The Image of Guadalupe: A Folkloristic and Iconographic Investigation

A two-part investigation into both legend and image finds overwhelming evidence against authenticity.

Joe Nickell and John F. Fischer

MEXICO'S IMAGE OF GUADALUPE is a sixteenth-century depiction of Mary, the Virgin Mother of Christ in the New Testament, upon a cactus-fiber tilma (or cloak). She is dressed in robe and mantle, her hands pressed together in prayer, and at her feet are an angel and a crescent moon. According to pious legend the Virgin caused the image to appear miraculously as a "sign" to a skeptical bishop so that he would build a shrine to her. "Yearly," according to Jody Brant Smith's *The Image of Guadalupe* (1983, p. 4), "an estimated ten million bow down before the mysterious Virgin, making the Mexico City church the most popular shrine in the Roman Catholic world next to the Vatican."

So popular is the image itself that "you will find every imaginable representation of her in the churches. . . . You may find her outlined in neon as part of a downtown spectacular, chalked into a hillside, on a throwaway advertising a mouthwash, pricked out in flowers in public parks; clowns and hucksters will distribute booklets about her as a preliminary to hawking patent medicines. . . . Bullfighters have her image woven into their parade capes; she is a popular tattoo subject; almost everyone wears her medal." Her full title is "The Most Holy Virgin Mary, Our Lady of Guadalupe, Queen of Mexico and Empress of the Americas" (Demarest and Taylor 1956, p. 2).

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In the United States is at least one monastery bearing the name Our Lady of Guadalupe. A Catholic organization, the Center for Applied Research in the Apostolate, in Washington, D.C., includes among its goals: "to seek to establish a scientific basis for devotion to Our Lady under the title of Guadalupe" (Henderson 1979b, p. iv). Another organization, one expressly concerned with the cloth, is the Image of Guadalupe Research Project, Inc., which is conducting a "scientific" study of the image. Perhaps not surprisingly, some of its members also serve on the Shroud of Turin Research Project, Inc., which has been promoting the authenticity of another "miraculous" cloth for the past few years. We have been following the activities of both projects, and this is the result of our investigation of the Guadalupan image to date.

The Legend

As told in the sixteenth-century *Nican Mopohua* ("an account")—written in the native Aztec language and sometimes called the "gospel of Guadalupe" (Henderson 1979a, p. v)—the cloth's story began in early December of 1531, some ten years after Cortez had defeated the Aztec empire. At that time an Aztec peasant, a recent Christian convert named Juan Diego, supposedly left his own village to attend mass in another. As he passed the foot of a hill named Tepeyac, he heard birds singing, saw a bright light atop the hill, and heard a voice calling, "Juanito."

Climbing to the hill's summit, Juan Diego came upon a young girl, radiant in a golden mist, who identified herself as "the ever-virgin Holy Mary, Mother of the True God" and said, "I wish that a temple be created here quickly, so I may therein exhibit and give all my love, compassion, help, and protection, because I am your merciful mother. . . ." She instructed the peasant to hasten to "the palace of the Bishop of Mexico," Father Juan de Zumarraga and "say to him that I manifest my great desire, that here on this plain a temple be built to me. . . ."

The bishop was in his palace, attended by servants, and the poor peasant had first to plead for an audience and then suffer a long wait before finally being ushered into the holy man's presence. On bended knee, Juan Diego relayed his message to the skeptical prelate, who sent him away while he pondered the incredible tale.

When Juan Diego reported to the Virgin at Tepeyac, she told him to return to Father Zumarraga, who then asked Juan to bring him a "sign" so that he might believe. Unfortunately, Juan was delayed by an uncle's grave illness, and therefore, seeking a priest, he attempted to bypass Tepeyac "so he could not be seen by her who sees well everywhere" (as the pious account explains). However, telling him, "Let not your heart be disturbed," the Virgin assured the Indian she had just cured his uncle. And now, although it was not the season for them, Juan was to gather

flowers—which he discovered blooming miraculously—wrap them in his mantle, and carry them to the doubting priest.

Once again suffering a lengthy wait, Juan Diego was finally granted an audience before the prelate, whereupon "he then unfolded his white cloth, where he had the flowers; and when they had scattered on the floor, all the different varieties of *rosas de Castilla*, suddenly there appeared the drawing of the precious Image of the ever-virgin Holy Mary, Mother of God, in the manner as she is today kept in the temple of Tepeyac, which is named Guadalupe. When the bishop saw the image, he and all who were present fell to their knees." The bishop then placed the cloth in his private chapel "until the temple dedicated to the Queen of Tepeyacac was erected where Juan Diego had seen her " (Callero, in Smith 1983, pp. 121-135).

