I found Jamal N. HUSSEIN’s recent paper on DCBD very interesting, as it displays so many different aspects of the healing issue. The learned author and his colleagues quote many references that contribute to render a picture with many facets. Nonetheless, I cannot agree with the author’s conclusions, and I cannot be expected to do so as I am unable to agree with the premises he is starting from. Furthermore, I suggest taking into account a few other publications that might change the entire viewpoint dramatically.

I want to break down my contribution to this topic into four sections:

- Field study—observations during my participation in a Dervish piercing ceremony
- “MIRIN DAJO”—a case study in a European person having been able to demonstrate equivalent phenomena (labelled a European example of fakirism)
- Theoretical considerations leading to an explanation of these phenomena
- Conclusions

1. Observations at a Dervish piercing ceremony

Sufism—the mystical dimension of Islam—is very interesting, from the point of comparative religious studies as well as from religious psychology. As in every religion, there are narrations of saints and their deeds. Some of the miracles of Islamic saints are exact counterpieces of miracles worked by saints of the Roman Catholic Church. As I spent many years of my life in Islamic countries I took a keen interest in the Sufi movement and could build up many contacts. In particular, I was interested in investigating two fields: ceremonies likely to be leading to Altered States of Consciousness (e.g. the Dhikr [= Zikr in Turkish]) in which I was permitted to participate actively, and ceremonies involving deliberately induced physical damage like piercing (especially as I was aware of the MIRIN DAJO case and its theoretical implications which I shall describe later). In this paper, I will restrict myself to describe only some of my observations in reference to the DCBD issue, neglecting my observations on a number of related but lesser developed performances (e.g. “Debus” = “Magic” in Northwest-JAVA, INDONESIA).

The ceremony I had the possibility to monitor some ten years ago, at a place called ABU BAKR al-HAWAZ, some ten miles off ALEPPO, is a regular event, taking place every year on the anniversary (in accordance to the lunar calendar) of the dead some 800 years ago of the Muslim saint who gave name to the place and bringing along a major gathering of Sufis and people sympathetic to the Sufi movement. It is a mass pilgrimage carried out by all available means of transportation, cars, taxis, busses, on the platforms of lorries, etc., all of them extremely overcrowded. The
number of people present must have been in the thousands, men and women alike. The women, however, did not actively take part in any of the ceremonies (the procession to the mosque, during which the piercing occurred, and—what constitutes the climax—the circumambulation of the saint’s tomb housed in that mosque), they simply stood or sat in the narrow strips of shadow created by the small houses along the main street (= the procession road) of the tiny village that has developed around the mosque in the course of time. Of course, there was everything belonging to a pilgrimage or a mass gathering, e.g. foodstalls, beverage-sellers, etc.

There were groups of Dervishes coming from all areas of the country, from neighbouring countries and even from more distant ones, belonging to four different tarīqāt (= Sufi schools of teaching). The strength of these groups, each headed by their Shaikh, was some 10 to 20 men each. Additionally, there have been attendants who were not organised in groups; they took part in the circumambulation of the tomb (the most crowded place I have ever seen in all my life), but not in the rituals performed by the group members on the procession road as they were making their way down to the sanctuary. These rituals were basically twofold: mock fightings and piercing rituals. The former took place when two groups met—I should add that these people in their traditional dresses were mostly armed with sabres, they had drummers with them and a flag bearer or a flag bearer group. The Shaikhs carried the skewers used for the piercing rituals. The sabre fightings were short, ritualised and in no way really aggressive; the occurred on the move. The piercings took place afterwards; the group came to a halt, this ceremony always being limited to the members of the own group.

Before the piercing per se commenced, they performed a Dhikr, i.e. a certain religious ceremony. This particular Dhikr, however, was somehow minimised: a half-a-minute-performance of what usually would take a few hours. Immediately afterwards, the piercing started.

