

THE DATING
OF THE
SHROUD OF TURIN
FROM COINS OF
PONTIUS PILATE

SECOND EDITION (UPDATED TO JUNE, 1982)

Francis L. Filas, S.J.

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THE DATING OF THE SHROUD OF TURIN FROM COINS OF PONTIUS PILATE
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Foreword to the Second Edition (updated to June, 1982):

The original form of this Monograph was released in July, 1980. The report of its contents made headline news throughout the world. Since that time a series of further discoveries provided stunning confirmation of the essence of my first claims. They also clarified a number of obscure points that were stumbling-blocks and question marks at the beginning.

In order to provide adequate updating, a decision had to be made how to organize the bewildering array of new evidence. I thought that readers of this Monograph would be captivated to share the unfolding of the new confirmations as they emerged one by one. Hence, Part A of this Second Edition reproduces the original Monograph, together with its tentative hypotheses. Part B itemizes each successive development chronologically by means of excerpts from the news releases given to the media. A concluding summary offers the final digest of what can be accepted as certain and what can be accepted as probable and some of the questions that remain unanswered, perhaps forced to remain unanswerable forever. (Part C)

Francis L. Filas, S.J.

ENCLOSURES FOR THIS SECOND EDITION:

- 2" x 2" slide of photographic negative of face of Man of the Shroud, with identifying white circle around right-eye area.
- 2" x 2" slide with Shroud imprints enlarged from Enrie 1931 photographs, in photographic negative, on right side, as from over right eye; and enlarged photo of Pontius Pilate coin on left side of slide.
- 3-3/4" x 4-3/4" Kodacolor print of identical material as above.

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The Purpose of this Discussion

In effect, this is a privately published article concerning the claim that the Shroud of Turin can be dated to the time of the procuratorship of Pontius Pilate (26-36 A.D.) in Palestine, by coin identification.

The reasons for adopting this medium and format are several: (1) There is the question of having the material published in a competent journal within a reasonable time; (2) with the full length and detail which are necessary for adequate description; (3) while being able to reach the specifically interested audience; (4) with no limitations imposed on this treatment because of "cuts" or revisions from a publishing editor; (5) with a continuing distribution of this material beyond the confines of a single magazine issue. (6) In addition, this approach is being made easily available for comment by succeeding authors.

The State of the Question

Under discussion is the question of the age of the Shroud of Turin. This dating is apparently indicated by the existence of imprints on the right eye of the "Man of the Shroud" -- imprints whose origin can be satisfactorily explained only on the basis that they were made by a coin issued by Pontius Pilate in Palestine some time after 29 A.D. and most likely not after 32 A.D.

The Shroud of Turin is an age-old, faded yellow burial cloth that has been kept in a chapel attached to the Cathedral of St. John in Turin, Italy, more or less continuously since 1578. The cloth is 14 feet 3 inches long by 3 feet 7 inches wide. For many centuries it has been honored as the burial cloth of Jesus Christ.

On the Shroud are two types of vague imprints: light sepia outlines somewhat grotesquely resembling a male human body; and a quasi-carmine set of apparent blood stains. These stains show up in a cap of scalp punctures, a 5½-inch watery wound in the right side at the level of the fifth and sixth ribs, a 1½-inch double trickle on the left wrist with parallel trickles on the forearms, a meandering double trickle at kidney level on the back, and wounds from the soles of the right and left feet.

Of special interest for our present discussion are the sepia outlines of the male human body. These were discovered to have the qualities of a photographic negative in 1898, after Secondo Pia took the first photographs of the Shroud at Turin. In these pages, we are interested only in the face of the Man of the Shroud, and specifically, only in the area of the right eye, as it appears on the photographic negative of the Shroud cloth. (This perspective is reproduced in the enclosed 2 x 2 slide, within the white circle.) Notice that lights and shadows and right and left directions are properly oriented on this negative.

We do not enter into any question of the authenticity of the Shroud here. For such arguments, please consult the Filas filmstrips, THE SHROUD OF TURIN: IS THIS THE PHOTOGRAPH OF JESUS CHRIST? (updated 1978 edition); and THE 1978 EXPOSITION OF THE SHROUD OF TURIN; or Wilson, The Shroud of Turin, Doubleday, 1978, and 2nd edition, 1979, in Image Book format; also see the National Geographic, June, 1980, for a report on the outcome of the scientific tests at the 1978 Exposition.

All credit for the suspicion that coins might have lain on the closed eyes of the Man of the Shroud must go to the ground-breaking research of the three scientists, John P. Jackson, Eric J. Jumper, and R. W. (Bill) Mottern. During the mid-1970's these pioneers conceived the plan of applying space-age technology to the analysis of the Shroud.

Indications pointed to a three-dimensional human body as the source of the imprints. The anatomy reflected on the Shroud was far too precise to allow easy credence to a theory of forgery. The team was familiar with electronic analysis in situations where the degree of illumination received from an object depended in some way upon its distance. This was the case, for example, in stellar photographs and in photographs transmitted from the surface of Mars.

As they have ably reported on various occasions (as, e.g. in the 1977 U. S. Conference of Research on the Shroud of Turin), they subjected a close-up of the face to relief enhancement. The results were completely unexpected: Two apparent "buttons" or projections in three dimensions appeared, one on either eye. Despite several possible explanations the only option that was ultimately viable was the hypothesis that the two projections represented coins that had been placed on the closed eyes of the dead Man of the Shroud.

The British historian, Ian Wilson, suggested several coins from the time of Pontius Pilate as possible on the score of their size, but for the moment it appeared that computer enhancement or some such sophisticated technique might be the only avenue whereby such identification might be made certain. How else could tiny details be discerned from a coin known to be fifteen millimeters (five-eighths of an inch!) in diameter? And these details were to be expected to appear on a cloth weave centuries old, anything but the ideal photographic medium.

This was the situation as I knew it in August, 1979. More or less out of curiosity with no definite goal in view, I re-photographed an enlargement of the face which I had used on television programs. This enlargement in turn had been made from a second-generation sepia print based on the original 1931 Enrie photographic plates. To my surprise, I happened to notice a sort of design directly over the right eye, a design that had never struck me before. Rather excitedly, I brought the print to Michael Marx, a numismatist of the Chicago suburb Oak Lawn. Marx had earlier volunteered his professional consulting services after he had heard me mention on a radio program that there was need of numismatic expertise concerning Shroud interpretation.

Now it was Marx's turn to become excited as he scanned the photograph with his magnifier. He called my attention to four curving capital letters. This jostled my memory to recall that as far back as 1954, I had noted what I thought was an **ECAL** combination on a face enlargement I used on Good Friday Shroud telecasts aired on the ABC TV network. Of course, the **ECAL** meant nothing to me at the time.

What did we have? At Marx's suggestion I obtained Madden's History of Jewish Coinage and of Money in the Old and New Testament (see enclosed photocopy of page 149 of Madden), in addition to consulting the catalog of all Pontius Pilate coins in the British Museum. We came to the conclusion that what looked

like a Greek epsilon (ϵ) was actually a deceptive extension of the weave, above the proper height of a "U" with a faint right limb. The height of the "U" was in turn identical with the height of the remaining "CAI."

There could be no doubt that the "UCAI" angled from 9:30 o'clock to 11:30 o'clock around the curve of an astrologer's staff called a lituus. The lituus was a constant motif in coins minted by Pontius Pilate after 29 A.D., but never minted again by any official in Palestine nor anywhere else in the Roman world as an independent symbol. The lituus did occur occasionally on some Roman coins as a small side decoration, but no more than that.