One of course recognizes in the legend a number of motifs from the Old and New Testaments, not only an apparition like the biblical "apparitions of superterrestrial beings" as Luis Medina Ascensio observes (1979, p. 1) but also the following: the holy personage, bathed in radiant light, upon a mountain (Matt. 17:2); a divine command for the building of a place of worship (Exod. 25:8); the sending of an emissary to persuade a doubter to carry out the divine instructions (Exod. 3:18-19); the childlike attempt to avoid the all-seeing deity (Jon. 1:3-4); a miraculous healing (Matt. 9:27-35; Luke 4:39); a miraculous blossoming (Num. 17:8; Isa. 35:1); and an apparition's ultimate convincing of a doubter with tangible "signs" (John 20:25-30). And when the Virgin tells Juan Diego to cease worrying about his sick uncle, she echoes Christ's words to his disciples in John 14:1.

In fact, some historians believe the Guadalupan legend was itself borrowed. The report of a formal investigation of the cloth in 1556 makes clear that the name Guadalupe had by that time been given to the Tepeyac site, and the very name arouses suspicion. Historian Jacques Lafaye (1976) calls attention to the similarity of the Mexican story to an earlier Spanish legend in which the Virgin appeared to a shepherd and led him to discover a statue of her. The Spanish site was even on a river known as Guadalupe (that is, "hidden channel"), strongly suggesting the Mexican tale was prompted by the Spanish one.

And the specific story of the Virgin's appearance to Juan Diego (as distinct from the image and the name Guadalupe, both probably dating from circa 1531) may stem from a later period than had once been supposed. A priest had estimated the original *Nican Mopohua* was written between 1540 and 1545 or at the latest 1548, the latter supposedly marking the death of Juan Diego, who, the priest argued, had supplied the writer of the account with the information (Burrus 1979, p. 3). But the writer, Antonio Valeriano, does not say so, nor is there any evidence that Juan Diego had any contact with him. Moreover, no mention was made of either Juan Diego or the legend in the entire 1556 report (Smith 1983, p.

21). Thus, the *Nican Mopohua* would appear to date from after that time. (Although it was once suggested that the earliest extant text of that "gospel" was written on cactus-fiber—and therefore native—paper, actually the pages' watermarks reveal them to be European [Burrus 1979, p. vi; 1981, p. 4].) Smith says "most scholars" now believe the original account was penned sometime between 1551 and 1561 (p. 121), and if we amend that to "after 1556" we shall perhaps be closer to the truth.

Then there is the tradition of the miraculous portrait. Smith (1983, pp. 18-19) equates the Guadalupan image with earlier pictures that were said to be "not made with hands" (*acheiropoietos* in the Greek). We agree the legend places the picture in this tradition but find this raises further doubts about its authenticity. That is because the tradition of "not made with hands" images is one of pious frauds: they range from the spurious sixth-century "self-portrait" of Christ known as the "Image of Edessa," to its later variant, "Veronica's Veil," to the best-known example, the infamous Shroud of Turin. (The latter's provenance can be documented no earlier than the middle of the fourteenth century, at which time a bishop reportedly uncovered the artist who confessed that the "shroud" was his handiwork. Recent tests show the image on the Turin cloth is composed of artists' pigments. [Nickell 1983, pp. 43 ff., 119 ff.].)

Even separated from the legend, the Virgin of Guadalupe is linked to another tradition of supposedly miraculous representations of Mary—that of the "dark-colored, ancient Greek Madonnas," which, says Jameson (1902, p. xxxiv), "had all along the credit of being miraculous." And Smith points out that the Mexicans have dubbed the Guadalupan image "La Morena"—that is, "the dark-complexioned woman"—because of the brownish flesh-tones (Smith 1983, p. 61).