The Shaikh took the skewer (or on of his skewers, as some Shaikhs carried more than one) into his right hand, the members of the group forming a circle or semi-circle around him, then he asked his Dervishes something (presumable who would volunteer to be the first one to get pierced today), then there was a short de-
lay, afterwards the first volunteer came forward to the Shaikh, the Shaikh grabbed him with his left hand on the right side just above his waist, tightening the skin of his abdomen (and the layer of fat underneath, if there was any), and then inserted the skewer slowly but firmly all the way, until it penetrated the body from the front to the back, i.e., the length of the skewer was actually divided into three portions, the part near the top protruding at the back of the individual, the part inside his body and the part near the handle on the front of the body; depending on circumstances like the exact length of the skewer, the exact place where the skewer entered and left the body and built of the individual, these three portions of the skewer were of different lengths or could in some instances also be just one third each. Usually, the Shaikh started the initial piercing of a Dervish with a more fast movement, but the moment the point has penetrated the skin, he would slow down and it might take up to five or ten seconds until completion. The Dervish would than, raising his right arm, usually forming a fist, while shouting once or several times “Allah” (perhaps in a few cases also “Mohammed”) walk in a rather fast pace anti-clockwise along the circle (inside) formed by the fellow Dervishes of his group and the many by-standers, until he comes back to the Shaikh who would press his left hand close to the spot where the skewer entered the body and pull the skewer out slowly, but definitely faster than he had pushed it in.

Now, the next one of the Dervishes stood already there, expecting his turn. After the first one or two, the other ones usually were that eager to be pierced next that they literally lined up in front of the Shaikh waiting for their turn.

This was invariably the same ritual with all the different groups. (There have been other rituals more specific to individual groups, but I will limit myself just to the aspect of piercing.) The skewers used were all made of metal, round in diameter, with an apparently needle-sharp point. The metal was shiny, looking like either polished or stainless steel. The lengths were slightly different, the average 1 metre
approx. The diameter might have been different as well; it appeared that they all were just finger-thick. The handles at the rear ends where the Shaikh held them during the piercing process were mostly balls apparently made of timber.

I could observe the entire process as close as any of the nearest by-standers, i.e. from the front row, and I could take as many photos as I desired, moreover, several times I was actually urged to take shots.

The total number of men pierced on this occasion was much higher than the ones I saw, as we arrived after the festival had started and we left a few hours later while still groups were arriving. And yet, the number of those I could monitor was in the range of probably one hundred or more.

There was apparently no significant pain (neither any sound nor facial expression) and there was no blood visible, neither were the holes bleeding nor was any blood on the skewers when they were removed.

I was fortunate enough to be able to observe the removing of a skewer at close distance, i.e. I saw the back of this man at a distance of less than one metre during the entire process of pulling out the skewer. Where the skewer protruded at the back, the skin, being dislodged and compressed by it, formed a little circular bulge around it. Once the Shaikh started pulling the skewer back, this bulge disappeared and the skin, by its being stretched somehow adhesive to the surface of the skewer, was rather pulled inside for a short distance. Due to its elasticity the stretched skin contracted again as the skewer was slowly removed and thus the smaller-diameter portion of the skewer passed through the hole, so the skin remained in contact with metal surface almost until the end. When the skewer had passed through the skin (not necessarily already completely removed from the entire body – I just concentrated on observing the back of the man and I could therefore not monitor the progress...
at his front), a small hole remained which I could observe for another ten seconds or so until the Dervish in question went away—hence I cannot tell how long it took until that hole closed completely. The margin of this hole was dark. Actually, it appeared already dark when still forming the little bulge mentioned above, but it could be seen more clearly after the removal of the skewer (I am not talking of the remaining hole as such, just of its margin). Obviously this was due to blood entering the surrounding tissue that became bloodshot, the same effect like a “black spot” known from everyday life.

So, there was no bleeding from the hole, no blood dripping outside, no blood appearing on the surface of the body, but there was indeed some bleeding, that is, internal bleeding into the adjacent tissue at a small scale.

I have to confess that I was so absorbed by observing this process that I did not take a photo; I just could not turn away my eyes from the spot in order to watch the same process through the viewfinder of my camera.

I was not able to visually inspect the surfaces of the bodies after a period exceeding half a minute or so as a maximum, rather much less. It needs to be borne in mind that the people participating were all dressed traditionally, i.e. with a *galabija*, the ankle-long traditional Arabic garment, which was just lifted for the piercing and dropped again afterwards.

Most of the Dervishes were not extremely slender, and in many cases the piercing was done rather at the outer edge of the body, i.e. it affected just the skin and some adjacent layers of fat underneath. This was not impressive at all.