We now felt that we had reasonable proof of identification with some of the Pilate coins sketched in Madden and in the British Museum catalog. The question remained how to confirm so accidental yet apparently so stupendous a discovery. If we were correct, then we had discovered that the Man of the Shroud had not died merely within the ten years of the procuratorship of Pontius Pilate. Michael Avi-Yonah's modern Prolegomenon to the re-issuance of Madden made the point that Pilate minted in the Roman years of Tiberius 16-18 (30-32 A.D.), all of which appear in Madden. This would appreciably narrow the date of death of the Man of the Shroud and would date the age of the Shroud to a degree of detail hitherto completely unimagined. It would seem an exercise of nit-picking to make much of the one-year dating difference for the years of Tiberius 16-18 -- 29-31 A.D. for Madden, revised to 30-32 A.D. by Avi-Yonah.

Through the kindness of Bill Yarbrough, a numismatist of Atlanta, Georgia, I obtained an actual Pilate coin that fitted the description of one type listed in Madden. Later, a confrere of Michael Marx, John Aiello, contributed another Pilate coin which exhibited a more elegant style. The differences between the two types are evident even on cursory inspection. The rougher style (resembling #14 in Madden) appears close to the coin whose imprints are on the eye of the Man of the Shroud. It bears only the inscription, IOUKAICAPOC, instead of the longer TIBEPIOUKAICAPOC ("Tiberiou Kaisaros," Greek for "Of Tiberius Caesar"). In addition, the cruder example has a clipped area from 1:30 to 3:30 o'clock, paralleled on the Shroud markings. The more elegant coin has a relatively perfect circle, with no flatness. Finally, the lituus on the rough example does not have the graceful curves found on the stem of the other.

Queries and Objections

The account to this point represents the historical genesis of finding the imprints. We now take up the question of detailed analysis of their legitimacy and validity. For the sake of clarity, it seems better to use a question-and-answer format in order to divide the subject into the rather numerous issues which arise. Behind all this discussion are the implicit questions: Is the Shroud the burial cloth of Jesus Christ? Does it give us a "photograph" of his body in the tomb after his crucifixion? Would the verification of the imprints of a Pontius Pilate coin on the Shroud cloth confirm more strongly than ever that Jesus Christ is truly the Man of the Shroud?

1. What is precisely the argument for identification?

The photograph under examination can be a second through fifth generation copy of the 1931 Enrie photographic negative of the face on the cloth. I have enlarged the area that is roughly identifiable as the right eye all the way to projection on a movie screen twelve feet wide, to confirm conclusions suggested by smaller enlargements. The copies I have used are made from printed, published Enrie photographs brought about by means of a plate, usually using a screen. Meanwhile, for more exact identification I enlarged a Pontius Pilate coin to equal proportions. In this case the coin happens to have borne the date of year LIH (Iota, value = 10; Eta, value = 8), equivalent to the year 18 of Tiberius, which is 31 A.D. according to Madden and 32 A.D. according to Avi-Yonah. (Note to 1982 edition: This LIH should have been LI^S = Year 16.)

The photograph from the Shroud shows a form that looks like a shepherd's staff. From 9:30 to 11:30 o'clock on the outside of the crook there are discernible the letters, "UCAI," angling according to the curve of the crook. These letters are about 1½ millimeters high; more accurate measurement cannot be claimed objectively. The staff is 11 to 12 millimeters from its base to the top of its curve.

Comparing this to the parallel enlargement of the Pilate coin, one finds that the coin's staff is equally 11 to 12 millimeters high. In this one accidental case, two or three letters can be made out, the others having been eaten away by long centuries of burial. These letters are about 1 to 2 millimeters high. In both the case of the Shroud photograph and in part, the coin, and in addition, in the sketch of Madden (Coin #14), the "UCAI" or "UKAI" are in the 9:30 to 11:30 o'clock quadrant. As listed in Madden, the British Museum catalog, and several other small coin collections consulted, all Pilate coins after 29 or 30 A.D. (depending on the dating of Madden or Avi-Yonah) carry the lituus (astrologer's staff) prominently on their obverse. This is likewise on the Shroud photograph.

The approximate outlines of the Pilate coin can be paralleled and compared quite closely (15 millimeters in vertical dimension) when the two enlargements of the coin and the Shroud imprints are placed side by side. (Cf. the sketch-diagram in this Informational Packet for tracing the motifs to be compared.) Also, the Pilate coin illustrated in this packet happens by chance to be an example of the rougher, more crude style (compare Madden's #14 with his #15 and #16). Strikingly similar on both the Shroud photograph and the Pilate coin is a straight clip-line at the rim running from 1:30 to 3:30 o'clock. This suggests that the hypothetical coin on the Shroud does not represent the more elegant, well-curved Pilate coins that also carry more graceful examples of the lituus.

To sum up, there exists a combination of size, position, angular rotation, relative mutual proportion, accuracy of duplication (with the exception of a "C" on the Shroud where a "K" is on Pilate coins we possess), and parity (i.e., turned in the proper direction). This combination concerns at least six motifs: a lituus or astrologer's staff, four letters, "UCAI," and a clipped coin margin. The reasonable explanation would seem to be that a common source, extrinsic to the Shroud, made the Shroud imprints, namely, a Pontius Pilate coin, clipped, with the staff on its obverse, surrounded with the letters "IOUCAI. . . ."

#2. You have only three correct of the eleven letters of IOUKAICAROC.

There is no doubt that the weave of the Shroud is extremely deceptive, since individual outlines can easily appear to approximate capital and cursive letters in different languages, e.g. **A W X Z Y C**. But in all honesty these occurrences are relatively rare, given the relatively huge area of the Shroud. They also do not add up to rational combinations.

The point at issue is that if a coin-maker were to make an error, the substitution of a "C" for a "K" in a Roman province was a most logical error to make. The pronunciation of "CAESAR" in Latin and "KAISAROS" in Greek would have been identical for the hard "K" sound. Another compelling factor to consider is the repeated admonition in modern coin manuals and from numismatists that the coins of Pontius Pilate are, as a class, of wretched technical quality: poorly pressed, off-center, and showing misspellings.

#3. You would still have explained only four out of eleven; seven are missing.

This objection fails to recognize the startling rise in geometric progression as combinations increase possibilities. If the four letters did not come from an actual coin, then they can be only chance, specious appearances of the weave. For the "UCAI," each of these four letters first would have to appear at random from the other 23 (or even in antiquity, possibly 25, if the archaic letters, stigma and digamma, were in use) letters of the Greek alphabet. Thus, there is one chance in eight million merely for this selection of "UCAI" to have occurred by accident instead of having been caused by an actual inscription. The chances for four letters decrease by that amount, compared to one chance in 24 or 26 for a single letter with no order of other letters involved.

#4. I will believe this only if a coin can be found inscribed IOUCAI

This would seem to be an unreasonably stringent condition to be laid down, hardly necessitated by rules of legitimate logic. We already possess undeniable evidence of many variations in the many Pilate coins in existence. Why demand an exact copy of the causative coin on the Shroud, when the variation in the Shroud reading can be explained in a logical reconstruction?