Another obvious sign of legend-making is the fact that statements of specific religious dogma have been put in the mouth of the Virgin when—in the *Nican Mopohua*—she describes herself as "the ever-virgin Holy Mary." As Marcello Craveri explains in his *The Life of Jesus* (1967, pp. 27-28): "About the end of the fourth century, John Chrysostom proposed the definition of Mary's 'perpetual virginity': since her physical intactness had not been impaired by the birth of Jesus and she had maintained her virginity to the end of her life, she was to be called a virgin *ante partum, in partu, post partum.* This formula was to become dogma at the Lateran Council of 649 and was to be confirmed by the Tolentino Council of 675, because not everyone had freely accepted it." (Craveri goes on to tell how theologians who postulated Mary's "perpetual virginity" had had to rationalize "the embarrassing fact that the Gospels pointed clearly to brothers and sisters of Jesus," as in Mark 6:3, by transforming them into first "stepbrothers" and "stepsisters"—children of an invented earlier marriage of Joseph—and later to "cousins" of Jesus.)

Also present in the legend of the Lady's appearance to Juan Diego is

hyperdulia—the ecclesiastical term for the special veneration given to the Virgin Mary. As Craveri points out, it was after the Council of Ephesus (in 431) that a cult of the Virgin originated, and Mary eventually "assumed the functions of divinity" (1967, pp. 28-29). And so, in the legend of Juan Diego in the *Nican Mopohua*, it is the Virgin who appears to him, the Virgin who is all-seeing and able to work miraculous cures, the Virgin to whom the temple is to be built, and the Virgin whose image appears for veneration. Christ is scarcely mentioned.

To these disturbing elements in the tale—the familiar motifs; the suspiciously similar Spanish story and the transported name, Guadalupe; together with the scandalous, "not made with hands" portrait and the blatant elements of religious dogma—we must add still one further parallel that smacks of deliberate legend manufacture. As Smith states: "The shrine which held the Image of Guadalupe had been erected on a hill directly in front of the spot where there had been an important temple dedicated to the Aztec virgin goddess Tonantzin, 'Little Mother' of the Earth and Corn" (1983, p. 20). Thus—in what is difficult to ascribe to coincidence—the Christian tradition became grafted onto the Indian one (a process folklorists call "syncretism"). As evidence of the resulting confusion between the two, some of the Indians continued to use the name Tonantzin for the Virgin of Guadalupe (see "Virgen de Guadalupe" 1978, p. 7).

The result was that the "miracle" played a "major role" in hastening the conversion of the conquered Indians. Countless thousands came to view the image and "in just seven years, from 1532 to 1538, eight million Indians were converted to Christianity" (Smith 1983, pp. 10-11). That was certainly the desired goal, since it is well known that "the propagation of Christianity was one of the main purposes of Spanish imperialism, and church and state were closely connected" (see "Mexico" 1973, 331). And, since the chief organizer of the church in Mexico was Juan de Zumarraga, who became the country's first bishop in 1528, might he not have been the instigator of what now appears to have been a pious fraud, commissioning perhaps a local artist to create a suitable picture?

The Image

Turning from folkloristics to iconography, again we find considerable borrowing. Even without knowing anything of the pious legend one would at first sight recognize the image as a portrait of the Virgin Mary. That recognition factor is not without considerable signficance, since—as St. Augustine lamented in the fifth century—it is impossible to know what the Virgin actually looked like. We recognize her in a given painting because the likeness has been established by artistic convention.

The Image of Guadalupe is obviously a devotional (as opposed to narrative) portrait, but we can more specifically characterize the picture in

terms of motifs and type. First of all, we note that the Virgin stands alone; as De Bles tells us (1925, p. 35), "Representations of the Madonna without the child were extremely rare" until the middle of the fifteenth century.

Next, one observes the golden rays and crescent moon—motifs taken from Revelation 12:1, which many believe refers to the Virgin: "And there appeared a great wonder in heaven; a woman clothed with the sun, and the moon under her feet, and upon her head a crown of twelve stars." Although the image has no crown, the evidence of repainting in the area suggests it once was present but was painted out (Callahan 1981, p. 20). Also, early copies of the image do show the Virgin with the crown motif from Revelation (Smith 1983, pp. 68-69).

Her radiance, her being "clothed with the sun" as Revelation says (or "her garments were shining like the sun," as it is given in the *Nican Mopohua*), is represented as a rayed glory, or aureole, a nimbus surrounding the entire figure; that is a stock artistic device, reserved for divinity and—by the Renaissance—conventionally rendered in gold (rather than the earlier white) (De Bles 1925, p. 35; Ferguson 1967, p. 89; Webber 1938, p. 161). The crescent moon is another traditional element, one especially indicative of the Virgin (since, as the moon reflects the sun, her glory is borrowed from her son, the Sun of Righteousness) (Webber 1938, p. 181; De Bles 1925, p. 41).

