Shroud was conveyed on the 'Microtecnica couch' on which it usually lies. This was mounted on a mobile tilting table to ensure a shock-free ride on the very short journey from the chapel to the 'new sacristy'. There the couch was still used on the mobile table, alternately with the 'Bodino couch' and a double table left over from the previous work and adapted for the initial filming stage. The problem of scanning and the movements of the cameras above the surface of the Shroud was resolved by applying a mobile gantry (the "ADL bridge") to the tilting table (devised by ADL in 2000). The sewing operations called for a hard, smooth surface under the sindonic fabric and its new lining to turn back the curved needles of the seamstresses. The 'Bodino couch' was therefore fitted with a glass surface, and upon that the new lining would be laid with the Shroud on top of it. Irene Tomedi placed a videomicroscope (80X to 450X enlargements) with optic elements attached at the end of an optic fibre cable, equipped with a monitor, a printer and the possibility of digital recording; this ensured perfect vision of all the details of the fabric, allowed to distinguish between pollutants and blood shards and guaranteed safe cleaning by the operators. To these instruments were added a gentle vacuum and an ultrasonic vaporizer; a series of glass slides; and lead weights used to apply slight pressure to smoothen the wrinkles. Much use was made of acid-free Japanese rice-paper to protect the cloth of the Shroud, and to transfer it from one couch to the other a large sheet of strong and easily removable Melinex paper was used.

11 - The conservation program proceeded in three stages: a) removal of the old backing-cloth (the famous 'Holland cloth') and patches, and "stretching" the wrinkles on the backside of the sindonic fabric (21-25 June); b) photography, spectrophotometry and scanning of the front and back (26 June-15 July); c) attachment of the new backing-cloth, first of all in the area of the burn holes and then along the sides; the final photographs of the new image of the Shroud; measurement of the Shroud in its new condition (16-23 July). Stage b), the longest, also included preparation of the new backing-cloth and the initial basting with stitches only on the upper side to ensure that the scanning of the front of the Shroud would provide a definitive vision of the holes already filled by the lining.

As the program proceeded, the seamstresses usually gained time while the technical operators were behind. The two seamstresses were Mechthild Flury Lemberg and Irene Tomedi. The former had been invited to collaborate during the preparations for carbon dating the Shroud in the mid-80's (she

subsequently left the group). Since 1992, however, she never missed any of our meetings. She is today the leading authority on the fabric of the Shroud. Irene Tomedi trained under her at the restoration school of the Abegg Foundation at Riggisberg near Berne, and has worked as a restorer throughout Italy for the last twenty years. There was always a very close understanding between the two.

“We do not underestimate the difficulties of the unstitching”, Dr. Flury Lemberg repeated. From the beginning, an unknown factor was precisely the splendid, but extremely close stitches with which the Poor Clares had attached the Holland cloth and the patches to the Shroud linen. An unexpected help came when Pier Luigi Baima Bollone brought small, pointed and very sharp bistouries which worked miracles, in the expert hands of the two seamstresses, replacing their usual slow, awkward and unsafe sewing scissors.

The measurement operators were experts called in by Piero Savarino (Raman spectroscopy was carried out by Drs. Tagliapietra and Corsi, the reflectance and fluorescence measurements by Drs. Pellegrino and Caldironi) and Paolo Soardo's scanning team (Giuseppe Rossi, Paola Iacomussi and Natalia Bo). The fluorescence photographs were taken by Diego Ambroggio and Carlo Marchese, two inspectors from Dr. Maurizio Celia's section of the Turin scientific police force.

12- The most impressive discovery was made when the patches were unstitched, for they were pockets of carbonaceous residues and dusty detritus. It was the confirmation of the necessity of the conservation work that was in progress. But now there was the problem of the collection of all this material, since much of it came from the early history of the Shroud and in any case had been in contact with it for centuries. Piero Savarino, scientific advisor to the Papal Custodian, provided an army of little glass containers which were systematically labeled according to what was taken from the various spots of the cloth, all being marked on a map of a full-scale photograph of the Shroud, the same map already used during the work of 2000. Several maps of the Shroud were employed during these days for various purposes, because the collection of data turned out to be in a variety of forms and it was necessary to provide a guaranteed identification for each datum.

All the day-to-day details of the operations were recorded in the written report drafted by the Committee's secretary, Sister M. Clara Antonini, and her assistants. Some circumstances, however, called for authentication by the Archbishop's Chancellor, who acts as an ecclesiastical court notary for all matters concerning the Shroud. This occurred when small threads were noticed protruding from the back of the cloth due to its unevenness and the seamstresses advised their removal. Nothing associated with the Shroud is insignificant; anything could prove to be precious for research. It was therefore necessary to guarantee the authenticity of every tiny remnant or fragment. The same thing was necessary - and was done - for the tiny specimens mentioned above (section 9). The Archbishop's Chancellor also checked the work of archiving and collected all the little containers into a large one and applied the archbishop's seal. He himself removed the material, which remains at the disposition of the Holy See, the Papal Custodian and - when the Pope judges it advisable - of those scientists to whom it will be entrusted for future research.