Even if the "C" element were removed from the argumentation, the case would still stand strong. The "U" "A" "I" would remain, as well as the lituus and the clipped rim, together with their other coincidences which, we repeat, would still amount to one chance in an astronomical figure of ten followed by thirty zeroes.

#5. Can you find these imprints on other photographs of the Shroud?

Yes.

I invite the interested reader to check out the legitimacy of these references, if desired. The list can be increased beyond the several instances mentioned here.

SECONDO PIA:

Understandably, no detailed face photography was made in the primitive first picture taken by Secondo Pia in 1898.

ENRIE:

a) Originally, as already mentioned, I stumbled on the evidence by means of an enlargement of a 2x-life-size enlargement reproduced from a 2/3 life-size sepia print issued by the Holy Shroud Guild and made from a print of the original Enrie negative of the face. (from 1931)

b) Such imprints can be discerned in the almost monumental magnum opus of Paul Vignon, Le Saint Suaire de Turin devant la Science, l'Archeologie, l'Iconographie, la Logique, Masson, Paris, 1938, Plate IX. Significantly, this Plate IX was a re-photograph by R. Levy, done in order to accentuate contrast.

c) Cf. the sepia frontispiece of Vignon.

d) The Enrie face is also reproduced in Toynbee, The Crucible of Christianity, World Publishing, New York and Cleveland, 1969, facing page 216. Again significantly for the question of searching out the genesis of the imprints, experienced printers and engravers have told me that the Toynbee plate is technically inferior and washed out. That very quality, they assert, has caused much of the interfering weave of the Shroud to disappear and to permit the outlines of the UCAI and lituus to remain prominent.

e) The lituus and the location of the letters can be determined even on a back dust cover! The jacket of Wilson, The Shroud of Turin: The Burial Cloth of Jesus Christ, Doubleday, 1978, presents such a reproduction, even though it was hardly intended to carry minute detail.

JUDICA-CORDIGLIA:

f) Few reproductions have appeared in public of the photographs taken by Judica-Cordiglia in Turin in the early 1970's. However, his version of the face was enlarged to fifteen feet and more in height and displayed in a form back-lit by daylight at the entrance to the courtyard where the exposition of Shroud history was located in 1978 in Turin. Much of the detail on this huge enlargement is understandably lacking; yet I can produce a slide of the enlargement where the lituus and the four letters can be located with no difficulty. The new element that enters here is that a slight fold in the cloth altered the clarity of two of the letters unlike the stretched tautness of the 1931 Enrie.

SHROUD OF TURIN RESEARCH PROJECT:

g) Face photography by Vernon Miller of the Shroud of Turin Research Project in 1978 was printed in the National Geographic, June, 1980, page 753. It shows the lituus and the "AI" clearly, but the "UC" are off angle. This is evident despite the dots of the screen used in the reproduction process. The askew character of two of the letters is traceable to a tiny loose fold in the cloth at the time of the photograph, again contrary to the tautness that evidently existed when Enrie did his work in 1931. The Shroud of Turin Research Project team was "hypercareful" that no damage would accrue to the Shroud by their investigation. Securing the cloth to its frame by magnets, they could hardly obtain the tautness obtained by Enrie, who, it is believed, used metal tacks for his fastenings.

#6. How is it that the imprints are hardly distinguishable enough to make a case when one inspects the original Enrie prints, yet they do show up on second through fourth and fifth generation copies?

This difficulty is contributed by myself no less than by others, who also legitimately call attention to the possibility of deceptive forms created by the dots used in screens used in printing. I have spent hundreds of dollars in trying to remove photographically the interfering weave from the original Enrie prints (a set of which I have in my possession). These efforts were aided by the contributed services of a half-dozen professional photographers, engravers, and printers, who "got hooked" on the intriguing questions concerning the Shroud.

Our combined efforts did not give us the answer we desired. The best theory remains that of the nationally reputed photographer, Archie Lieberman: Repeated contrast photography suppresses faint characteristics and accentuates strong ones.

It must be admitted with no hesitation that the dots in screens can theoretically create false images. But, in rebuttal, how can one admit that these false images could "happen" to re-create the proper four Greek letters found on a coin two thousand years old, next to a specialized decorative motif (the lituus), all again together in proper size, location, proportion, parity, and angular rotation -- historically accurate for what appears? So tiny?

I have no explanation to present. Perhaps the publication of this material will bring the solution from some reader with pertinent expertise and experience. In any event no solution appears acceptable which would require the fantastic and irrational conclusion that such an unusual combination just "happened," and that it repeats itself on different photographs of the Shroud taken years apart.

#7. Do these imprints show up in photographs made with filters of different frequencies?

This is the question from a competent physicist. It has already been agreed (as far as I am aware) that the Enrie photographs were made with film which emphasized contrast and included all frequencies. Later photographs, made with improved film, tend to play down contrast. It would seem reasonable to conclude that when photographs are compared, those with filtered frequencies could hardly contradict the all-frequency record already made permanent by the camera of Enrie in 1931.

#8. The resolution or focus at such tiny dimensions is impossible to explain according to any scientific law.

The first answer that comes to mind is to quote the ancient medieval rejoinder, "This objection sings outside the choir." In other words it is not pertinent, because (again to quote a medieval dictum) "Against the fact there is no argument." The focus, the resolution, does exist, for all to see, whether it can be explained or not.

If the objection comes from those who accept the authenticity of the Shroud, they make their own position untenable and contradictory, because the resolution and the focus on the photographic negative of the complete Shroud (not merely this tiny area of the right eye) is in its own right impossible to explain (or duplicate) by any presently known scientific law.

#9. Why cannot this be a chance deception of the notoriously deceptive weave pattern, where the human imagination connects points with imaginary lines to create a figure that makes sense to the human mind?

This appears to be the ultimate objection against accepting the identification of the Pilate coins and the imprints on the Shroud. In substance, the objection admits that the markings of the lituus and the coin are evident. However, the objection would maintain that the data cannot be accepted, on the ground that the markings are chance configurations of the weave.

One immediate reply is to call attention to the result of a spot inspection of any other part of the Shroud whose weave pattern can be closely scrutinized, such as the detail of the wrist area, the back of the head, and the face. Such inspection fails to reveal anything like intelligible patterns. Granted, fanciful and imaginary forms seem to show up, looking like swans or capital or cursive letters in Hebrew, Greek, and Latin form, even apparent faces with two eyes and a mouth. But nowhere does all this add up to a combination of intelligibility that reflects deliberate spelling and rational composition.

The second reply is to appeal to the mathematical calculation of the probabilities for such a combination as the lituus and the four letters to occur by accidental imitation. The detailed mathematical figures result in one chance in ten with forty and more zeroes behind it, and are listed on Page 11 in the Mathematical Appendix.

For readers with a less mathematical bent, consider that at the time of Pontius Pilate, there were 24 and perhaps even 26 letters in the Greek alphabet. (The archaic stigma survived in datings on the Pilate coin; hence, the archaic digamma might be considered to have existed as well.)

To have one letter appear by chance from the Greek alphabet would thus amount to one chance in 24 or 26. To have four letters so appear, would amount to one chance in eight million, if the "UCAI" order was included. Then these four letters would have to be found accidentally at the tiny location in the right-eye area, angling properly, huddling along the curve of the lituus, which itself would have to appear by accident over the right eye, and the crook of the lituus would have to be turned properly to the right. Meanwhile, all the dimensions of the letters and of the lituus would have to fit the dimensions of such markings on actual coins of Pontius Pilate now in existence.