Other standard artistic motifs that appear in the Image of Guadalupe are the mantle's 46 stars, signifying the number of years required for building the temple of Jerusalem (Smith 1983, p. 69); gold fleur-de-lis designs that are symbolic of the Virgin Mother (Webber 1938, p. 71: De Bles 1925, p. 27); an angel at the Lady's feet (De Bles 1925, p. 40); a decorative tassel (Callahan 1981, p. 8); and others, including a possible Aztec motif: a distinctive lower fold of the robe (Callahan 1981, p. 12).

In fact, a Spanish painting, a Virgin of Mercy by Bonanat Zaortiza (now in the Museo de Arte de Cataluna in Barcelona), is said to be "of the exact form as the Virgin of Guadalupe" and even has "a similar brooch at the throat," according to Philip Serna Callahan (1981, p. 10), who terms it "strikingly imitative of the Virgin of Guadalupe," although it preceded the latter picture by nearly a century!

However, all of the motifs mentioned thus far are held to be later additions, at least by pro-authenticity writers. Callahan, who made a three-hour visual inspection of the image and took a series of infrared photographs, says: "Sometime after the original image was formed, the moon and the tassel were added by human hands. . . . Some time after the tassel and the moon were added, the gold and black line decorations, angel, Aztec fold of the robe, sunburst, stars and background were painted. . . ." Callahan adds, "The additions were by human hands and impart a Spanish Gothic motif to the painting" (1981, p. 18).

Callahan thinks some of the supposedly later work was added "proba-

bly during the 17th century" (1981, p. 18). However, we believe he is in error: A copy now lodged in Europe, dating from probably fewer than 40 years after the original image turned up, is actually "identical with the original" (except for the copy's "more skillfully done" gold rays and crown); it even has the identical number of stars on the Virgin's mantle (Smith 1983, pp. 12, 68-69).

Less difficult to disprove is Smith's guess that the supposedly added details—the gold rays, stars, and fleur-de-lis designs, and the moon and angel—were done "in the late sixteenth century" (1983, p. 70). However, the burden of proof is not ours but his and Callahan's, and neither is able to prove that all of the telltale artistic motifs were absent from the "original" image. Our argument is not with their claim that overlapping of paint demonstrates some parts were painted later than others (Callahan 1981, p. 9 ff.); rather, we simply remain unconvinced that much time has necessarily elapsed between the different applications. Paintings are invariable done in stages, and so what Smith and Callahan are assuming are years between stages could be merely days or even hours.

True, if some horizontal crease marks that have caused breaks in the figure have not also marred the background, as Callahan says they have not (1981, p. 8), then he draws a reasonable conclusion when he states, ". . . we must assume that the background was added after the rest of the painting was formed." It is a *reasonable* conclusion, but not the *only* one. Other possibilities are that the background paint was (at least at that time) more resilient and so resisted cracking, or that it was subsequently repaired.

In any case, even if some elements were indeed added later, that does little to prove the "original" portions are therefore "inexplicable" and even "miraculous," as Callahan terms the "original figure, including the rose robe, blue mantle, hands and face" (1981, pp. 18, 20). The fact that those areas are less thickly painted does not suggest they are *not* painted, let alone that they are *acheiropoietos*. Indeed, Callahan concedes the robe "may *appear* to be tempera" (though he finds it "truly inexplicable") and says of the blue mantle, "The pigment is too thickly laid on to be water color. . . ." (1981, p. 17). Its hue, he finds, is quite close to "Mayan" blue (1981, p. 9), suggesting it could be an indigenous pigment.

And as to the hands and face, again there is evidence of painting. Callahan's infrared photographs reveal the hands have been modified (outlined, and some fingers shortened) (1981, p. 13). He finds this another instance of someone changing the image at a later date, whereas we point out that such modifications are common to original paintings. (In fact, evidence of reworking is often used to distinguish an original—which might bear the changes of an artist creating a new work—from a copy, which need have no changes.) And Callahan can blithely speak of "the gray and 'caked' looking white pigment of the face and hands" (1981, p. 15). His closeup photograph of the face (p. 43) shows that this pigment is

applied so heavily in the highlight areas (exactly where an artist would be expected to heavily apply a light-toned pigment) that it obscures the texture of the cloth. Callahan even says (1981, p. 16): "Overall, the Virgin of Guadalupe appears to be a tempera painting."