There was only one case of a very slender man where, on top of that, the piercing was carried out rather close to the centre line of the body. It would seem that in this case the intestinals have been affected too. The same individual had scars in the vicinity of the “new exit hole” he received on that occasion. That indicates that this man has undergone the same ritual several times before, surviving it; whether or not he had suffered any health problems subsequently I cannot say but the conclusion is obvious that even if he experienced such problems they were not severe enough to deter him from doing it again. I believe, in the absence of long-time follow-up studies this observation is a valuable one. I have not
only seen many other ones with scars from previous occasions, too (but not on such impressive spots), they appeared to be in the vast majority—only very few were first time candidates.

Referring to the issue of the states of consciousness, as far as this can only be judged from mere observation, the Dervishes taking part in the pilgrimage and the piercing ceremony were not too far from their normal states. They were obviously highly motivated, perhaps excited, they were concentrated but not entirely absorbed, and their mind was set for facing a religious experience by the preceding Dhikr ritual. Furthermore, for most of them it was a repeated experience, and the few novices did not behave different from the experienced ones, it appeared they felt well sheltered in their respective communities. No physical indicators of any significantly altered states of consciousness could be observed.

When we were about to leave a boy came and addressed one of my friends. The conversation was too fast for me to follow, but I could pick up a few words including the word khandjar (= dagger). I requested to walk over to the place and watch that situation, too. On our arrival a boy of an estimated age of 12 years jumped up from a group that had already started their picnic (usually the final of the pilgrimage) and showed the marks he had received by being pierced several times through his throat. He displayed 2 rows of 4 red dots each, some 2-mm in diameter. Obviously, in contradiction to what has been said, no dagger has been used but again round instruments. I was not shown these instruments but from the remaining wounds, I would estimate them for being thin skewers, size wise like knitting needles. These wounds that I could see from half a metre’s distance were already complete closed; I cannot tell how much time has elapsed since the ritual but it could in no case have been more than 6 hours at the maximum. This finding is not surprising; the diameter of knitting needles is only insignificantly larger that the one of the needles used for blood donations. I am a regular blood donor and I know that these wounds are very minor; they close fast and heal quickly. These people asked me, as I was keen on seeing everything, whether or not I would dare to undergo the same piercing ritual (using these small skewers)—in a quick sequence a number of considerations, pro and con, crossed my mind: yes, as—according to my belief system (see section 3)—this was nothing extraordinary; no, as it might be dangerous insofar that if the Shaikh would miss the right spots I might suffer a permanent damage to my voice
box; yes, as the Shaikh is well experienced and has done that many times before; no, as he might be excited with a European and might commit a mistake; no, as the individual I have seen was a boy and the healing after the procedure is easier at a beardless boy’s throat that it would be on mine (with beard hair being caught inside the wounds, minor though they might be, possibly causing subsequent inflammation); yes, as all the aforementioned are only small problems; and, eventually, a definite no, as this was, after all, a Muslim religious ceremony, and I was afraid—having in mind the dichotomy displayed by Roman Catholic theologians until the turn of the century, telling “genuine miracles” from “pseudo-miracles” worked by evil forces—that someone would start speculating that if a European could demonstrate the same as the believers do, this would indicate that it is a pseudo-miracle caused by sheitan (the Muslim devil) and they might turn aggressive. Hence I smiled at them, said “thanks, no”, they laughed, and we departed as friends.

2. MIRIN DAJO

It appears that MIRIN DAJO, well known only for a very short period, is more or less forgotten by now. Moreover, I didn’t find any reference to him in the English-language literature (to which my access admittedly is limited), furthermore, my search for English-language documents on the Internet was unsuccessful, and hence I eventually arrived at the impression that this man remains totally unknown within the Anglophone world.

„MIRIN DAJO“ was the assumed name of a Dutchman whose real name was Arnold Gerrit Johannes HENSKES (* 06 Aug, 1912, ROTTERDAM – † 26 May, 1948, ZÜRICH). „MIRIN DAJO“ allegedly is Esperanto, meaning „Something Miraculous“. A commercial artist by profession, he suffered severe injuries in 1940 in the course of the German occupation of the Netherlands. This was the starting point for his believing in Spiritual Forces. Based on a belief system that would now be called “esoteric”, this man was not only convinced of the slogan “mind over matter”, he also thought himself to be able to control mentally everything what is going on inside his body, i.e., if a foreign object would enter his body he would be able to dissolve the portion of it that is penetrating his body. Additionally, he believed in what nowadays is called by some “Psi-Healing”, and that he would himself possess healing powers, like he believed to be a gifted clairvoyant. When demonstrating his piercing experiments, he would—in his opinion—de-materialise the instrument as soon as it enters his body and re-materialise that portion that emerges on the other side of the body. Eventually, he believed that he could not be killed by any sort of instrument at all.