When one recalls that the area of the Shroud can be approximated at five million square millimeters and the coin area of the right eye is about 175 square millimeters (27,000 times smaller), the chances for the letters to appear here by accident stagger and bewilder any attempt to imagine them.

#10. What degree of certainty do you attach to this argument?

A theoretical probability so great that it exceeds many of the practical certainties by which we conduct our daily lives.

#11. Why not wait until more proof is available before publishing this material? What if you are wrong? You may be disgracing the good arguments for the Shroud by being wrong.

This objection appears to be based on an ignorance of the strength of the considerations presented in this Informational Packet.

#12. This cannot be accepted until a Carbon 14 test verifies the age of the cloth.

Data independently arrived at represent facts that exist. One truth cannot contradict another truth. Even if a Carbon 14 test is performed on the Shroud, the question of how to interpret its findings remains critical and problematical.

#13. Are you challenging the validity of Carbon 14 tests?

Absolutely not. I merely point out once again that the interpretation of scientific data often creates more problems than obtaining the evidence.

#14. There exist no archeological proofs of coins placed on the eyes of the dead in the Second Temple period (the time of Jesus Christ); there are only evidences of coins within skulls in the late years of the First Century, A.D.

It has been a long-respected conclusion in biblical and archeological study that the existence of a custom proven at a later date, does not rule out the existence of that custom earlier but may even argue to the likelihood that it had such an earlier origin.

As far as the Shroud is concerned, whether or not independent archeological evidence exists that coins were placed on the eyes of the dead in the Second Temple period, the evidence of the Shroud (both from the electronic analysis and from the data presented here) would argue to the existence of such a custom at the time of Jesus Christ.

#15. The Bender article* often referred to concerns only a custom among medieval Jews of placing coins on the eyes of the dead; that is far removed from 30 A.D.

The response to this objection is the same as in #14.

#16. This is too stupendous a claim to be proven so simply.

Correct! To date the Shroud to the time of Pontius Pilate and therefore to the time of Jesus Christ, with a likely year of the crucifixion of Jesus in 30, 31, or 32 A.D., is anything but simple, as these pages discussing the identification of a coin of Pontius Pilate on the Shroud hopefully testify.

*Bender, A.P., "Beliefs, Rites, and Customs of the Jews Connected with Death, Burial, and Mourning," Jewish Quarterly Review, VII (1895), 101-3.

MATHEMATICAL APPENDIX

This is a detailed reply to the objection that the coin markings on the Shroud might be accidental. It represents an approximate calculation of the mathematical probabilities for a chance, spurious appearance of the weave of the Shroud of Turin to account for the lituus (astrologer's staff) and the letters, "UCAI," in an arc from 9:30 to 11:30 o'clock around the outer edge of the crook of the lituus, instead of these markings representing an actual Pilate coin on the right eye of the dead Man of the Shroud.

The analysis will not consider "conditional probability." Such conditional probability refers to the fact that once one of the above factors is placed into computation, its area is no longer eligible for consideration as a possible location for anything else. In the present instance the relatively tiny size of the lituus and the four Greek letters is so infinitesimal compared to the overwhelmingly large area of the Shroud which remains for computation that "conditional probability" would not affect the result to any appreciable degree.

Only the denominator is at issue, since the chance of 1 is always the numerator.

To obtain the proper proportions and to reach measurements as exactly as possible, the following dimensions were used:

$$\text{Area of lituus: } 12 \times 3.5 \text{ mm} = 42 \text{ mm}^2$$

$$\text{Letter area of individual U,C,A,I: } 1.5 \times 1 \text{ mm} = 1.5 \text{ mm}^2$$

$$\text{Area of Shroud} = 14'3'' \times 3'7'' = 4\text{m } 36\text{cm} \times 1\text{m } 10\text{cm} = 4,796,000 \text{ mm}^2$$

STEPS:

1. For the lituus to fall at random on the right eye:

$$\frac{\text{lituus area}}{\text{Shroud area}} = \frac{42}{4,796,000} = \frac{1}{1.1419 \times 10^5}$$

2. For the lituus to be upright in addition, multiply by 8 since there are eight possible 45° quadrants:

$$= 9.1352 \times 10^5$$



3. For the lituus in addition to curve clock-wise rather than counter-clock-wise, multiply by 2, since the lituus could turn either to the right or to the left:

$$= 1.827 \times 10^6$$



4. For the four letters U,C,A,I, the calculation is identical:

- a) To occur by random chance in the arc outside the lituus:

$$\frac{\text{area of letter}}{\text{area of full Shroud}} = \frac{1.5}{4,796,000} = \frac{1}{3.1973 \times 10^6}$$

This concerns the position of the letters.

- b) For each individual letter to have the proper rotational angle in which it appears, multiply by 8, to allow for eight 45° quadrants:

$$= 2.5579 \times 10^7$$

This concerns the rotational angle possible for each letter, for example, from among these possibilities:



- c) For each individual letter to appear by chance from the other letters in a 24-letter Greek alphabet, multiply by 24 in order to consider this possibility: (not to be, e.g., "B" or "G" or "R" instead of "A" or "I")

$$= 6.1389 \times 10^8$$

This concerns the selection of each individual letter (U,C,A,I).

- d) For all four letters to be the ones occurring by chance from the alphabet, the previous number must be raised to its fourth power to account for the myriad combinations now possible when these particular four letters occur together by chance, together with their associated special circumstances mentioned in a), b), and c):

$$= 1.4202 \times 10^{35}$$

- e) One more possibility remains to be put into the computation, and that is the particular order of "UCAI." There are 24 possible combinations for four letters to change their order. Hence, again multiplying by 24:

$$= 3.4085 \times 10^{36} \quad (\text{not to be, e.g., "CIUA" or "IUAC"})$$

The calculations in Step #4 are intended to show probabilities for a random occurrence of UCAI in position, rotational angle, selection from the alphabet, and order of sequence.

5. All these probabilities should now be combined with the earlier calculation for the lituus to occur by random in its own position, upright, and with a turning of its crook to the right:

$(1.827 \times 10^6) \times (3.4085 \times 10^{36}) = 6.2273 \times 10^{42}$ This is approximately one chance in 6 with 42 zeroes following it that the lituus and UCAI are fallacious patterns on the weave of the Shroud, accidentally duplicating markings on the coins of Pontius Pilate.

It certainly is possible that individual steps in this calculation can be challenged in favor of some other calculation of probabilities, but there can be no reasonable doubt that the chance of random appearance is one chance in an astronomical number that staggers the imagination, suggested here as 6 million times a trillion times a trillion times a trillion.

HISTORY

OF

JEWISH COINAGE,

AND OF

Money in the Old and New Testament,

BY

FREDERIC W. MADDEN, M.R.S.L.

*Assistant in the Department of Coins and Medals, British Museum, and
Honorary Secretary of the Numismatic Society of London.*

PROLEGOMENON BY

MICHAEL AVI-YONAH

WITH 254 WOODCUTS, AND A PLATE OF ALPHABETS,

BY

F. W. FAIRHOLT, F.S.A.

(THESE PAGES COME FROM A STILL AUTHORITATIVE BOOK FIRST
PUBLISHED IN 1864. THEY REPRESENT NON-COPYRIGHT MATERIAL
NOW IN THE PUBLIC DOMAIN. KTAV PUBLISHED AN AUGMENTED
PHOTOCOPY IN 1967.)