In short, the very areas that Callahan and Smith cite as "original" and "miraculous" all have what "appears" to be pigment or paint. One of Callahan's major reasons for supposing the apparent paint is not paint (at least not paint of this world!), stems from his comparing the Guadalupan image with other Indian works done in paint on cloth. He states: "The preserved Indian Codices [or histories] are invariably in tattered condition. The colors are faded and cracked in most cases and the cloth torn and in extremely poor condition." He adds, "This is in considerable contrast to the bright coloring and excellent condition of the cloth tilma of the Virgin of Guadalupe. . . ." (1981, p. 16). But perhaps others can understand, if Callahan cannot, that Codices—which suffer considerable handling so that they can be read—might be in worse condition than a cloth that was carefully mounted and (as early as 1647) protected by glass, followed a few years later by a protective backing (Smith 1983, pp. 29, 31).

Actually, there is obvious cracking and flaking of the Guadalupan image all along a vertical seam that passes through the "original" areas of mantle, neck, and robe, as well as through the nonmiraculous background areas (see illustration). This line serves as an indicator that the entire portrait was rendered in a paintlike substance.

However, that "human hands" did not produce the image Callahan feels is strongly indicated by his infrared photography, which has supposedly failed to reveal any preparatory sketching or underdrawing (1981, p. 18). Even if, for the moment, we accept his claim that there is no underdrawing in the "original" areas, that claim must be tempered by the realization that his infrared technique *also failed to reveal any undersketching even in the areas proponents concede were painted by human hands,* namely, the angel, crescent moon, and background areas. (We might point out that, with an antique religious icon we have been examining, infrared photography failed to show sketch lines, although such lines were later revealed when we examined the icon with a model-J infrared microscope, manufactured by Research Devices, Inc. This microscope utilizes an S-1 photocathode image converter tube that extends from 400 nm to 1200 nm.) Besides, by the time the Guadalupan image appeared, some Renaissance artists had begun to work without preliminary sketching (Johnson 1980, p. 65).

In any case, there may indeed be evidence of underdrawing. Callahan concedes that infrared photographs of the robe's fold shadows reveal what "may, under cursory examination, appear to be thin sketch lines" (1981, pp. 10, 36). But he argues that, because they are actually "broad and also blended with the paint," they are "uncharacteristic of undersketching." He

