

A NEWSLETTER ABOUT THE HOLY SHROUD OF TURIN
edited by REX MORGAN, Author of several books on the Shroud
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AN INTERESTING PORTRAIT OF CHRIST ON A CRUCIFIX KEPT IN SALERNO, ITALY. BELIEVED TO DATE FROM 1049 AND YET HAS ALL THE CHARACTERISTICS OF THE FACE OF THE MAN IN THE SHROUD SOME CLAIM WAS A FOURTEENTH CENTURY FORGERY

EDITORIAL

This April Issue of *Shroud News* brings us a good deal of reading matter. It is a point of interest that there seems to be an easing of the fear in the hearts of the world media about the Shroud as one detects articles beginning to appear here and there following up the extensive puzzlement felt by all who know anything about the subject, puzzlement about the C14 test results of 1988. Several of the articles in this issue follow the same line as it is, indeed, the main preoccupation of sindonologists at the moment: to find out what caused this one test to fly in the face of almost all the other evidence. Dickinson adds to his Pamplona articles of recent publication; Halisey and Clift summarise some of the current thinking. I recently discovered a most interesting theory by Wolkowski nestling amongst the proceedings of the Syracuse Conference which are beautifully produced but prefaced by appallingly translated English summaries. Harold Nelson of Texas brings us some more to think about in the realm of the mystics and their connection with Shroud Studies and a very important article by Petrosillo and Marinelli gives a universal summary of the present state of play with their vital insights into many aspects of sindonology.

For the purists I apologise for stating Father Peter Rinaldi's age as 80 in *SN 75* devoted to his obituary. He was 82. Recent correspondents have said, "Words cannot express my sincere thankfulness for your wonderful edition of *SN* dedicated to the memory of Father Peter." and, "Allow me to congratulate you on the issue dedicated to Fr Rinaldi. How well you covered his character and Shroud apostolate." *SN 72* devoted to the life of Lord Cheshire had, I understand, wide currency in England and from Japan, "Thank you for an excellent obituary of Leonard Cheshire. It deserves wide diffusion to honour the man and to honour the Shroud that inspired him." I have learned also that the quality Catholic journal *AD 2000* published a much shortened version of *SN 72* as an article under my name in its March 1993 issue. Other snippets are that Dorothy Crispino's superb *Shroud Spectrum International* will fold up with its 42nd issue in 1993; artist and physicist Isabel Piczek was recently honoured with the Ludatus Award and then by the Pontifical Biblical Institute of the Vatican; and John Jackson's wife has publicised her view in the *Denver Catholic Register* that the Shroud was the tablecloth used at the Last Supper...

REX MORGAN

WHY PARTS OF THE SHROUD ARE MISSING: EPEXEGESIS

Some further information on the data in *Shroud News* No. 74 will clarify some important points.

With regard to the measurements of the two removed corners of c. 14.75 inches and c. 6.25 inches; these have to remain approximate for the time being, until I have secured some more definitive data. Gabriel Vial's observations of 1988 are approximations i.e. the shorter corner is given as c. 14 cm i.e. c. 5.5 inches. But differences in readings can be accounted for as it depends from what point the readings were taken; there is also a technical reason for various lengths, so all measurements are provisional.

The interest of historical units of measurement for this corner assumes that it was removed at one cutting - and of this there is good evidence, and the evidence also shows that there was a corner to remove in the first place. But here I shall only say, but not give full details, that some of the evidence has been seriously damaged by the removal of samples from the corner in 1973 and 1988, and this is one reason why no more of the Shroud should be destroyed by radiocarbon tests, which are, in any case, totally unnecessary.

Also, there are other complications to take into account. The original lay and shape of the corner will have to be recovered by calculated projections, as the backing cloth is a restriction that retains distortions, in addition to those that have set in the cloth before the backing was attached. Further, because I know what to look for, I shall be better equipped to ascertain the measurements and confirm what historical unit could have been used for the corner, after I have examined the Shroud myself.

The next point concerns the inscriptions on the reliquaries of Sainte-Chapelle. The inventory of August 1740 records the Latin 'De Sindone Domini' on the Shroud reliquary, and there is good evidence that there was also an inscription in Greek on the reliquary, giving it more certainty of Byzantine provenance. This can be concluded from the observations of King Charles V of France (reigned 1364-80) who found both a Latin and Greek inscription on the reliquary of the Blood of Christ kept in the Shrine, cf. No. 9 Fig. 1 (*SN* 74). It is significant that Charles V modelled his life on St Louis and took a religious interest in his relics of the Passion. One element of the Pamplona reliquary, the possible date of the parchment label script of c. 1350 +, coincides here with Charles V.

As well as the Oviedo record of a piece of the Shroud there are other sources being investigated, including a piece from Sainte-Chapelle identified around 1870 at Lyon:

I have contacted Gabriel Vial who is making a search.

Canterbury, January, 1993

Ian Dickinson

THE "88" SHROUD C-14 TEST: PROCEDURAL IRREGULARITIES

- ROBERT HALISEY, U.S.A.

What was wrong with the "88" C-14 test which dated the Turin Shroud to 1260-1390? Here are a few things.

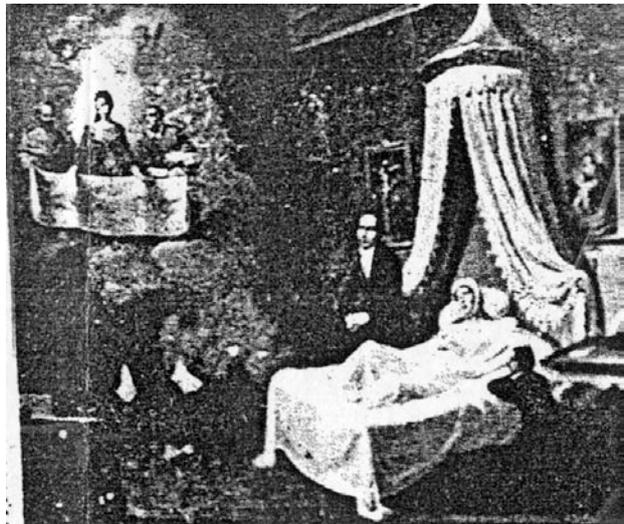
1. Mike Tite, the test coordinator, said that "all stages" of the sampling of the Shroud would "be fully documented by video film and photography" (*Nature* 332, 482; 7 April 1988). This was not done. The sealing of the samples into containers was not documented on film. No explanation has been given.
2. The C-14 testers from three labs witnessed the cutting of a sample from the Shroud and the cutting of that sample into three samples, but they did not *immediately* obtain those samples.
3. The Shroud samples were taken to another location where they were presumably sealed into containers which the C-14 testers then received. Only Ballestrero (the Shroud's custodian), Gonella (the scientific advisor to the Shroud's custodian), and Tite were present at the undocumented sample sealing. Consequently, the testers, who were not present, cannot say *for a fact* that the samples they obtained were the samples they saw cut from the Shroud. (Note: Twin samples could have come from an area of the Shroud rewoven during medieval times, or from the Shroud's side-strip which may be medieval, or from a medieval cloth similar in weave to the Shroud.)
4. Textile experts participated in the cutting of the Shroud samples, but they did not check the "Shroud" samples which the testers obtained and verify that they were the same samples as those they saw cut from the Shroud.
5. There have been reports of discrepancies in the dimensions and weight of the Shroud samples. Those who cut and weighed the samples at Turin reportedly say one thing; the C-14 testers reportedly say another. What should have been a routine procedural matter is, instead, a matter of confusion and suspicion. (Note: An interviewer asked Tite about the weight discrepancies. His reply: "I don't think the labs knew the precise weight of the samples. It is not really relevant." *Shroud News*, No. 59)
6. Photographs of the "Shroud" samples obtained by the testers were not included in the official C-14 report (*Nature* 347, 612; 16 February 1989),
7. Prior to the test it was reported that portions of the Shroud samples would be kept for future reference. This was not done, or if it was, those reserve portions are unavailable to critics of the test.