His friend and assistant, “Johnan” (Johann de GROOT) used to drive the instruments through MIRIN DAJO’s body, through arms or legs, particularly through his chest rather than through the abdomen, and this was done very, very slowly (20 – 30 sec’s until the point of the instrument re-appeared on the backside of the body). The instruments used (at least at the final stages of demonstrations) were made of stainless steel\(^{10}\), round\(^{11}\) and consisting of two parts, the larger one hollow, into
which the front portion with the needlepoint was screwed in. After the penetration, the point was removed—Mirin Dajo now actually being penetrated by sort of a tube—and rubber hoses were attached at the back ends of the instruments. Water was lead through these hoses and the tubes to the effect that everyone could see the water coming out at the front ends of the remaining instruments. On this kind of experiment, Mirin Dajo appeared somehow like a living fountain-statue (see attached picture).

Mirin Dajo gave such variété-like demonstrations to the public in order to prove the justness of his belief system outlined above; he was convinced that it was his mission on Earth to bring about proof of the superiority of kind of a Spiritual World. He co-operated also eagerly in scientific investigations including taking of X-ray-pictures and electrocardiograms during the periods he was penetrated by his instruments.

When the scientists declared there was—according to animal tests they subsequently had carried out—nothing extraordinary in all that, and no remainder needing an explanation, Mirin Dajo tried to push things further. To this end, he swallowed a certain “stiletto”, absolutely sure that he would be able to dematerialise it inside his body. Not surprisingly, he was wrong. Surgery was needed to remove this instrument. Although the surgery as such was successful, he died some two weeks afterwards due to an inflammation that occurred at a spot of his oesophagus that had been injured in the course of his final experiment.

The autopsy revealed multiple scars from previous piercing experiments, on his arms and legs as well as on his chest and abdomen. Numerous internal scars were found due to frequent penetration of the liver, both kidneys, the diaphragm, and the spleen, also one at the tip of the heart. There were, however, no discernible scars on the stomach or the intestines, and no traces of any injuries to the head.

3. Considerations leading towards an Explanation

According to Swiss physicians observing Mirin Dajo’s performances and reproducing similar effects in animal tests (Schläpfer), and ultimately carrying out the autopsy on him (Brunner & Hardmeier), there are three aspects to be taken into consideration:

- Painlessness
- Absence of (major) infections
- Absence of severe internal or external bleedings

The apparent painlessness (or the amount of pain control displayed) as such is nothing extraordinary. It is well known that there is a large variation in the sensitivity to pain between different individuals and that even absolute painlessness can occur in cases of psychopaths and hysterics, permanently or temporarily. Moreover, as it is known since long, the perception of pain can significantly be reduced by suggestions, be it hetero- or autosuggestion.
The pain caused by penetrations of the body is widely overestimated by laypersons. Most of the inner organs are not sensitive to being pierced; pain is mainly caused when the skin, the pleura, and the peritoneum are being penetrated. Still this amount of pain is not that large that it could not be overcome by strong-willed persons.

As for the absence of infections, there are not only people with a high degree of immunity, congenital or acquainted, in this case the polished surface of the instruments that were used needs to be taken into consideration, as a larger amount of dirt or germs could not assemble there. Furthermore, due to the gradual increase in diameter, most of any possibly present infectious material on this surface would have been removed by the overstretched skin during the slow process of penetration. Even in the case of penetrations of the intestines (usually perforations of these lead to severe peritonitis) it is presumed that the slow penetration would not result in perforations or ruptures of the tissue but only in rather small dilations that would due to the elasticity of the tissue close again on the removal of the instrument.