13- Removal of the patches brought to light the sad reality of the effects of the fire of 1532. Some cloth was gained⁶, because the Poor Clare nuns had folded inward the damaged edges, but a solution had to be found for the charred margins of the burn holes. Many fragments had already broken away to form the very fine carbon powder under the patches. Evidently the process of carbonization had 'traveled' (as Adler had supposed) and was probably still in progress. What was the best thing to do? Cutting away the charred parts to get back to the undamaged cloth would have produced an unnatural and devastating effect. It was decided to use tweezers to remove material which tended to give way when pulled and to reach the brownish borders - reminders of an ancient disaster. The result was a cloth no longer altered by the intrusion of patches, but still marked in those thin brown borders, the scars left by a dramatic event.

14- The second stage of the operations started with the backside of the Shroud facing upward and ended with the return to view of the image side. The backside confirmed what had already been established by

the partial scanning in 2000. On the backside, all the blood was visible, as it had passed through the threads so completely that one could recognize its correspondence with its location on the image on the front. There was instead no recognizable trace of the image visible on the backside. The only debatable point concerned the face because on the backside there seemed to be two locks of hair identifiable. Great attention was thus paid to the gathering of details that could be acquired with all the measuring devices. While awaiting the analyses which will be made from this data, it was agreed that what seemed to be an impression of the image at only that particular point of the whole surface of the Shroud, could be attributed to the fact that the two locks of hair bear traces of blood that passed from the surface of the face and that at this point, especially on the right side, there is a darker strip on the cloth due to dirtying of some kind.

15- Problems encountered in coordinating the operations, especially to allow time for the delivery of the instruments, meant that on some days less work was done. The time, however, was always filled with other work, such as completing the documentation or stretching the back of the cloth. The biggest problems loomed in preparing the scanning operations. How would it be possible to overspread the enormous surface of the Shroud and handle all the data? Use of the instruments could not extend beyond July because the holiday season was approaching and so scanning had to be only in the A4 format. Consequently, it was necessary to take 102 frames for each of the two surfaces. The time between working hours was exploited to obtain the "back up" of the stored data. In a more appropriate place, the operators themselves will describe the many breathtaking surprises they encountered throughout their work. In this present publication it is not yet possible to offer an appropriate number of scanning reproductions because the time needed for the elaboration of the material and identification of each image goes beyond the time of preparation of this initial presentation, whose purpose is to communicate quickly all that has been done.

16- The new backing-cloth on which the Shroud now rests is a length of raw linen presented by Mechthild Flury Lemberg. Her father bought it in Holland (another "Holland cloth"!) some fifty years ago for house~ hold uses that never materialised. She washed it several times to de-size and soften it, but did not bleach or dye it. It has thus remained a chemically untreated fabric with a deep ivory hue that provides a soft relief for the holes left by the 1532 fire. Its textile structure is normal, therefore much less elaborate than that of the Shroud linen. The two can thus be readily distinguished.

17- The photos taken by Gian Carlo Durante's team (Giuseppe Cavalli, Daniele Demonte, Tiziana Durante) with the advice of Nello Balossino, had not the advantage of the same preparation worked out in 2000. They nonetheless illustrate the complete reliability of this Studio, which has acquired absolute primary experience in the field of sindonic photography. The backside of the Shroud was photographed with the Shroud lying on the 'third table' supported by small trestles and set at an angle of about 105° with the camera mounted on a staging, whereas the image side, photographed at the conclusion of all the operations, was supported by the tilting table set in a perfectly orthogonal position with the camera on a floor-based tripod. As in the photos of 1997 and 2000, Gian Carlo Durante generously waived his copyright, leaving the Archdiocese of Turin sole proprietor of the photographs.

Especially precious was the identification of some details of the Shroud obtained with Irene Tomedi's microscope. Its objective was mounted on the mobile gantry to allow it to be moved from point to point and then held still while the photos were taken. Attention was primarily directed to the places where the amount of blood was greatest and the advantage of the conservation of extremely suggestive images was immediately apparent. The digital cassette recordings deeply moved those who had the chance to see them in those days. Their evocative effect was particularly accentuated by that of the film produced from the tape. Photos of details that aroused interest were printed immediately by direct connection with the printer.

This microscope was also used to record the details of other fabrics, brought from the Shroud Museum, used in attempts to reproduce the sindonic image, to compare them with the cloth bearing the real image.

18- The gantry attached to the tilting table was dismantled at the end of the second section. Designed by Gianni Ardoino, it had been assembled in record time by the ADL company⁷ and proved to be one of the most valuable tools. It ran on rails fixed to the side of the tilting table and at the same time provided transverse coverage of the whole of the Shroud, supporting the instruments which from time to time were used: the scanner, the lens or detector of the videomicroscope, the fluorescence camera and the spectrophotometric sensors. Two tapes fitted with a digital distance numerator automatically measured the shift values and the position of each operation along the short and long sides of the cloth. The mobile gantry did not always solve all the problems (the operators were greatly perturbed when they had to verify if their scanner was also able to take pictures when it was upside-down), but it is sure that many observations would have been unthinkable without the gantry.