8. Tite and the testers, despite many requests, have refused to publish the raw data of the test. (Note: without the raw data, statisticians cannot interpret fully the test results. However, they do note a curious fact: The range of dates for the "Shroud" sample - unlike the range of dates for each of the three control samples which also were carbon dated - is widely scattered. Why is it that the controls fall within a narrow range of years and the "Shroud" sample does not? Why is the error factor of the controls given as 0.1, 1.3, 2.4; but for the "Shroud" it is 6.4? One critic of the test says, "The cloth of the Shroud seems to contain varying amounts of C-14." Another says, "material of different ages" may have been "put together." It is possible, as some believe, that an area of the Shroud rewoven in medieval times was inadvertently cut from the Shroud at the sample taking. It also is possible that the rewoven material was taken from the Shroud prior to the test and surreptitiously substituted at the undocumented sample sealing.)

Conclusions: Given these questionable procedural irregularities, and several others too involved to go into here, the results of the Shroud C-14 test should not be taken at face value. One should not simply assume that the Shroud is a medieval fake (particularly since there stands in place much evidence to the contrary). Scientists and scholars, the media, the general public and the Church should insist that the Shroud be given a legitimate foolproof carbon-dating test.

Footnote: One can accept that the Shroud is authentic and question the legitimacy of its carbon dating without jumping to the conclusion that the image of Jesus on the cloth is the result of a miracle.

Casalgrasso, santuario della
Madonna delle Grazie, quadro
votivo realizzato in occasione della
guarigione di Anna Galvagno.



RUSH TO JUDGEMENT - A letter to *Fidelity* (Jul/Aug 1992)

by HAROLD NELSON

There is a rush to judgment on mystic-stigmatists in the article "Spiritual Eccentricity," by David Rooney (May, 1992), making this reader mindful of an almost-Protestant appraisal of the supernatural.

There are many more voluminous works on mystic-stigmatists than the book cited. by Rev. Fr. Herbert Thurston, S.J. (1856-1939): namely, Dr. Imbert Goubeyre's *Les Stigmatisees* (France, 1873) and Rene Blot's *The Riddle of the Stigmata* (English translation, 1962).

However, the gravest error is the condemnation of the Venerable Mary of Jesus of Agreda and the four-volume *Mystical City of God*, often called "The Autobiography of the Blessed Virgin:" and the lives of the Venerable Anne Catherine Emmerich, St. Bridget of Sweden and Teresa Neumann, all based on the "intellectual" interpretation and limitation of that British Jesuit.

Father Thurston also denied the authenticity of the Holy Shroud (of Turin), basing his disbelief on the fraudulent premise of the relic being a "painting." This theory was advocated and promoted by Canon Ulysse Chevalier (1841-1923) of France, instigated by the "Memorandum of Pierre d'Arcis."

In a recent issue (No. 68, December 1991), *Shroud News* (Manly, N.S.W., Australia) published the masterful research paper on the controversial and infamous "Memorandum," entitled: "Study of Original Documents of the Archives of the Diocese of Troyes in France with Particular Reference to the Memorandum of Pierre D'Arcis" by Brother Bruno Bonnet-Eymard (Maison St. Joseph, Saint-Parres-Les-Vaudes. France).

Henceforth, Bonnet-Eymard's brilliant thesis should become the definitive work, relegating the "Memorandum" to historical frauds of the past.

"... the learned English Jesuit Herbert Thurston dismissed the Shroud in an article in the *Catholic Encyclopedia* (Vol 13, 1912. pp. 762-63). Thurston's opinion was identical with that of Ulysse Chevalier, an eminent French medievalist ... Both Thurston and Chevalier based their conclusions on the letter from Pierre D'Arcis to Pope Clement VII in 1389..." (Stevenson and Habermas, *Verdict on the Shroud: Evidence for the Death and Resurrection of Jesus Christ*, Servant Books, Michigan, 1981).

Two additional and important statements are contained in one of the finest books on the Sacred Relic. *The Shroud of Turin*, by Rev. Father Werner Bu1st, S.J.

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(Bruce Publishing Co., Milwaukee, 1957), one attributed to Pope Pius XI: "Be entirely at ease. We speak now as a scientist and not as a pope. We have made a personal study of the Holy Shroud and are convinced of its authenticity. Objections have been raised, but they do not hold water" (Report of Cardinal Fossati on the Turin Study-Congress, 1939, LSSI, p. 16).

Then, on page 27, Fr. Bulst asserts: "The photographs of the Cloth of Turin taken by Giuseppe Enrie in 1931 are the basis of present-day scientific studies, particularly the medical investigation of the Shroud. Studies published previously to this date should therefore be thoroughly reappraised in as far as they have passed judgment on the entire problem of the Cloth of Turin. This applies to the writings of Chevalier, Baumgarten, and others...."

In a profusely illustrated (black and white photographs) reference work, *The Crucified* by Dr. Alfred O'Rahilly, 1884-1969 (Kingdom Books, Ireland, 1985), the Irish scholar states: "And cannot we retort that neither Thurston nor anyone else has succeeded in giving an intelligible account of how the imprints could have been faked?" Later, O'Rahilly argues that "people like Thurston cannot have it both ways. If they accept the chronicler's evidence on one point, they must also welcome his testimony on the other, i.e., that the Shroud had survived with its

imprints intact after being several times boiled in oil, scorched with fire and vigorously washed as in a laundry. If that be so, then there can be no question of a painting. In fact, the experiment looks like a miracle."

Another luxuriantly illustrated (color photographs) volume is *Portrait of Jesus?* (Stein and Day Publishers, New York 1983), by Frank C. Tribbe, a Baptist and former assistant general counsel for the U.S. Information Agency. Tribbe is very charitable when he writes: 'Prominent and respected British church leaders Thurston and (Anglican, Dr. John A.T.) Robinson were among those who accepted uncritically, the attacks on the Shroud by de Poitiers and d'Arcis, the bishops of Troyes.