A perfectly natural explanation of the absence of bleedings is also found in the particular shape of the instruments, together with the slow process of penetration. Such a smooth instrument, only gradually increasing in diameter, pushed through the body only very slowly, will not lead to ruptures in the tissue, the tissue will only be dislodged gently, i.e., smaller blood vessels, etc. might even be pushed aside, and if an organ is hit, the ensuing injury will be but very minor, no tissue being ruptured or cut, mainly one small hole gradually expanded by dislodging the various layers of tissue. Once the instrument is removed, those narrow channels will close due to the elasticity of the tissue. Only if by chance a major vessel were hit directly, a considerable internal or even external bleeding would occur.

From a medical point of view, these authors emphasise, it is wrong if MIRIN DAJO’s piercings are addressed as “deadly wounds” and if along those lines the conclusion is drawn that there was no natural explanation of this phenomenon and something supernatural must necessarily be involved. This misconception, among laypersons as well as among doctors, results from the lack of similar experiences. These phenomena are being compared—partly unconsciously—to injuries victims suffer on other occasions (being stabbed by daggers or knives, even being shot) that are usually followed by severe consequences unless death. This comparison is untenable. Stabbing (as an assault or an accident) occurs usually fast, pushing the weapon in and pulling it out happens mostly in different directions, the victim would offer resistance—all this results in more or less extended ruptures of the tissue that are heavily bleeding and are prone to infections.

4. Conclusions

The explanations advanced by SCHLÄPFER, BRUNNER/HARDMEIER, and others in the MIRIN DAJO case need to be taken into consideration also in the cases of DCBD inflicted during Sufi rituals. Half a century after their publication, we know a lot more details about pain, pain receptors, pain control, the role of altered states of con-
sciousness in all this, and the chemical compounds like endorphins; also a lot more about suppression of infection due to mental states—even a new branch of science focussing on this issue has emerged: psychoneuroimmunology. Therefore, the theoretical concept of the above quoted authors is further supported and appears to be very sound.

When these authors call the recurrence to a supernatural explanation a misconception, I am likewise inclined to call bringing DCBD-phenomena into the vicinity of parapsychology a misconception. It is deplorable that Jamal Hussein\(^\text{20}\) failed to discuss Schläpfner’s and Brunner/Hardmeier’s views. Nevertheless I want to challenge Jamal Hussein’s view that he expresses by wordings like “unusual bodily reactions of the kind and magnitude seen in DCBD feats”, “their demonstration cannot but be viewed as others-healing ability”, “in DCBD phenomena ... there is some form of healing energy at work”, moreover the wordings “the seriousness of the induced damage”, “the instantaneous healing”, and “damage-repairing abilities ... far beyond the normal capacities of the human body”. Nothing of the above reflects the true picture: the bodily reactions are not unusual, there is nothing to support the assumption of any healing-ability (let alone others-healing ability)—healing-energy at work is pure speculation, the induced damage in most cases is everything else than serious, there is no such thing like instantaneous healing (closing of wounds due to the elasticity of the tissue, yes, but this is different from healing), and there are no superior damage-repairing abilities, simply because there are no major damages and those legendary abilities are not needed. As announced in the introduction, I am challenging these very premises Jamal Hussein is starting from, and, taking into account both my own experiences and the explanations offered by Schläpfner\(^\text{21}\), Brunner/Hardmeier, and others, I feel well justified to do so. Finally, when the premises collapse, Jamal Hussein’s conclusions, e.g. “that DCBD phenomena demonstrate very unusual healing capabilities that, if mastered, could well be responsible for unprecedented improvement in the welfare of humanity” are no more tenable. Clinging to them is but wishful thinking.

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**REFERENCES**


**Footnotes**


2 Although these publications are much older than all the ones quoted by Jamal Hussein and his colleagues, they are still not outdated, as they refer to performances the magnitude of which appears still to be unprecedented. Also, they include a number of animal test that need to be taken into consideration. — Totally neglecting these would result in pushing our conceptual framework in reference to DCBD back to the stage more than half a century ago.

3 This figure renders the local tradition. It does not claim historic-critic scrutiny.

4 I do not feel certain on this point, given the language barrier. My Arabic is as limited as the English or even German of my local friends was.