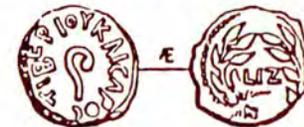
KTAV PUBLISHING HOUSE, INC.
NEW YORK

(NOTE: THIS EXAMPLE COMES CLOSEST TO THE PATTERN OF THE
COIN IMPRINTS ON THE SHROUD AND ON PILATE COIN #1 OF FILAS.)



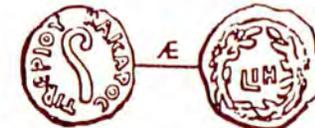
14. *Obv.* [TIBEP]IOY KAICAPOC. *Lituus.*

Rev. L. IS (year 16 = A.D. 29), written within a wreath. (De Saulcy, pl. IX. no. 5.) Æ. 3.



15. *Obv.* Same legend and type as no. 14.

Rev. L. IZ (year 17 = A.D. 30), written within a wreath. (De Saulcy, pl. IX. no. 6.) Æ. 3.



16. *Obv.* Same legend and type as no. 14.

Rev. L. IH (year 18 = A.D. 31), written within a wreath. (De Saulcy, pl. IX. nos. 4, 7.) Æ. 3.

The new type of the last three coins⁶ was evidently adopted by Pontius Pilate after the death of Julia, in A.D. 29, and may have been suggested by the strong passion Tiberius is known to have had for augurs and astrologers.⁷

⁶ Cavedoni (*Bibl. Num.* vol. ii. p. 48) gives a coin of this type with the date L. IA. He also quotes one from Sestini (*Descr. Num. Vet.* p. 547, no. 7), with L. IA. I have not seen a specimen of these coins. (See note 3 on p. 147.)

⁷ Joseph. *Antiq.* xviii. 6, 9; Suet. in *Tib.* 69.

PART B: LATER DEVELOPMENTSMay 28, 1981:

On May 28, 1981, personnel of the Log E/Interpretation Systems of Overland Park, Kansas, successfully demonstrated the three-dimensional quality of the imprints over the right and left eyes, thus pointing to a 3D source, namely, coins.

The reason for my seeking out the assistance of electronic image analysis lay in the continuing public attacks from critics who denied the existence of any intelligible pattern and who called the coin identification published in the Monograph "wishful thinking."

But electronic image analysis had already led to the discovery by Drs. Jackson and Jumper that some sort of protruding "buttons" had been over the eyes of the Man of the Shroud. The "buttons" in the analysis of the full Enrie face were not identifiable; but I wondered whether the same three-dimensional prominences would not show up in detail if the enlarged areas from the right and left eyes were examined.

The results of the Log E/Interpretation Systems study confirmed this theory with results that far surpassed all expectations. The Standard Earthview equipment, valued at \$300,000, digitized the photographs to an extent never before performed in any such analysis of the Shroud by anyone.

You must keep in mind that image analysis of this type works on the same principle that holds true for photographs from the planets and outer space. The relative intensity of lights and shadows indicates distance from the camera. This is a process completely different from the camera reproduction of ordinary paintings or photographs. If such photographs (depending for their intensities on their relative colorations and not on distance from a camera) are subjected to this type of image analysis, the equipment reveals gross distortions in the cathode-ray tube display.

But the display concerning the right and left eyes betrayed no such distortion. Instead, the letters "UCAI" and the curving staff stood out clearly, and the outlines of the right-eye coin were all the more prominent where the projections of the coin had touched the Shroud cloth.

The left-eye pattern, of course, showed little or no clear evidence of an internal design, following the photographs. What was surprising for this left eye, however, was the clarity of the boundaries of the coin.

In order to have control material in addition to the enlargements of the right-and left-eye area, I submitted a frontal photograph of the Shroud that had been taken by Gilbert Lavoie, M.D., of West Roxbury, Massachusetts, during the 1978 Exposition at Turin. Dr. Lavoie did this by means of telescopic lenses directed toward the Shroud in its bullet-proof container, in a photo at least from a hundred feet away. Not only did the face appear three-dimensional; the bones of the wrist and forearm were particularly striking, again in 3D.

On the other hand, an artistic poster advertising the Exposition was reproduced with almost ridiculous distortion, thus betraying its origin of arbitrary intensities and colorations, contrary to the non-distorted nature of all image analysis of the Shroud.

The significance of the image analysis lies in the way in which the Shroud coin pattern over the right eye showed up on the display screen. There was positively no distortion. The ridges of the weave indicated where the coin had touched the weave. One cannot evade the conclusion that a three-dimensional source had to make these imprints on the Shroud cloth. Otherwise, all other electronic image analysis would have to be called false. Equipment identical with the computer hardware that led to the Shroud coin 3D has been relied on for three-dimensional interpretation from the planets, and for agricultural and mineral land surveys taken from the air, here on our earth.

This would appear to be the proper place to make public acknowledgment to Mr. Jerry Lent, Vice-President of Log E/Interpretation Systems, who made the arrangements for the image analysis. Without Mr. Lent's cooperation, these extremely significant results would never have been discovered.

September 1, 1981

The next step in the coin saga stunned me almost as much as the first accident in August, 1979, when I first stumbled on the evidence for the coin pattern. You will recall from the Monograph that after I first announced that I could discern a coin pattern, working from historical numismatic sketches of Pontius Pilate coins, I received a gift of a typical Pilate lepton with the astrologer's staff from Bill Yarbrough of East Point, Georgia. As I had sketched in the original Monograph, I had always been under the impression that this coin had a clear "I" and a clear "O" and perhaps a "U" in the shape of a "V." My impressions agreed with the impressions of other persons who inspected the coin: we all thought that its weatherbeaten condition prevented any clearer identification of its original lettering, although its staff was completely discernible.

In late August, 1981, a television crew visited me at Loyola University in Chicago to do more filming of the results of the image analysis. In order to provide better visuals for this telecast, I took the photograph of the Pilate coin to Gamma Laboratories and asked them to enlarge the coin to about twenty-five times life size in black and white, not in color.

Then the surprise occurred. The new enlargement had been mounted on stiff board. I placed it on my bed and stepped back to look at the photograph from a distance. Suddenly, I saw "I" -- "O" -- a different-looking "U" -- and most of all, a definite "C" where the "K" for KAI SAROS should have been located. In other words, the photograph of the coin reproduced in black and white confirmed repeated experience in photography that shades and contrasts in color often do not appear discernible in the way they appear in black and white.

I could hardly believe the evidence of my eyes: that I had in my possession a coin with a maverick misspelling which had never been known to exist before this. Michael Marx, my numismatic consultant, had agreed with me from the beginning that we could not read the letters off the Shroud as anything else than "UCAI," even though we knew all along that they fitted the sequence of letters in a coin reproduced in Madden's first-edition coin manual (#14 -- see page 13), but the troublesome "C" on the Shroud was falling precisely where a "K" should have been.

Up to this point, the "UCAI" could only be theorized as a misspelling of a "C" for a "K" in the Greek for "Tiberius Caesar" -- TIBERIOU KAI SAROS. Now the coin provided concrete proof that the misspelling had to exist in the past not only on the Shroud but also on an earlier example as well. What makes this argument more striking is the following consideration: We have to remember

always that it was the letter "C" imprint on the Shroud that first suggested to the world that a misspelling existed in history which coin experts had never heard of before. In fact, some critics stated in print that my coin discovery had to be false since they knew that such a misspelled coin did not (and could not?) exist.