"Thurston died much earlier in the century, and apparently had no occasion to revise his negative opinions. Dr. Robinson, however, read the scientific data favorable to the Shroud as it came out in recent years, and... reversed himself and... made a significant contribution to modern sindonology."

The congruity of the Shroud and the stigmata constitute the opening sentence of Ian Wilson's *Stigmata* (Harper and Rowe, New York 1989), when the Englishman and Catholic convert states: "My interest in stigmata goes back many

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years, and is a direct result of my long-term interest in the Turin Shroud, the cloth reputed to have been the original burial cloth of Jesus, imprinted with His Images and wounds ... Stigmatics are professed to bear on their bodies replications of the crucifixion injuries suffered by Jesus, and an inevitable early question I needed to face was whether their wounds differed from, or were similar to, those indicated on the Shroud..."

Wilson continues: "Despite the need for continuing vigilance against fraud, it can be said with confidence that in the case of some, if not all, claimed stigmatics their flesh does seem spontaneously to change and bleed in the same manner as has been reported even since the time of St. Francis."

It is ironic that the four mystic-stigmatists held in disdain by the writer, David Rooney, are the same ones lauded in Protestant Tribbe's book (pp. 1978-98): "Four well-known mystics, St. Bridget of Sweden (1303-1373), Maria Agreda of Spain (1602-1665), Catherine Emmerich of Westphalia (1774-1824), and Teresa Neumann of Bavaria (1898-1962), have had repeated detailed visions in which they watched Jesus' passion, and all have provided extensive written accounts of these visions.

"But those accounts are rarely quoted by scripture commentators, and when they

are, the commentators usually dismiss them as pious contemplations representing the mystic's own preconceived notions and therefore of no value.

"But the accounts of those four mystics agree with each other and with the Shroud data in meticulous detail and with very little discrepancy. This is all the more remarkable when we realize that much of what we now know by analysis of Shroud data was not known at all a decade ago — except some first given by the mystics."

Often, unfair and unsubstantiated criticism of *Mystical City of God*, as well as Maria Valtorta's *The Poem of the Man-God*, comes from those persons who have never read the books which they condemn by relying only on hearsay. Then too, we need to be reminded that mystic-stigmatists are "victim-souls." unusually afflicted with the stigmata, wounds of the Crucified Christ, having consecrated their lives for the salvation of souls.

When can we expect *Fidelity* to give equal attention and recognition to such saintly souls as (one of the greatest men of the 20th century) Padre Pio. O.F.M., Cap., of Pietrelcina, Italy (1887-1968)? This servant of God, now internationally known, was the first priest documented with the actual stigmata for 50 years. A former Lutheran Minister, C. Bernard

RUSH TO JUDGEMENT (cont'd)

Ruffin, has written an intensely intriguing account, *Padre Pio: The True Story* (OSV, Inc., Huntington, Indiana, 1982); and, the beatification process is now being conducted in the Vatican.

Another of the precious lives, almost unknown, can be found in the book, *She Wears a Crown of Thorns*, by Rev. Father O. A. Boyer, S.T.L. (Villa Pauline, Mendham, N.J., 1958), the biography of "our own" American stigmatist, Marie Rose Ferron (1902-1936) of Woonsocket, Rhode Island. Readers of this extraordinary life are quickly overwhelmed by the modern-day St. Therese! Miraculous interventions were attributed to these mystics during their earthly lives.

Surely, there can be little importance to the "discrepancy" of the dates of "Our Lady's Assumption," since historical dates are as irrelevant as the mystery of creation in Genesis. Historical or scientific data should not interrupt the greater experience of offering expiation, an immolation of Christ Crucified. The lives of those remarkable mystics must be recognized in a very different light and they can be an inspiration to the uninitiated. Let us not make the common mistake of classifying all of them according to a few false prophets who cause distraction from the ultimate and heavenly goal.

Please permit further clarification, pertaining to the Venerable Mary of Jesus of Agreda (Spain). The bilocation to

instruct the native Indians occurred — not in Mexico, as alleged by Rooney — but, rather, in the southwestern region of the United States. Over 100 bilocations to this country are documented in two historical volumes: *Our Catholic Heritage in Texas* by Catholic professor, Dr. Carlos E. Castaneda.; and Pichardo: *Limits of Louisiana and Texas* by Protestant historian, Charles W. Hackett, Ph.D (University of Texas, Austin).

Also, the Indians from "Titlas" (Texas) journeyed to the New Mexico region, seeking missionaries from the Franciscans. Even (St.) Junipero Serra, O.F.M., wrote In a letter (August 18, 1772) to his biographer, Fr. Francisco Palau, O.F.M.: "Agreda's prophecy Is about to be fulfilled in California.- In the same book, *The Life of Venerable Mary of Agreda*, by James A. Carrico (The Marian Apostolate, Stockbridge, Mass, 01262), there is also documentation that King Philip IV of Spain sought advice "both in matters of his soul and of state," corresponding with the mystic-nun for 22 years.

Henceforth, we pray that God may continue to bless us with His chosen victim-souls, who will be instrumental in our own salvation — and that *Fidelity Magazine* will enlighten us, subscribers, with positive reports about similar supernatural manifestations!

Harold B. Nelson
Corpus Christi, Texas

THE ELECTROMAGNETIC NATURE OF LIVING SYSTEMS,
COHERENT BIOPHOTON EMISSION
AND POSSIBLE RELATIONSHIP
TO THE MECHANISM OF IMAGE FORMATION
ON THE TURIN SHROUD**

ZBIGNIEW WILLIAM WOLKOWSKI*

This important paper was given as long ago as October 1987 at the Fourth National Congress for the Study of the Shroud in Syracuse, Sicily. It is reproduced from the proceedings of that conference and is an interesting contribution to the image formation discussion. Dr Wolkowski is Doctor of Physical Sciences and Senior Professor at the Pierre and Marie Curie University in Paris.

Introduction.

The underlying, yet often unstated question in biological research is: "what is life?". Since the exact sciences validate and direct advances in biological sciences, and delineate genuine areas of investigation, modern definitions increasingly reflect progress in solid-state physics, bio-electronics, sub-molecular and quantum biology [1]. They lead to a description of the living state which underlines the complementarity of its chemical and electromagnetic natures. The study of coherent excitations in biological systems, including the possibility of DNA as a source of several coherent phenomena, justifies such an approach and warrants the extension of the analogies [2]. Recent advances in fields such as far off as equilibrium thermodynamics, lead to new forms of dialogue between science and the humanities, while the vision of nature is at present undergoing change toward the multiple, the temporal and the complex [3].

The study of the historical development of science indicates a shift from a mechanistic (circa 1600 A.D.), through a chemical (1800 A.D.) to the current informational method (since 1950) [4]. This mutation or metamorphosis is a synergy in itself, since the previous methods are successively integrated. As a first example, let us consider the case of blood circulation and cardiac function, discovered as a simple action of fluid mechanics, was refined by methods of molecular biology, and now progressively incorporates discoveries of magneto-cardiography, bio-electronics and electrical stimulations. As a second example, anesthesia has shifted from mechanically-induced coma to the use of chemicals, and is currently exploring electronarcosis, acupuncture anesthesia and other yet experimental methods, which are best defined as information-modifying techniques. This metamorphosis of conceptual models from material to increasingly immaterial, corresponds to a larger mutation of paradigm in the domain of science itself [5].