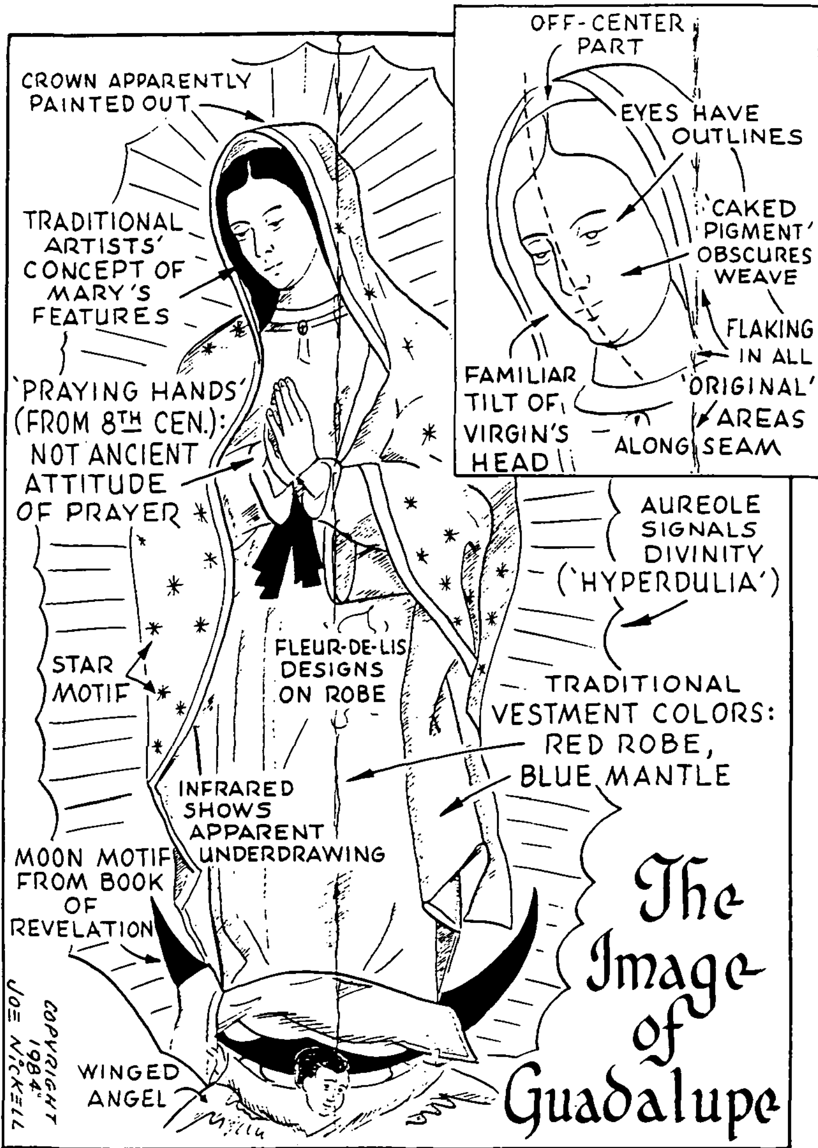

Illustration prepared by Joe Nickell points to stock artistic motifs in the Image of Guadalupe and other evidence of its deliberate manufacture by painting.

fails to explain—as we think the onus is on him to do—what the anomalous lines *are* characteristic of. We find they do appear to be sketch lines, their breadth merely suggesting that the drawing was performed with a brush or was "fixed" with a brush; any "blending" could well be the result of the undersketching having been done in a soluble medium that was

partially dissolved and disturbed by subsequent overpainting.

Even if we accept Smith and Callahan's assertions that there is no underdrawing and that a number of obvious artistic motifs are later additions, there still remains damning evidence that the image is a painting. For one thing, the "original," supposedly miraculous areas still contain obvious artistic motifs and conventions: the formulaic *contrapposto* stance of the figure; the Virgin's familiarly tilted head and downcast gaze (as in Raphael's *Madonna del Granduca* and countless other paintings); and the traditional vestment colors of the Madonna, the robe or tunic of red and the mantle of blue. Earlier we mentioned the flesh tones as being in the "Dark Virgin" tradition. (See Janson 1963; De Bles 1925, p. 30; Hurll 1897, p. 112 ff.; Reni-Pallavicini 1975, pp. 4-25; Jameson 1902, p. li.)

Especially noteworthy is the position of the hands, pressed together in the familiar attitude of prayer. Smith and Callahan seem unaware that this gesture would have been foreign to the mother of Jesus, who would be expected to pray in the ancient manner. As this is represented in the earliest Christian art, the two arms are raised symmetrically in a gesture of supplication (Jameson 1902, pp. 4-5; De Bles 1925, p. 35). According to M. D. Anderson, "The posture with hands joined was unknown to pagan antiquity and early Christianity alike; it appears in the eighth century but did not become common until the twelfth century" (Child and Colles 1971, p. 219). In short, the motif seems merely a convention an artist of the sixteenth century would naturally have adopted and, with the other motifs and conventions, lessens the credibility of the "miraculous" appearance.

Evidence that the image is a mere painting dates from as early as 1556. In testimony given during the formal investigation of the cloth in that year, Father Alonzo de Santiago stated that the image was "painted yesteryear by an Indian." Another Franciscan priest, Juan de Maseques, supplied more specific information, testifying that the image "was a painting that the Indian painter Marcos had done." As Smith concedes, there was an Aztec painter active in Mexico at the time the image appeared. He was known as Marcos Cipac. Whether or not he was still living in 1556, when he was accused of painting the image, is uncertain. What is known is that Marcos did not attend the inquiry to deny the accusation (Smith 1983, pp. 20-21).

More recent evidence of painting comes from an examination of Callahan's visible-light and infrared photographs (Callahan 1981, pp. 30-44). We were assisted in this by Glenn Taylor, a professional artist with fifteen years' experience in an impressive variety of portraiture techniques. We asked him to concentrate on the supposedly "original" portions, and he made a number of observations: that the part in the Virgin of Guadalupe's hair is off center and suggestive of amateur artwork, that her eyes, including the irises, have outlines, as they often do in paintings but not in nature, and that these outlines appear to have been done with a brush; and

that the Virgin's traditional likeness, *contrapposto* stance, and other elements were indicative of European paintings of the Renaissance era. To him, "the detailing of the features exhibits the characteristic fluidity of painting." He describes the works as obviously "mannered" (in the artistic sense) and suggests it was probably copied by an inexpert copyist from an expertly done original.