There were even implications from such "critics" that my claims had to be a forgery. That was why I submitted the coin to three experts in technical photography for four separate sets of photographs. The tremendously significant consequences of the discovery of the "UCAI" coin had to be protected against any suspicion of duplicity. That was why I affirmed all data in a statement notarized under oath. (The notarized documentation is reproduced here on page 24).

November 12, 1981

But the dissenters were still not satisfied. They claimed in the media that all this evidence was inconclusive. They contended that the imprints on the 1978 photographs of the Shroud were not as clear as the coin imprints on the Shroud (Enrie) photographs of 1931. They asserted, most of all, that the "UCAI" coin in existence was weatherbeaten; that it was not legible enough; that it was only a single example and might be a unique accident; that it was too small to carry any significance, and, of course -- repeating -- that coin experts had no historical record of such a misspelling, so that my example was an impossibility.

As a result of these objections, I searched through dozens of existing Pilate coins in the hope of finding another example and perhaps a more distinct example that would fit the Shroud. My numismatic advisor Michael Marx again put me on the proper trail. He suggested that I consult wholesale coin dealers in Chicago; I did, but found nothing worthwhile. One dealer, however, noted that he had just sold a batch of Pilate leptons to the Rare Coin Department of the Marshall Field department store on north State Street.

Again, the unforgettable happened. It was a Thursday afternoon, November 12, 1981, when Mr. Peter Meissner, the manager of Field's coin sales, showed me his Pilate coins. I could hardly believe my eyes, when the third one I inspected under the magnifier seemed to read, "CAISAROS," or in antique Greek lettering, **CAICAPOC**. Peter agreed I was correct. Within an hour, Michael Marx examined the coin at his shop in Oak Lawn, and agreed I was correct.

We had another spectacular discovery, spectacular on several counts. The Marshall Field coin represented a completely different style, since its lituus (astrologer's staff) was broken at two-thirds its length and was bent accordingly to the right. In addition, the "CAISAROS" word was spelled out completely and most clearly. Still more, the "CAISAROS" began at two o'clock with respect to the lituus, again contradicting the "expert" who had told the media on several occasions that Pilate coins could carry this name of the Emperor only at one place on the circle, with no deviation among examples.

As an illustration of the deviousness and distortion in the arguments brought against the coin identification, this same "expert" claimed that the discovery of the second misspelled coin had no bearing on the argument. His reasoning lay in his rejection of the straw-man argument he had built up himself: he supposed that Coin #2 was to fit the pattern of Coin #1 and on the Shroud. He completely passed over in silence that the point at issue was not the question of superimposition; the point instead concerned the finding of one more instance of the evidently rare misspelling of "KAISAROS" with a "C" instead of its "K."

January 12, 1982

The time now appeared ripe to issue to the public a detailed and probative photographic record of what had happened. Too many unsubstantiated allegations had appeared in the media; and once they appeared, they were being uncritically repeated as if they constituted some sort of responsible refutation of the coin evidence on the Shroud.

The method I followed was to issue a 96-frame filmstrip with a 30-minute cassette explanation. The filmstrip's huge enlargements in color and in black and white provided direct proof, so that the international public could now decide for itself where the truth resided, independently of the sporadic attacks that continued to appear against the identification. The opposition continued the same tactics: distortion, suppression of evidence, or caricaturing the case.

New photographs never before published were also on this filmstrip (entitled, PONTIUS PILATE COINS ON THE TURIN SHROUD, available from the distributor of Filas Filmstrips: Cogan Productions, 11134 Youngtown Avenue, Youngtown, AZ 85363.) Most striking and perhaps most convincing was the superimposition of imprints from over the right eye of the Man of the Shroud, on to the #1 coin of Pontius Pilate. The superimposition could thus be projected beyond twenty times life size. The imprints of the four Greek letters ('UCAI'), the astrologer's staff, and a diagonal boundary line on the Shroud fitted the same letters, the staff, and a parallel boundary line on the Pontius Pilate coin.

The match was precise within 1/32nd of an inch (1 millimeter) or less. The angles, the dimensions, the selection of four Greek letters, their order, together with the staff and the diagonal clip, all coincided.

The filmstrip presented three conclusions to its viewers:

- a) The Shroud was thoroughly authenticated against suspicion of forgery;
- b) The Shroud could be dated at the very least to the time of the late first century, if not to the exact years of the governorship of Pontius Pilate;
- c) The Shroud's origin was traceable to the Palestine of Pontius Pilate, who was the governor who condemned Jesus Christ to death.

We shall present the detailed explanation for each of these three conclusions after describing the confirmatory research of Dr. Alan Whanger.

Dr. Alan Whanger and the polarizing filters and overlays

Alan D. Whanger, M.D., is a practicing geriatric psychiatrist at Duke University, Durham, N.C., who is also a surgeon and possesses a diploma in tropical medicine and hygiene. With a hobby in photography and with particular interest in the Shroud, Dr. Whanger made a breakthrough in December, 1981, when he came across what can be called "the polarized image overlay technique for comparing various images." This enabled him (in January, 1982) to prove the striking similarity between images on various Byzantine icons and coins, compared to the facial image on the Shroud. He then utilized the same technique to examine the areas over the eyes on the Shroud, and published his results in early April, 1982.

The matching of such images is done by using polarized light. This requires three pieces of polarizing filter material: one for either projector, and the third to look through or hold over the lens of the camera recording results.

The polarizing filters have a plane of polarization which means that the normally scattered light rays are largely filtered into one plane, e.g. vertical or horizontal. This means that when one filter is rotated over the other, you will observe that the light is blocked out almost to extinction when the axis of one filter is at right angles to the axis of the other. As a result of this fact, one projected image (polarized, e.g. in the vertical) will fade out and the other projected image (polarized, e.g. in the horizontal) will fade in as the projected images are viewed through a third polarizing filter when the third filter is rotated.

(Dr. Whanger cautions that it is important to have the correct type of screen for projection. The reflecting surfaces of some types of screens tend to depolarize the projected light so that the polarizers might seem not to work. A lenticular type screen is recommended. This can be determined by examining its surface to determine whether tiny vertical grooves are on the surface.)

The images must be matched for size and position, a step that is critically important. The size can be adjusted by using zoom lenses or else by moving the projectors in respect to the screen. The alignment can best be accomplished by looking through the third filter and rotating it to shift from one projected image to the other. In addition, so-called alignment slides can be purchased at photo supply shops to obtain the same results.

Polarized overlays and the right eye of the Man of the Shroud

Dr. Whanger made use of the three-dimensional image analysis of the right-eye Shroud area first performed by digitized equipment at the Log E/- Interpretation Systems of Overland Park, Kansas (as mentioned earlier in these pages.) This in turn was dependent on the Enrie 1931 facial photograph at the scale of two-thirds' life size.

He compared this with the photograph of Pilate coin #1, first made by Rob Weber (see p. 24 for authentication). He and his wife Mary then went on to count 74 points of congruence between the coin and the image over the right eye. These congruent points indicated fragments of other letters hitherto not identified on the coin. In detail, these were points on the letter "I", "O", approximately $\frac{1}{2}$ of the letter "U", all of the letter "C", $\frac{2}{3}$ of the letter "A", $\frac{1}{2}$ of the letter "T", and about $\frac{1}{3}$ of a faint letter "A" at the one o'clock position. In addition, he noticed the stump of the letter "T" preceding all others at eight o'clock.