ELECTROMAGNETIC NATURE (cont'd)

Over the previous fifty years, there have been striking developments in both theoretical and experimental physics. However, there is a time lag before these new concepts are accepted in biology. At present, a satisfactory theoretical biology requires the same complementarity between field and particles as found in physics. The field appears to be the unit of biological form and organization, while molecules and cells are units of biological composition.

The transfer of these advances in physics has given rise to bio-electronics, sub-molecular, supra-molecular and quantum biology [6]. The search for a better answer to a not so trivial and pertinent question, namely: "what is life?", is moving investigation into domains of elementary particles (mainly electrons and protons), but also photons, electromagnetic and related fields [7]. These electronic processes are, next to biochemical transformations, a complementary reality of life. Both are coupled, and therefore the description of life in terms of electronic acceptors and donors, electromagnetic wave emitters and receivers, of photon exchange, opens up a fascinating horizon for research on health and disease, on life and death.

Apart from its obvious existence as a chemical substrate, living matter has a characteristic property of receiving and creating physical fields, and specifically information-carrying fields, or photons [8]. In particular, biophoton emission is becoming increasingly accepted as a fundamental property of living matter, and the coherent nature of these phenomena amount to the existence of biological lasers [9]. The conclusion is that all living organisms emit relatively stable ultra-weak photons in the UV, near IR spectral region. The parameters of this emission (intensity, kinetic pattern and decay constant) change dramatically when bio-homeostasis is perturbed. Application of this method for 'the evaluation of an organism's adaptation abilities, resistance to external stress-factors and for an auxiliary fast biomedical diagnosis of pathological states has been suggested [10].

The implications of the electromagnetic description of living systems are far-reaching and open new horizons in every area of biology.

Possible relationship to the mechanism of image formation on the Turin Shroud

The scientific investigation of a unique piece of cloth, known as the Turin Shroud, dates from its first photograph, taken in 1898: the first century of this research will turn in just eleven years from now [11].

The most important outstanding problems pertain to the image transfer mechanism. "Briefly stated, we seem to know what the image is chemically, but how it got there remains a mystery. The dilemma is not one of choosing from among a variety of likely transfer mechanisms, but rather that no technologically-credible process has been postulated that satisfies all the characteristics

ELECTROMAGNETIC NATURE (cont'd)

of the existing image" [12]. No single image-formation hypothesis accounts for all the observations, although it has been concluded that the image is the result of some cellulose oxidation-dehydration reactions and not an applied pigment. The application, transfer or recording mechanisms of the image onto the cloth are still not known. There has been speculation of a short burst of high-intensity radiation which might produce effects on cloth that resemble the Shroud image [13]. However, reported experiments with intense flash lamps, the ultraviolet, visible and infrared lasers have not successfully reproduced the color density and distribution observed on the Shroud [12]: so far these results suggest that the so-called "Flash of light" hypothesis is difficult to support. There appears to be a consensus among the majority of researchers, that the image was not man-made by "homo faber" [14], and that it had enclosed a human body [15]. Because the Shroud is unique, every hypothesis of image formation must involve a set of unique conditions, and none can be rejected on this basis alone.

Conclusions

It should be noted that so far the investigation of the Shroud has ignored the mounting evidence on the electromagnetic nature of living systems, including biophoton emission and the existence of biological lasers, which has been briefly summarized here, and for which basic references have been given. Laser physics was initiated just a quarter of a century ago, and the fact that a Shroud-like image has not been successfully reproduced by man-made lasers is not a sufficient basis of rejection for a radiation-source hypothesis.

Modern science has hardly begun to explore the electromagnetic coded description of living systems, the quality and characteristics of their possible emissions and interactions. In due time, this new evidence may shed light on the mechanisms of the image recorded on the Shroud. Although unique, the further investigation of this image may enhance our comprehension of the living state itself.

BIBLIOGRAPHY

1. H.S. BURR, F.S.C. NORTHROP, *The electro-dynamic theory of life*, Quart. Rev. 10, 322-333 (1935).
- A. GURVICH, *Teoria biologicheskogo polya*, Moscow Medicine Publishers (1944) and *Collected Works*, Moscow Medicine Publishers (1977).
- A. SZENT-GYORGYI, *Towards a new biochemistry*, Science, 39, 609-611 (1941). *The living state*, Academic Press, New York (1972).
- Bioelectronics*, Academic Press, New York (1968).
- F.W. COPE, *A review of the applications of the solid-state physics concepts to biological systems*, J. Biol. Phys., 3, 1-41 (1975).
- R. PETHIG, *A review of some present molecular and submolecular physical concepts in biology*, J. Biol. Phys., 10, 201-218 (1982).

ELECTROMAGNETIC NATURE (cont'd)

2. H. FRÖHLICH, *Evidence for Bose condensation-like excitation of coherent modes in biological systems*, Phys. Let., 51A, 21-22 (1975).
Coherent excitations in biological systems, Ed H. FRÖHLICH, F. KRAMER, Springer Verlag (1983).
- V.P. KAZNACHEYEV et al., *Sverkhslabiye izlutcheniya v mezdukletochnykh vzaimodeistvakh*, Soviet Academy of Sciences, Nauka Publishers, Novosibirsk (1981). F.A. Pour, Ed. *Electromagnetic Bio-information* (1978). W. NAGL, P.A. POPP, *A physical (electromagnetic) model of differentiation*, Cytobios, 37, 45-62 and 71-83 (1983). F.A. POPP, W. NAGL, *New evidence for coherence and DNA as source*, Cell Biophysics, 6, 33 (1984).
3. I. PRIGOGINE, *The rediscovery of time*, Zygon, 19 (4), 433-447 (1984).
4. Z.W. WOLKOWSKI, *The field concept in physics and biology*, in Synergy and Coherence in Biological Systems (1983-1984 and 1984-1985) Paris.
5. A.S. PRESSMAN, *Electromagnetic fields and life*, Moscow (1968). *Electromagnetic signaling in living matter*, Moscow (1974).
6. P.I. GULAYEV, *Electro-aurograms of man and animals*, Nervnaya sistema, 9, 1959 (1960). E.T. KULIN, *Bio-elektrenyi effekt*, Nauka i Tekhnika, Minsk (1980).
7. Z.W. WOLKOWSKI, et al., *Utility of bioelectronics in the study of biological terrain and its equilibrium*, in Second World Congress on Energetic Medicine, Paris, November 1977, pp. 127-135, *Proceedings of International Symposium on Wave Therapeutics*, Versailles, May 19-20, 1979, Paris (1983).
8. Synergy and Coherence in Biological systems (1983-1984 and 1984-1985), Paris.
9. P.S. CALLAHAN, Applied Optics, 7, 1425 (1968), 1811 (1968) 16, 1476, 3089 (1977), 16, 3098 (1978). *Tuning into nature*, Devin-Adair (1976).
10. J. SLAWINSKI, *Necrotic radiation and the electromagnetic theory of life*, Journal of Near-Death Studies, in print (1987). *Present status and prospects of photon emission from biological systems*, Polish Academy of Sciences, Wroclaw-Poland, January 24-26, 1986. Published by World Scientific Press, Singapore (1987). *Diagnosis of stress-induced perturbations of bio-homeostasis evaluated by photon emission*, in *Proceedings of New micro-physical methods in biology, a symposium held at the Agricultural Academy of Cracow, Poland, June 1-3, 1987*.
11. W. MEACHAM, *The authentication of the Turin Shroud an issue in archaeological epistemology*, Current Anthropology, 24 (3), 283-311 (1983).
12. L.A. SCHWALBE et al., *Physics and chemistry of the Shroud of Turin*, Analytica Chimica Acta, 135, 3-49 (1982).
13. K.F. WEAVER, Nat. Geogr. Mag., 157, 730 (1980).
14. Reference (11) and bibliography within.
15. W.D. Edwards et al., *On the physical death of Jesus Christ*, Journal of the American Medical Association, 255 (11), 1455-1463 (1986).