One of the silliest examples of "scientific research" being conducted on the Guadalupan image—by "several ophthalmologists" and "a computer expert"—takes the *acheiropoietos* tradition from the macroscopic to the microscopic level. It concerns "what seems to be the reflected image of a man's head in the right eye of the Virgin" (as Smith describes it), which was once thought to be Juan Diego's own portrait in magical minature, until someone realized that Aztecs of the time were clean-shaven; thereupon it was reinterpreted as "a bearded Spaniard." Now, with the aid of photo-enhancement techniques (akin to those applied to the Turin "shroud" in hopes of identifying wished-for "Roman coins" over the eyes), still more tiny figures are being "discovered" and assigned to various sixteenth-century Mexican personages, such as Bishop Zumarraga. Meanwhile, the specific methodology is being questioned (Tierney 1983, p. 190). And at one point in his own discussion of the endeavor, Smith does wonder whether the proliferating wee people represent anything more "substantial than the human shapes we see in the clouds, the result of what Father Harold J. Rahn once termed a 'pious imagination' " (Smith 1983, pp. 79-83, 111 ff.). The whole protracted affair is reminiscent of those who saw the "face of Christ" on a New Mexico tortilla in 1978 (Murphy 1981, p. 44), and again in the wood grain of an Alabama hospital door in 1983 (Kay 1983, p. 18 ff.).

Summary, Conclusions, and Recommendations

In summary, we believe our two-pronged investigation has presented overwhelming evidence against the claims of authenticity, casting doubt on the genuineness of both legend and image. In the former, we observe the familiar biblical motifs, realize that the larger story—complete with the name Guadalupe—was almost surely borrowed from a similar Spanish one; understand that the concept is in the infamous tradition of "not made with hands" portraits and other "miraculous" depictions of Mary; and recognize the elements of religious dogma, such as hyperdulia and "perpetual virginity." All of these, especially when taken together, suggest deliberate manufacture.

So does the image, which has—even in the supposedly "original" and "miraculous" areas—stock artistic motifs and apparent underdrawing; copious amounts of what "appear" to be pigments; and cracking and flaking, such as occurs with paint. The strong European elements—together

with the evidence of amateurishness in rendering them—support Glenn Taylor's suggestion that the image was largely copied from a more expert work or works. That the artist was an Indian is suggested by a supposed Aztec motif (the particular lower fold of the Virgin's robe), the apparent Aztec source of the blue pigment, and possibly even the complexion of the Virgin. (Although that can be equally explained by the "Dark Virgin" tradition, it would seem that that particular tradition might have been chosen because of its expected appeal to the Indian population.) Besides, we even have the testimony of two contemporary priests that the image was done by a native artist, and of one of them that it was painted by "the Indian painter Marcos."

In conclusion, the church's desire to convert the Aztecs would seem to have been the *motive*, and the fact that the Indians had a similar Virgin goddess provided the *opportunity*. The *means* was the "miracle" (badly taken from the Spanish Guadalupan legend), and—to complete our case—the image is the smoking gun. We say that because there is nowhere convincing evidence of its supposedly miraculous nature, but everywere signs of human artistry and fraud.

Nevertheless, should Guadalupan researchers desire to apply true science to the question of authenticity, we have some positive suggestions. In fact, one of us (J.F.) has previously recommended that direct sampling of the image—especially of the supposedly "miraculous" portion—should be undertaken (Nickell 1984). This can be accomplished by careful sampling of minute amounts of coloring matter, so minute as to be indetectible to the unaided eye. Then, in addition to such standard techniques as polarized-light microscopy, scanning electron microprobe analysis, and various microchemical tests, we would suggest the application of Fourier transform infrared technology (FTIR), which is proving a valuable research technique (Shearer et al. 1983, pp. 874A-880A). We are aware that spectrophotometry has reportedly been done (Smith 1983, p. 107), but the results are apparently still not available. However, attempts to identify any pigments (or mixtures of pigments) and any binding media, etc., *in situ*—that is, without actual removal of samples—we believe would be so potentially error-prone as to further exacerbate the controversy rather than resolve it. Furthermore, we strongly recommend that further testing be conducted by impartial, independent laboratories rather than by the present examiners.

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