It is significant that this system of data collection ("points of congruence") is rather similar to that used in forensic sciences. For example, fourteen points of congruence are sufficient legally to declare fingerprints identical. In the present case the use of the computerized image analysis enhancements helped to eliminate the confusing background of the threads of the cloth, thus sharpening the image on it as well.

Earlier, we mentioned that the Filas filmstrip presented a "static superimposition" of the coin imprints and the pattern on the Shroud. The technique of Dr. Whanger should be called a "dynamic superimposition" of the same imprints and pattern.

Dr. Whanger's conclusion was that these represent an "almost perfect match." Furthermore, "The only reasonable conclusion is that the coin used to cover the right eye and the coin of Filas were struck from the same die."

The dating of the coin over the right eye

It was a coincidence that Dr. Whanger in North Carolina discovered the dating of the coin over the right eye almost to the day that the same discovery occurred in Chicago. On March 17, 1982, Mr. William Pettit, Research Specialist for the Standard Catalog of World Coins (Krause Publications, Iola, Wisconsin), visited Father Filas to make a personal examination of the Pilate coins. Pettit had read of conflicting claims in the press that the Filas coin could not be one of Pontius Pilate, or that Filas had misread the Shroud images as supposedly being too indistinct, or that the identification was the result of wishful thinking.

We must keep in mind that we are discussing the weatherbeaten and corroded reverse side of the coin ("Pontius Pilate #1," as it has been called in these pages) whose pattern fitted the right-eye Shroud image. Both Dr. Whanger and Mr. Pettit noted three tiny letters:

- a "L" (the abbreviation on such coins for "year" of the reigning emperor);
- the Greek "Iota" (with the number value of ten);
- the Greek "Stigma" (an obsolete Greek letter looking like a rounded "5" in modern Arabic numerals -- 5 -- and carrying the number value of six.

This meant that the coin had been minted in the 16th year (10 + 6) of the Emperor Tiberius Caesar. Since Tiberius took office in what our calendar calls 14 A.D., the coin whose imprints exist over the right eye of the Man of the Shroud was minted in what our calendar calls 29 A.D.

It is a logical question to ask why this coin had resisted all previous attempts to make out any meaningful pattern of dating. The answer seems to lie in the quirks of lights and shadows and angles. The critically correct angle of light and shadow brings out contrasts that are otherwise not easily visible, if at all, at different angles and different lighting. (First LIH readings had been incorrect.)

Polarized overlays and the left eye of the Man of the Shroud

The Filas filmstrip was able to suggest only a tentative and possible identification of a Pontius Pilate coin over the left eye of the Man of the Shroud. The filmstrip worked on the following logic: Admittedly, the pattern over the left eye was vague and incomplete, so vague that it would hardly be enough to identify one coin from the tens of thousands known to exist. However, if we accept the evidence from the right eye that the right-eye coin was issued by Pontius Pilate, the field of inquiry might be narrowed to suggest another Pilate coin, but of a different style.

The filmstrip could suggest only two divergent lines that might lead to a vertical positioning of a coin issued by Pilate only in 29 A.D., named after Julia, the mother of Tiberius Caesar.

The Whanger polarized overlays, however, suggested otherwise. They confirmed the coin as that of Julia, and therefore from 29 A.D.; but they pointed to a horizontal instead of a vertical positioning. Dr. Whanger and his wife were able to count 73 points of congruence between this Julia lepton and the image over the left eye, including at least one point of congruence over eleven of the fourteen letters on a Julia coin. Approximately 2/3 of the terminal letter "A" is apparent, 1/2 of the letter "R", and 1/2 of the letter "O". Sheaves of grain or barley on the Julia coin particularly presented congruences with areas on the Shroud left-eye imprint. Granted the lack of clarity on this left-eye imprint, the conclusion still remains that no evidence appears to contradict the supposition of a Julia coin of 29 A.D.

Some conclusions from the existence of the two Pilate coins:

The conclusions point in one inescapable direction: Forgery of the Shroud is utterly impossible. No forger in the Middle Ages or even earlier would have been able to fabricate tiny imprints over both eyes on the Shroud cloth -- in photographic negative -- with no pigment -- reflecting letters 1/32 inch high -- with a rare misspelling -- including an astrologer's staff existing practically nowhere else in numismatic history in full size of 1/2 inch -- from one Roman coin issued certainly in Palestine in 29 A.D. -- and a second Roman coin whose traces point again to Palestine and 29 A.D.

The place of origin of the Shroud is certainly Palestine. Pontius Pilate, governor of Palestine from 26 to 36 A.D., alone in history issued the lepton traceable to Tiberius Caesar as Emperor.

As for the dating: It is extremely difficult to imagine how the two coins on the right and left eyes both could have been used together with a Roman governor in power after the term of Pontius Pilate. Later governors issued their own currency. Moreover, the hostility of the captive Jewish state increased dramatically toward Rome during and after the governorship of Pontius Pilate. It is difficult enough to accept the fact that Roman coins were placed on the eyes of a Jewish corpse during the time of Pilate, as part of an observance that looked toward observing the Jewish Sabbath -- the covering of the eyes of the dead, for the Sabbath. It becomes even more inconceivable to imagine that this practice would continue through later years as the rebellion of 67 A.D. grew close. The destruction of all Jerusalem in 70 -- wiped out Jewish culture and customs in one final devastating sweep, so that the coins of the early 30's would have been buried under tons of rubble, at a time when Jews were banished from Palestine.

All of this would seem to remove permanently the basis for any rational denial of the existence of Pontius Pilate coin imprints on the Shroud of Turin.

Is it too good to be true, or is it too good not to be true?

PART C. UPDATING OF ORIGINAL QUESTIONS, AND FINAL SUMMARY

The original Monograph presented its position in the form of replies to some sixteen questions. This was done for the sake of clarity, in order to divide the subject into the rather numerous issues connected with it. At the time, these replies could be given only according to the evidence then extant. The new, newly conclusive developments require changes in the comments, as follows:

#2. You have only three correct of the eleven letters of IOUKAICAPOC.

This difficulty would seem to require that all the letters and all the pattern of the coin must be imprinted on the Shroud, as if the Shroud were a perfect photographic plate, which it is not. The realistic fact is that so many of the letters and so much of the pattern has been imprinted that the Pontius Pilate coin is the only rational explanation for so many coincidences.

We now know that of the "UCAI" sequence not only the "U," "A," and "I" fit the coin, but the apparent "C" misspelling on the Shroud fits as well. This is further confirmed by the indisputable instance on Pilate Coin #2 (the one discovered at Marshall Field's) of another clear "C" misspelling to prove that the rare and hitherto unknown misspelling of "C" did occasionally replace the "K" or kappa in KAISAROS. Hence, the four letters on the Shroud all are proven correct.

#4. I will believe this only if a coin can be found inscribed IOUCAI.

OK, believe. Two coins at the minimum are now existing with this misspelling. They are both kept for safekeeping in the depository of the First National Bank of Chicago.

#5. Can you find these imprints on other photographs of the Shroud -- notably of 1978?

Critics of the Shroud repeatedly stated in the media that the coin imprints did not exist on the 1978 photographs of the face of the Man of the Shroud. I stated in the original Monograph that the first published 1978 face photograph in the National Geographic, June, 1980, page 753, showed the astrologer's staff and the "AI" clearly, but the "UC" appeared to be off angle.