SHROUDED IN MYSTERY

by ORAZIO PETROSILLO and EMANUELA MARINELLI, Rome

Whilst the world waits for an English version of the remarkable book by Petrosillo and Marinelli it is good to see that they are publishing substantive articles based on their work. This one is taken from *The Catholic World Report* (April 1993). Dr Petrosillo is a journalist in Rome and Professor Marinelli is leader of the Rome Shroud Study Group Collegamento Sindone.

In 1988, a series of Carbon-14 tests on tiny fragments snipped from the Shroud of Turin produced a date for the cloth: between 1260 and 1390. The result made headlines around the world: the Shroud was not the actual burial shroud of Jesus, but a medieval cloth. The image on the cloth of a whipped and crucified man, therefore, was not the image of Jesus created in some mysterious way at the time of the resurrection, but a medieval work of art, admittedly mysterious and fascinating, but definitely medieval, not ancient.

Today, five years later, most people have accepted "the verdict of science." But some have not, and among those who have not are the authors of the article we publish here.

Orazio Petrosillo and Emanuela Marinelli are Italian writers who have recently co-authored a book on the Shroud. They believe the 1988 Carbon-14 tests may have been flawed. Among the possible reasons for inaccuracy in the results: contamination of the cloth sample with oil, dust and other substances from later centuries, making the resulting date an average of pre-1300 (the cloth itself) and post-1300 (the other substances). They believe there are valid reasons to continue to investigate the Turin shroud, not simply because no one has yet explained how the image it bears was created, but also because, for them, it remains possible that the Shroud is actually the burial cloth of Jesus, as Church tradition has for centuries held.

One point must be clarified at the outset. Our interest in the Shroud does not stem from blind faith or emotion. Rather, the Shroud remains interesting precisely because, scientifically, it is mysterious.

We believe the medieval dating of the Shroud of Turin cannot be considered definitive. So much other scientific evidence exists, evidence favorable to the Shroud's authenticity, that we must regard the date established by three laboratories using the Carbon-14 dating method as merely provisional.

The Carbon-14 Dating

The Carbon-14 dating result (1260-1390) was made public at a press conference in Turin on October 13, 1988, by the then Pontifical Custodian of the Shroud, the Cardinal Archbishop of Turin, Anastasio Ballestrero.

The date arrived at was not that expected by experts on the Shroud, who, in the years since 1898, when the image was first made "legible" thanks to a photographic negative, had found many indications that the shroud came from Palestine in the first century.

But the date coincided perfectly with the date hypothesized by those who dispute the Shroud's authenticity: some decades before 1353, the date the Shroud first appears on the historical scene (from 1353 on, the Shroud's existence is continuously documented).

SHROUDED IN MYSTERY (cont'd)

For the general public, the medieval dating had one positive effect: it gave tremendous publicity to the Shroud, which continues to remain a scientific enigma. Paradoxically, the Shroud received even more attention in 1988 than during its exposition in the summer of 1978, when in six weeks it was seen by more than three million people, curious and faithful alike.

Despite the date, the mystery of the origin of the human image imprinted on the Shroud retains its fascination. That mute and solemn countenance, those martyred and serene features, exercise an incredible attraction. Those hooded eyes hypnotize. Indeed, far from ending interest in the Shroud, the Carbon-14 dating has increased it, because accepting the medieval dating deepens the mystery: who had the ability to create such an image in the Middle Ages?

Mystery 1: The Lack of Pigment

The Shroud has been studied under many different aspects and by many different disciplines. Scholars from more than 20 different fields of learning from archeology to medieval art history to nuclear physics, have contributed to the study of the Shroud in recent years. Much has been learned; much remains conjecture. But what has been learned is enough to make the following statements with a considerable degree of certainty:

- The image that can be observed on this long linen sheet (about 14 feet long by 3 feet wide) is not a painting or a print; there is a total lack of pigment on the cloth.
- The image is not the result of a scorch mark produced with a heated bas-relief.

A series of laboratory tests have definitely excluded both these hypotheses. The image, then, was not produced by artificial means.

- The sheet was wrapped around a human corpse. The corpse was that of a man who had been scourged, crowned with thorns, crucified with nails, and pierced in the side with a lance. The traces of real blood on the Shroud seem to prove this; blood and serum cannot be reproduced using artificial means.
- An image of a human figure of a very peculiar kind appears on the cloth. The image is peculiar because it was not caused by the simple contact of the body with the sheet; its lights and shadows are proportional to the different distances between the body and the cloth at its various folding points. This has led some to hypothesize an effect similar to that of radiation. But the physico-chemical mechanism which may have caused this radiation and image is unknown.

Traces of the Shroud in History

The Shroud has been in Turin continuously [except for brief periods in times of war] since 1578. Moreover, the cloth's history is documented uninterruptedly back to 1353. What do we know about its previous history?

If the Shroud existed from the first century, one might expect it to have been written about by contemporaries. But there are reasons to believe it might have escaped observation. We know that, in Jewish circles in the 1st century, a cloth that had been used to wrap a corpse was considered an impure object, therefore not to be exhibited. The image, that of a naked man, would also have been kept

SHROUDED IN MYSTERY (cont'd)

from public display. It is also necessary to remember that Christians were persecuted in the first three centuries. Nevertheless, there are documents indicating that an image of the face of Christ "not made by the hand of man," the so-called "Mandylion," was preserved in Edessa (the present day Urfa in Turkey) from the second century to the year 944.

Many testimonies and descriptions relate this image to the Shroud. Scholars have found the two faces to have more than 100 points of congruence. The face of Edessa was copied in icons of the 6th century and reproduced on Byzantine coins of the 7th century.