19- The final stage of the restoration was entirely in the hands of the seamstresses and left most of the members of the Committee disoccupied. Mechthild Flury Lemberg ensured the perfect attachment of the sindonic linen to its new backing-cloth while Irene Tomedi concentrated on fixing the burn holes. Their work proceeded apace and their restoration was so invisible that those who looked at what they were doing were unable to distinguish the holes already repaired from the others. The needles were very fine and a bit curved, the silk thread strong, yet almost "disappearing" (like an angel's hair!). Examination of the photos will show how visible the stitching is around the holes.

A heavier thread was used to attach the margins of the Shroud to the backing-cloth. A slight difficulty arose in areas where some parts of the Shroud cloth had been removed (in the distant past), especially at the ends of the upper strip (in the exposition position⁸). The old Holland lining ran the whole length of the original Shroud and now it was necessary to reconstruct the missing parts. The task was not easy, as the Shroud cloth is not perfectly rectangular, but splays at the four corners. The experience of the seamstresses happily enabled them to cope with the problem. Cardinal Poletto, accompanying Mons. Romeo, Papal Ambassador to Italy passing through Turin, was the first to congratulate the seamstresses on the fruits of their labors.

20- Those who now viewed the Shroud rejoiced in its relaxed beauty. The signs of its vicissitudes remained to tell of the misfortunes this Holy Linen suffered, along the centuries, in its sojourn among men. But now this dramatic past seemed to have taken on an aura of serenity in acceptance of the insults which no longer tried to hide but stood at the side of the great witness of the suffering recorded on the image. It was still the same Shroud, yet pleasingly new because easing of its wrinkles had smoothed away the dour aggression that once so greatly marred the cloth.

Did this newness by any chance extend to the dimensions of the Shroud? The first signs of a slight change had already been discerned by the scanners, since they needed to recalculate the overlap edges for each scan. The verification was made when the work of restoration was complete in order to establish the definitive dimensions of the Shroud in the new situation. The final measurements taken by Bruno Barberis and Gian Maria Zaccone, revealed a difference of several centimeters in the measuring they had calculated in 2000. It has already been observed that the dimensions of the Shroud can vary according to the tension the cloth is subject to. The following data will give an idea of the differences. Referring once again to the exposition position (frontal image to the left, dorsal to the right), the bottom side measured 437.7 cm in 2000 and 441.5 cm in 2002; the top side (less significant, because the ends now consist of the lining only, as two parts of the original cloth were removed in the past) measured 434.5 cm in 2000 and 442.5 cm in 2002; the height at the ends (the significance of which is only relative for the reason just given) was 112.5 cm on the left and 113 cm on the right in 2000, compared respectively with 113 cm and 113.7 cm in 2002.

21 - This publication offers the first documentation of the story we have just told. The global photography gives evidence of the new aspect of the Shroud. In the succession of the details, one can follow analitically the development of the work. Some photos show where the work was done and some of the persons who participated. A very small number of scanner images are also included as a foretaste of the scientific publication that will crown all the work.

Those who took part in this round of operations are grateful for the gift they have received from the Lord, the trust reposed in them by the Holy See and the Papal Custodian, and the help received from a countless cohort of collaborators and friends.

Giuseppe Ghiberti

NOTES

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¹ Cardinal Ballestrero's plans after the carbon dating results were directed along the same lines as he himself stated on several occasions, even after his retirement as archbishop of Turin.

² In this chapel, during the absence of the Shroud, some revisions were made in the monitoring system by Carlo Stroppiana, responsible for the technical section of the Committee.

³ Wanting to be present at the transfer of the Shroud to the choir, he came to Turin from the States but was taken urgently to the Cottolengo hospital where he died in the priest department on 28 February 1993, four days after the transfer took place.

⁴ The text drawn up on 10 November 2000 proposed the "removal of the Shroud's Holland cloth and patches... fixing the edges of the burn holes; application of a new lining". It was also stated that "this proposal stems from the conviction that the present state of the Shroud as such (its own cloth and the Holland cloth) is a threat to its chances of survival and that the solution suggested will result in substantial improvements. The signatories are conscious of the cultural implications of their proposal and advance it solely because they are convinced that it is of advantage for the preservation of the Shroud itself".

⁵ When the Shroud was transferred after the 1997 fire, the police warned that no place is perfectly defensible. The most effective defense is silence. Those who do not know are not tempted to cause harm.

⁶ About a centimeter on average, though the amount varied from one place to another.

⁷ Antonio Gay, the man who began the construction of the gantry, died a few days after the end of our work.

⁸ The Shroud is usually described as it is seen during an Exposition. The traditional 'Exposition position' is with the frontal image to the left and the dorsal image to the right. At the top, a narrow strip is stitched along the Shroud. Some portions of this strip are missing. It is not known when they were removed, nor why.