In the Filas filmstrip, PONTIUS PILATE COINS ON THE TURIN SHROUD, Frame 57 presents an enlargement with the following cassette commentary, "Here is the right-eye area of Vernon Miller's 1978 photograph of the face, taken at life-size dimensions, reversed in its lights and shadows, and enlarged eighteen times. The UCAI and astrologer's staff are present, although camouflaged by the weave. A slight belly or fold in the cloth has upset the angles of the letter 'C', but all four letters are definitely at the same place as in the 1931 photos, together with the staff with its upright and its crook."

Dr. Whanger has verified the agreement between Enrie 1931 and Miller 1978 photographs of the right-eye area by means of his polarized filter overlays. For some reason (perhaps the critical distance needed to overcome the problem of lack of information in the valleys of the Shroud weave) the 1978 photo is less clear and more fuzzy than the 1931 example. However, it should be noted that the 1931 example is of the Enrie photo at two-thirds' life size. It is significant that Enrie's photo of the face at normal life size, taken closer to the cloth, does not possess the clarity of the two-thirds' photo.

The statement of the critics that the 1978 photographs give no evidence of coin imprints flies in the face of all the photographic facts which have been witnessed by the international public to date, and which can be verified instantly by any reader of this Monograph: ALL essential factors of the coin identification are present on the 1978 photographs no less than on those of 1931.

#6. How is it that the imprints are hardly distinguishable enough to make a case when one inspects the original Enrie prints, yet they do show up on second through fourth and fifth generation copies?

This was a case of a Sherlock Holmes inspecting a large footprint instead of a small one. The solution to the difficulty was that simple!

What had happened was that I was trying to reproduce the clear coin imprints from the Enrie 1931 face taken at life-size, and quite close to the Shroud, instead of going to the other Enrie face taken at two-thirds' size and farther from the cloth. The clarity was there -- farther from the Shroud. This agrees with the common experience of all witnesses to the Shroud during the 1978 Exposition: close-up inspection loses the details of the imprints on the cloth; one must stand away ten feet and more in order to gain proper perspective and contrasts, because of the faintness of the outlines.

What I did not know originally was that the "fourth and fifth generation copies" were copies of the Enrie two-thirds, not the life-size face. Hence, the clarity was traceable not so much to repeated high-contrast reproduction, but to the original clarity of the two-thirds' face.

A TENTATIVE SUMMARY:

The Shroud continues to be mysterious, in that it eludes all efforts to explain its origin by means of processes we can repeat in our own day. None the less, this every elusiveness is testimony to the impossibility of its having been forged.

We should mention here explicitly that the evidence for the Shroud is not a matter of religious or biblical faith. It is archeological testimony from a unique archeological artifact to the historical existence of a person named Jesus Christ, whose torture and death were described in the four gospels of Matthew, Mark, Luke, and John.

Two separate questions should always be distinguished: Did a human body make the marks on the cloth? This is the only area that science is qualified to discuss. The second question is one of identification: If a human body put the imprints on the Shroud, whose body is it?

The cloth called the Shroud of Turin possesses the proof that it covered the body of a male crucified Jew during the governorship of Pontius Pilate in Palestine -- a body buried hastily, individually, richly, scourged and crucified as well, crowned in mockery of kingship with a bloody cap of scalp punctures, and a heart pierced after death. The coins indicate death occurred not too long after 29 A.D.

All of this happened to the Man of the Shroud. All of this happened to Jesus Christ.

How the metal of tiny coins could have left imprints on this cloth remains unknown today. Will the answer ever be found?

"Pontius Pilate Coin #1:"

TRACING OF A PONTIUS PILATE COIN DATED L I 3 ON ITS REVERSE=
16th year of Tiberius Caesar = 29 A.D.

This is the coin whose imprints can be superimposed on those of the right eye of the Man of the Shroud.



TRACING OF MAIN PATTERN OF IMPRINTS
ON RIGHT EYE OF MAN OF SHROUD
(in photographic reversal to
give natural lights and
shadows)



"Pontius Pilate Coin #2": to illustrate a second example of
misspelled CAICAPOC = CAISAROS.



NOTARIZED STATEMENT
August 31, 1981

6525 North Sheridan Road Chicago, Illinois 60626 (312) 274-3000

DATA CONCERNING PONTIUS PILATE COIN IN POSSESSION OF
REVEREND FRANCIS L. FILAS, S.J.,
PROFESSOR OF THEOLOGY AT LOYOLA UNIVERSITY OF CHICAGO.

SIZE: 12 mm in longest horizontal axis, 14+ mm in longest vertical axis, with
lituus (astrologer's staff) 11+ mm high from bottom to top of curve.

WEIGHT: .7972 grams (weighed on Loyola University scientific equipment)

CONTENT: 96.5% copper, 3% tin + traces. (Ion microprobe analysis of metal content of
coin using positive primary beam of nitrogen atoms, by Dr. John Gavrilovic,
Senior Research Scientist of Walter C. McCrone Associates, Inc., of Chicago,
December 5, 1979.)

SOURCE OF COIN: Gift from numismatist Bill Yarbrough of East Point, Georgia,
October, 1979.

PHOTOGRAPHY:

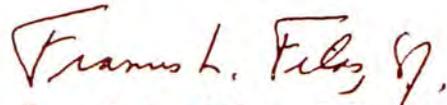
- 1) High-resolution: by scientific and industrial photographer, Rob Weber, Lake Zurich, Illinois, mid-winter, 1979=80.
- 2) By numismatic photographer, William Cramp, Oak Lawn, Illinois, August 20, 1981.
- 3) High-resolution: repeated by Rob Weber, August 25, 1981 with a Mamiya RB 67 camera, 127 mm lens with bellows extension tube on Kodak Plus-X. Exposed 1 sec at f-16½. Developed normal in D-76.
- 4) High-resolution: by Robert J. Buhl, Technical photographer for Industrial Film Group, Inc., Chicago, on August 28, 1981. On 5 x 7 Burke and James View Camera. Lens: Schneider Componon 210 mm. Film: 4 x 5 Kodak Plus-X 4147. Exposures: 1 sec at f-32 and f-45 in all four quadrants.

PROCESSING: All photographic developing, printing, and enlarging was done by
Gamma Photographic Laboratories, Chicago.

NUMISMATIC CONSULTANT: Michael Marx, M & R Coins, Oak Lawn, Illinois

DESCRIPTION: This coin has the vertical lituus (astrologer's staff), with letters still discernible beginning at 9 o'clock along the staff of the lituus. The letters are: "I", "O"; then an apparent "U" eaten away at 10 o'clock. At 10:30 o'clock: the letter "C". At 11 o'clock: the letter "A" eaten away almost to the surface of the coin, but with visible stilts and cross-bar in relief, in high-resolution photography. At 11:30 o'clock: the Greek letter iota ("I") at the upper half of the line. From 1 to 3 o'clock: a clipped line 9 mm long about 30° off the vertical.

SUBSCRIBED AND SWORN TO BEFORE ME THIS
 31 DAY OF AUG. 81
 Sophie Brakeman
 (CONTACT PERSON)
 6542 N. SHERIDAN
 (COMMISSION EXPIRES 6/3/85)


 Francis L. Filas, S.J.

LOCATION: Depository of First National Bank
of Chicago (June, 1982)