In 944, the Mandylion was brought to Constantinople and it was discovered that in reality it was a long piece of material, folded into eight, bearing not only the image of the face but of the entire body.

Since that time, the image of Christ's body has been reproduced with particulars inspired by the Mandylion: The asymmetry of the lower limbs — which can be observed on the Turin sheet because of the left leg, which was more bent than the right — gave-rise to the legend that Christ had a limp, and artists depicted Christ with the so-called "Byzantine curve" in his left leg.

The Mandylion disappeared from Constantinople in 1204 following the assault of the Crusaders. Many indications suggest that it was brought to Europe and preserved for one and a half centuries by the Knights Templar. They venerated a face of Christ very similar to that of the Mandylion. One of the last Knights Templar burnt at the stake in France at the beginning of the 1300s was Geoffrey de Charny. The first certified possessor of the Shroud, which reappeared some 50 years later in Lirey, France, was also named de Charny.

An Imaginary Painter

In 1389, the Shroud was at the center of polemics, provoked by its exposition at Lirey. The exposition had been authorized by Cardinal Pierre de Thury, the Pope's legate to Charles VI, the king of France. The owner of the Shroud, Geoffrey II de Charny, had not asked the permission of Pierre d'Arcis, the bishop of Troyes, in whose diocese Lirey was situated. The prelate resented this, probably because of the pomp of the ceremonies and the great crowd of pilgrims who, attracted by the Shroud, deserted Troyes. D'Arcis forbade the clergy in his diocese to speak about the Shroud and the clergy of Lirey appealed to the anti-Pope in Avignon, Clement VII. He confirmed permission for the exposition of the Shroud and imposed silence on Pierre d'Arcis. The bishop then had recourse to Charles VI who revoked the permission and attempted, in vain, to confiscate the Shroud.

This heated atmosphere was the context for a letter addressed by Pierre d'Arcis to Clement VII. In it, the bishop affirms that his predecessor, Henri de Poitiers, had conducted an inquiry into the origins of the sheet and this resulted in its being found to be false. The bishop included a statement by the artist himself, who confessed that he had painted the cloth. Clement VII, tired of the polemics, issued a bull authorizing the exposition of the Shroud on condition that it be presented as a painting, and he ordered the bishop not to oppose the exposition.

It must be emphasized that Pierre d'Arcis did not provide documents or proof for his statements and it seems clear that, if they had existed, he would have produced them. What is evident is the lack of objectivity and serenity of judgment with which the

SHROUDED IN MYSTERY (cont'd)

letter was drafted. Despite this; and even though it has now been scientifically proved that the Turin Shroud is not a painting, there are still some people who quote Pierre d'Arcis's letter as proof against the authenticity of the Shroud.

A Palestinian origin in the 1st century

The "Z" twisting of the threads, the rudimentary manufacture of the cloth, the 3 to 1 diagonal weaving, the presence of ancient Egyptian cotton, the absence of animal fiber, the great abundance of pollen of Middle Eastern origin and of aloes and myrrh, the presence of a type of calcium carbonate (aragonite) similar to that found in the grottoes of Jerusalem, the traces on the eyes of coins struck in the year 29 A.D. under Pontius Pilate, make it probable that the origin of the cloth is to be found in the Syro-Palestinian area in the first centuries of our era rather than in medieval France.

The Shroud is outside the cultural context of the Middle Ages. The historical and archaeological knowledge of the scourging and the crucifixion of the 1st century was completely unknown then. The hypothetical counterfeiter would not have depicted Christ with particulars that contrasted with medieval iconography: nails in the wrists and not in the hands, a crown of thorns like a helmet, the naked body. Besides, he would not have added elements that are invisible to the naked eye: pollen, soil, serum, aromatics for burial. The artificial fabrication of the Shroud is still impossible today; it would have been even less possible in the Middle Ages.

Evidence suggesting it is Christ's shroud

There is perfect coincidence between the accounts in the four Gospels of Christ's Passion and what can be observed on the

Shroud as regards the "personalized" particulars of his torments: the scourging as a punishment in itself, too heavy to be the prelude to the crucifixion; the crowning with thorns, a most unusual fact; the absence of the breaking of bones; the wound in the side; the wrapping in a sheet for a hurried burial in a tomb that was not his own and not in a common grave.

The body of the Man of the Shroud does not show the slightest sign of putrefaction; it was wrapped in the sheet for a period from between 30 to 36 hours. The formation of the image could be explained by a photo-radiation effect connected with the Resurrection. There is no trace of the rubbing or movement of the sheet on the body. It is as if it had suddenly lost its volume.

Objections to Carbon-14 dating

There are reservations of a general order on the Carbon-14 method: some postulates on which it is based are now subject to discussion and there have been a number of cases of mistaken dating due to unavoidable contamination.

Then there are reasons to believe the method might not function well on the Shroud: the peculiarity of the object and the many vicissitudes it has been subjected to (water, fires, restorations, exposure to the outside atmosphere, to the smoke of candles, to the breath of the faithful) have made it subject to alterations and contamination.

There is also perplexity about the way the examination was carried out and suspicions with regard to the rigor of the tests themselves, as we have documented in our book. In the months before the tests, some laboratories were excluded to the advantage of

SHROUDED IN MYSTERY (cont'd)

others and one of the two methods of dating was eliminated, the traditional one of radio-counting. Also, the Carbon-14 testers refused to collaborate with other scientists in a multidisciplinary program, skipping a whole series of examinations, including the indispensable preliminary chemical analysis of the samples to be dated.

The choice of the place on the cloth to snip to take the sample has been criticized by some Shroud scholars. The snippets were taken from only one point and from a corner that is very contaminated and may even have been restored in the Middle Ages.

Comparing the scientific reports provided by some scientists, a discrepancy in the accounts of the weights and measures of the Shroud samples is evident. There are imprecisions and incongruities in their descriptions of the samples, and, according to the stated results, the samples weighed about twice what they should have.

Other problems with the tests

Despite repeated requests, the laboratories did not wish to make public the initial results of their examinations and the complete protocols of the work they had carried out. On the basis of the information published it is obvious that the three samples were quite different. Thus, according to one expert, the chances are 957 in 1,000 that the Carbon-14 dating obtained is not that of the whole sheet.

In 1991, the Belgian chemist Remi Van Haelst reviewed the Carbon-14 dating of the Shroud with the new IEM-EEM model. He, too, maintains that the results of the Carbon-14 measurements carried out on the Shroud do not provide definite proof. Thus, many believe there should be further, interdisciplinary scientific examination of the Shroud.

The Church's position

On August 18, 1990, the Holy See broke its official silence on the case of the Shroud.

The Vatican was in a dilemma after the test results were announced. It was difficult to criticize the way the tests had been conducted because that would have been equivalent to disclaiming, at least in part, the Pontifical Custodian and to accusing itself of inadequate vigilance. It was also difficult to criticize the scientists for their unjustified emphasis on the infallibility of the Carbon-14 tests because that would expose the Vatican to the old accusation that the Church does not accept scientific results which are unfavorable to it.