5 A good illustration is provided by Jamal Hussein in his publication contained in the MISAHA Newsletter 11 (on-line).

6 I saw one instance that was different from all the other ones. In this case a sabre (even a curved one) was used, i.e. an instrument with a cutting edge as opposed to the round skewers. Furthermore, this sabre was not pushed through by a Shaikh but the Dervish himself moved it through his body, very, very slowly, in a centimetre-by-centimetre movement. He did so in a squat down position (as opposed to the other ones who were standing upright when being pierced. I came to his spot when the top of the sabre already emerged at his back, and, although spending considerable time, the progress was just a few centimetres. The location of that self-inflicted injury was not too impressive, laterally through his abdomen, but rather very superficially. There was no apparent blood. The man’s facial expres-
sion, however, was not relaxed, like the other ones: this man was under severe tension, either by suffering from pain or just by hard working moving the sabre through his body. It needs to be noted that this very slow movement did not enlarge the ensuing wound—a situation totally different from the one when an injury is inflicted by a curved sabre during a fight. (I have no information of whether or not this man suffered from any complications afterwards.)

This is to be seen in the entire context, involving religious and even political perspectives. For the first aspect, the stereotype quote was “Look what the Lord permits those, whom He loves, to do”, and for the second I want to mention that I did not only see many photos of similar rituals carried out under different circumstances displayed in the windows of photographers’ shops in ALEPPO, but that I also saw a display of pictures where the men involved were shown twice, once being pierced, with the skewer right through his chest or abdomen, and once in full uniform as an Army instructor, suggesting some kind of invulnerability of the individual (that was actually claimed by many of the believers) and by the same token of invincibility of their Armed Forces.

I felt I had to choose between observation and documentation, and I did by no means wish to interrupt my observation. Hence I failed to take a shot, which is deplorable. Unfortunately, I could not manage to get once more into a position similarly favourable for an observation of that kind.

A dagger cuts, i.e. it has a (or two) leading edge(s) – as opposed to the skewers that are circular in diameter. Cf. footnote 6.

Polished chromium steel.

Diameter 6 - 7 mm, max 8 mm, which is reached only some 20 cm from the point of the instrument; very sharp point of only 1/10 mm; total length of the instrument 70 cm approx.

The instruments would remain in the body for various periods of times, up to 20 mins until 40 mins.

His followers quote the figure of a total of some 500 piercings. There is no corroboration of this particular figure which presumably is an exaggeration. However, his body showed numerous scars from earlier piercings.

During the final period of his career, MIRIN DAJO lived in SWITZERLAND and gave stage performances in both ZURICH and BASEL; in the aftermath of his terminal experiment, he died in ZURICH.

Moreover, there were several demonstrations arranged specifically for (Swiss) physicians.

By SCHLÄPFER (ZURICH) and particularly by BESSEMANS (BRUSSELS), who in his extensive experiments used [narcotised] mice, rabbits and dogs, piercing them by instruments that were partly much larger than the ones used by MIRIN DAJO (seen in relation to the size of the body of these animals, e.g. needles of 2 mm diameter used for rabbits). These test animals did not only survive without any problems, they did not show any abnormal reactions when they came by after the tests, except when the surgeon, in the last test, purposely penetrated the heart (SCHLÄPFER). — Lacking access to BESSEMANS’ original paper, I am summarising his results following BRUNNER & HARDMEIER (1949)

Except for some due to injuries he suffered prior to his specific “career”.

This is well supported by the animal tests. SCHLÄPFER could demonstrate in several tests the careful penetration of the filled stomach of a rabbit resulting in a subsequent complete closure of that hole due to the elasticity of the various layers of tissue of the stomach, i.e., no outwards leakage.

During MIRIN DAJO’s stage performances, no external bleeding after removal of the skewers was reported on penetrations of the thorax or the abdomen; considerable external
bleeding, however, surprisingly occurred on piercings of the extremities (through the biceps) which needed a compress. On “normal occasions”, i.e. in the case of small injuries apart from those inflicted by the specific instruments used in his demonstrations, MIRIN DAJO showed a perfectly normal bleeding reaction.

Their main points have been pointed out to Jamal HUSSEIN in a private exchange of letters already a few years ago. Unfortunately, he does not pay any attention to them in his present paper. — I am indebted to John BELOFF for drawing my attention to Jamal HUSSEIN’s work and the PARAMMANN Laboratories, and to Jamal HUSSEIN for sending me a number of offprints of PARAMMANN’S papers.

SCHLÄPFER concludes his investigation (SCHLÄPFER 1948) by the words “Thus there is nothing transcendental, extraordinary occurring in M. D.’s demonstrations.”