There were fewer hesitations after many scientists and Shroud experts demonstrated that the doubts about the Carbon-14 tests were not without some basis. But, when the Holy See decided to express its own judgment, it did so in a most unexpected way, in a statement by its spokesman, Joaquin Navarro Valls, commenting on the removal of Cardinal Ballestrero from his position as Pontifical Custodian of the Shroud and his replacement by the Archbishop of Turin, Giovanni Saldarini.

For the first time, therefore, almost two years after the announcement of the results of the Carbon-14 test, the proprietor of the ancient cloth expressed a judgment on the importance of that analysis, bringing out its limitations and calling for a multidisciplinary context for research on the Shroud.

"The medieval dating," the Vatican spokesman said, "is one that is in contrast to previous results.... This is one experimental datum among others with the validity and also the limits of such examinations, which ought to be

SHROUDED IN MYSTERY (cont'd)

integrated into a multidisciplinary framework."

In this statement, the Vatican went beyond a pure and simple reliance on science to evaluate the results. In this, the Holy See reflects the view of many scientists. These Shroud experts maintain that it is necessary to repeat the dating with other methods, such as an analysis of the degree of depolymerization of the cellulose of the linen.

The most urgent task

The first task of the new Custodian of the Shroud, Cardinal Giovanni Saldarini, was the conservation of the precious relic. At the beginning of September last year he summoned a meeting of international experts for a private viewing of the ancient cloth. Experts in restoration and ancient textiles were convoked: Sheila Landi from England, the Swiss Mechthild Flury Lemberg, the American Jeannette Cardamone, the Italians Silvio Diana and Gian Luigi Nicola di Aramengo.

Meanwhile, to enable necessary restoration to be carried out in the Guarini Chapel, where the Shroud has been preserved since 1694, the precious doth, enclosed in its wooden box which serves as a reliquary, must be kept in the Cathedral in a bullet-proof case whose walls are two inches thick.

The most recent physical research

The work of scholars continues: on the one hand the physicists try to understand how a corpse could have made an impression on the linen forming such a particular image, and on the other the historians are trying to probe the centuries before the Shroud first appeared in France.

In the first field there are recent developments in the research of John Jackson, the American physicist who together with Eric Jumper produced the first three-dimensional electronic elaboration of the body of the Man of the Shroud.

Jackson's research has placed the following facts beyond doubt:

a) the high definition of the particulars of the human figure: if the image was due to diffusion or radiation, it would have been much more blurred;

b) the image is due to the coloration of individual superficial fibrils whose number per unit of area determines the greater or lesser intensity of the figure;

c) the three-dimensional elaboration is possible thanks to a correlation existing between the intensity of color of the individual points and the distance between the cloth and the body;

d) the chemical nature of the image is due to the degradation of the superficial fibrils as a result of dehydration and oxidization without supporting substances;

e) the image is a vertical projection of the figure on a horizontal plane; there is a vertical correspondence between the body and the corresponding points of the image;

f) the cloth was wound around a real corpse; the blood stains are due to direct contact with the wounds of a human body;

g) there are no traces of a lateral bodily image while there are lateral blood stains;

h) under the blood stains there is not the image of the body; the blood, deposited first of all on the cloth, screened the underlying area while the image was formed afterwards.

On the basis of these observations, Jackson has hypothesized that the cloth, while the bodily image was being formed, assumed a different position from what it had when the marks of blood were being formed.

The sheet "through" the body

The blood stained the sheet when it was laid on the supine body, while the image was formed because of an energy supply through contact and while the sheet gradually, went limp crossing through the body, becoming mechanically transparent.

The points previously in contact with the skin went to the side and the yellowish image of the figure was gradually formed on the cloth which descending as a result of gravity first of all touched the cheeks. '

The energy supply could have been given by ultraviolet rays (or soft X-rays) which are propagated only by direct contact. Tests carried out on a linen cloth irradiated by contact with soft X-rays and then aged in an oven produced a yellowing comparable to that of the Shroud.

Radiation by protons

What are also very interesting are the recent experiments carried out by the bio-physicist Jean-Baptiste Rinaudo, a researcher on nuclear medicine at Montpellier. According to this scientist, the acidic oxidation of the superficial fibrils of the Shroud, the three-dimensional information contained in the figure, and the vertical projection of the points can be explained by the radiation of protons which would have been released by the body, under the effect of the release of an unknown energy.

Experiments carried out on linen led to results that are comparable to the Shroud. An interesting fact is that the subsequent artificial aging of the samples reinforces the oxidation coloration obtained.

Rinaudo maintains that the atoms involved in the phenomenon are those of deuterium, present in organic matter; it is the element that requires the least energy to extract a proton from its nucleus, which is formed by a proton and a neutron. It is a stable nucleus and therefore needs an energy supply to break it. The protons produced would have formed the image while the neutrons would have irradiated the cloth, with the consequent enrichment in Carbon-14, which would have falsified the dating.

"You see me as in a mirror"

We owe to the untiring research work of Gino Zaninotto, an historian and expert in archaeology, the discovery of some interesting documents that shed light on the obscure centuries of the Shroud's presence in Turkey. At the Fourth Italian National Congress of Studies on the Shroud (Syracuse, October 17-18, 1987) Zaninotto presented a Greek codex of the 10th century (Cod. Vat. Cr. 511) which he found in the Vatican Library. This is a sermon that Gregorius, Referendary of the Great Church of Constantinople, delivered on the evening of August 16, 944, during the ceremony for the enthronement of the image, which had just arrived in Constantinople from Edessa, in the imperial *chrisotriclinium*.

The salient point for the identification of the Edessa Image with the Shroud is in the phrase: "These are truly things of beauty; they contain the color of the imprint of Christ, which has been further embellished by the drops of blood that gushed from His side." Reference to the pierced side clearly indicates that the image did not concern the face alone.

SHROUDED IN MYSTERY (cont'd)

Another 10th-century manuscript refers to a 7th-century account from the Syriac area; one reads there that Jesus left the imprint of his whole body on a piece of cloth preserved in the Great Church in Edessa. It is an unequivocal reference to the Shroud about

which Zaninotto will speak at the next International Symposium on the Shroud which will be held in Rome from the June 10-12, 1993. ■



At the Bologna Conference in 1989, EMANUELA MARINELLI (Centre of picture) surrounded by IAN WILSON, KIM DREISBACH (telling the story), JUDITH WILSON, REX MORGAN (with cigarette - he gave up in 1991) and ILONA FARKAS

CARBON DATING - WHAT SOME OF US THINK NOW

by Michael Clift

I find most thought-provoking the failure of the scientists in 1988, with their fanfare-style accusations of "fake", to have killed the Shroud stone dead by now. At the tune of the announcement of the three University findings over four years ago I have to admit to having had a profound sense of shock and disappointment at the result, forgetting, of course, that throughout the whole history of science the rule, rarely broken, is that time will modify every result, every method, every finding, every hypothesis. The outstanding example of this lies in the Phlogiston Theory, the belief that combustion is completely explained by the releasing of the substance phlogiston. When it was shown that the products of burning weigh more than before, the scientists clung to their unassailable claim by telling us that this was because phlogiston had a negative weight!

The Phlogiston Mentality, as it pleases me to call it, continues in some entrenched minds to this day even in the face of Newton's Laws of Motion necessarily modified by Einstein, and Einstein's Relativity Theories necessarily modified by modern physicists. And as for the constant changes of opinion in the world of Medicine, well I'd better not tell you about them for fear of giving you nightmares. Suffice it to say that because logic, reason, experiment, deduction all conspire to one end there is no need to regard any hypothesis as the last word ever, just as in the medical world there is no case, ever, that is hopeless, as any doctor worth his salt should be able to confirm.

Now there is a growing body of evidence that impels us to question what they told us in 1988. It is idle for dedicated scientists to say to me, as many have, that the thing must have been done honestly so we have no grounds to doubt the results, that there was no reason to cook the books so the books are reliable, or that the only reason I reject their findings is wishful thinking on my part. Even if the Shroud were of fourteenth century flax my Christian beliefs must be unaffected because I really and truly have no axe to grind in this sense. Indeed if axes are to be ground what about the scientist who stubbornly defends science? Have they not heard of the current findings, in several branches of science, that reason does not prevail everywhere, certainly not in Galactic matters, nor in subatomic physics, nor in the behaviour of light, to mention only three examples?

Therefore it is not without justification that I bring before you some of the considerations which make me more and more sceptical as time goes on. Firstly the attitude of one of those 1988 scientists, Professor 'Teddy' Hall, was in my eyes starkly unobjective. He said something like, "It's finished, finished! No one will have any further interest in the Shroud of Turin". Setting aside the fact, unconcealed by him, that he is an atheist (and might therefore have an axe of his own to grind) I really must tell of his reaction when I questioned him on these words of his. "Surely, Professor Hall", I asked him, "if your result shows that the image was not produced miraculously by God the Father, will not scientists now be more interested in it, to find out how man did this thing?" His incredible reply was, "I don't believe in God the Father, old boy"! At that moment of breath-taking non sequitur I wrote him off as a thinker. 'The Fool hath said in his heart ...

But around this time there appeared an article in *New Scientist*, signed by thirty academics, telling us that the margin of error in carbon dating can be far more than the three Universities would admit - in some instances several hundred years, and this more likely where the period being studied is as little as twenty centuries. Indeed we are told that the method is of greatest use over much longer periods, five thousand years at a minimum. Contemporary with this article was a news item that one laboratory was given an object only eleven years old but told that it was very ancient. They came up with eleven thousand years.

Another surprise was that the three authorities, Oxford, Arizona, and Zurich all used the same dating method. Would it not have been more scientific for each to use a different one, for we know that there are several methods? Given that it was the same method it would have been no surprise if they had all achieved the same result. Only, they didn't. Glossed over in the official report were the substantial differences between them.

If that were not enough to ask them to look again what can one make of the fact that although we were promised a double blind trial this precaution was apparently not applied, for we have heard it said that certain samples were actually labelled before leaving Turin. Should this be true we are entitled to ask, and to keep on asking until we are satisfied, what reason there was for dumping this safeguard.

In all the scientific assaults on the Shroud only one is said to have come up with something that is incompatible with authenticity. Unless we could be sure that no carelessness crept in, and that the procedures were as impeccable as they could possibly be, would it not be perverse, not to say irrational, to base our assessment of the Shroud's truth on a single trial of science in the face of the immensely long list of other trials equally deserving of respect?

But that is not all; so many tiny bits and pieces of information, perhaps having their origin in the subconscious, inform and feed my intuition increasingly so that as time goes on the significance of the carbon dating becomes less and less worthy of attention. That the Vatican, no less, has rejected the 1988 figures and is calling for a repetition is worth some thought. Of course there are those who will see this as another dip into the bran tub to see if a more suitable present will be found, and they are entitled to question it.

But let them not forget the cubit. As Ian Dickinson has shown us the Shroud measures exactly two by eight of the Palestinian cubit, which was not in general use in the fourteenth century. One might accept a coincidence if the whole number of cubits was in one direction, but surely not in both? So if the cloth was deliberately cut to this unit in, say, 1340, it can have been only to deceive as to its origin. Why then, we are prudent to enquire, was not attention drawn to it long ago, instead of it's being a chance finding in 1990? And while you ponder this take into account that if the cubit is telling us a true First Century origin we have at once the only truly satisfying explanation for the side strip. It is enough to occupy your meditations until the Shroud throws us its next, long overdue, surprise.

Dr Michael Clift is currently Secretary of the British Society for the Turin Shroud. This article is reprinted from the BSTS Newsletter of which he is now editor.

Shroud News began in 1980 when Rex Morgan, author of three books on the subject of the Holy Shroud (*Perpetual Miracle*, *Shroud Guide*, and *The Holy Shroud and the Earliest Paintings of Christ*) started putting together a few notes about current developments in Sindonology (the study of the Shroud of Turin) for a small circle of interested people in his home country of Australia. He didn't expect it to go beyond a few issues.

The bulletin now reaches subscribers all over the world and it is written and produced and the information disseminated more quickly than most news-sheets of a similar kind or the more prestigious Shroud publications. It contains information, news, articles and illustrations gathered from sources of Shroud study worldwide through Rex Morgan's extensive network of personal connections with what has been described as the "Shroud Crowd".

Rex Morgan is a frequent traveller overseas and this has given him the opportunity to keep abreast of latest developments in Shroud study and research at first hand. He was present at the world media preview of the Shroud itself in August 1978 in Turin, Italy and has met with numerous Shroud researchers in many countries. His quest for Shroud information became, as he described it, "a passionate hobby". He brought the world-famous Photographic Exhibition created by Brooks Institute, California, to Australia, New Zealand, Hong Kong, Macau and Canada and during those tours it attracted more than 600,000 visitors. The exhibition was subsequently donated by Brooks Institute to the non-profit making organisation, The South East Asia Research Centre for the Holy Shroud (SEARCH) of which Morgan is President. He is also a member of the Board of Directors of the USA based Association of Scientists and Scholars International for the Shroud of Turin (ASSIST) and was a member of the scientific team which conducted environmental experiments in a Jerusalem tomb in 1986 (The Environmental Study of the Shroud in Jerusalem). He has made several original contributions to the research of the Shroud, has presented papers at international conferences, has written many articles and given numerous broadcasts and telecasts on the subject in many countries.

The list of *Shroud News* subscribers continues to increase internationally and the publication has been described many times as one of the best available. Its production is obviously privately subsidised as we still request a subscription in Australia of only \$6 for six issues posted. *Shroud News* comes out six times per year. The USA subscription is \$US 6 (posted surface mail) or \$US 12 (posted airmail). Postage to other countries varies. ALL back issues are available at \$1 (US or Aust) each plus postage charges except the famous 50th issue which is \$3 plus post.

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