

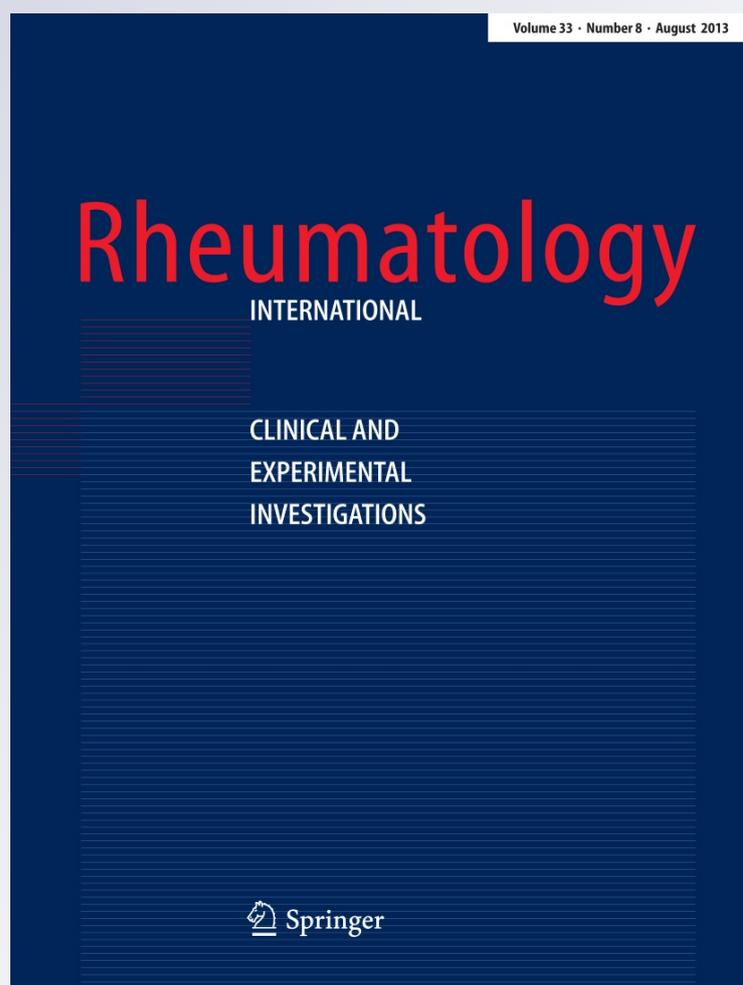
# *Right or left hand: is this the real problem of Pontormo's Halberdier?*

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## Right or left hand: is this the real problem of Pontormo's Halberdier?

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We the authors (G. M. Weisz, W. R. Albury, Donatella Lippi, and Marco Matucci-Cerinic) are grateful to Gino Fornaciari for his letter [1] commenting on our study “Who was Pontormo's Halberdier? The evidence from pathology” [2]. Science can only progress when the findings of one research group are subject to independent review by other scholars with relevant expertise. If the criticisms raised in this way are well-founded, then errors are corrected. On the other hand, if the criticisms are shown to be without foundation, then the credibility of the original findings is strengthened, since they have withstood a critical challenge [3]. In the present instance, we believe that the second alternative applies: all the criticisms of our article can be satisfactorily answered and Fornaciari's call for a reconsideration of our findings is therefore unwarranted.

At the beginning of his critique, Fornaciari correctly observes that in our survey of the hands in selected portraits of Cosimo I de' Medici we consider that the overall position of the hand, with the second and third fingers

pressed together and the first and fourth fingers spread apart, is a stylistic feature that is common in renaissance art and not a depiction of pathology in the model. He then incorrectly claims, however, that “the authors change their minds” on this point and inconsistently treat the position of the fingers as pathological. In so doing, he overlooks our explicit statement that “we must first distinguish between the overall position of the hand and the position of specific joints of the fingers.” There is no inconsistency here since, as we say, “Our specific focus, however, is the position of the joints of the fingers, not the overall hand position.”

Next, Fornaciari states that it is on the basis of speculations about the cause of the joint deformity depicted in Cosimo's acknowledged portraits that we identify the subject in Pontormo's *Portrait of a Halberdier* as Cosimo. This statement reverses the logic of our argument. We first propose our identification on the basis of the visible evidence, arguing that “The most probable conclusion based on the hands in the paintings discussed is that Pontormo's *Portrait of a Halberdier* depicts Cosimo I de' Medici.” Only then do we go on to note that “This identification on the basis of a hand deformity is consistent with what is known about Cosimo's medical history.” There is no suggestion here that our identification is based on diagnostic speculations. The particular retrospective diagnosis of Cosimo's hand condition that we offer is a matter of medico-historical interest, but it is not the basis for our proposal that Cosimo is Pontormo's *Halberdier*.

Finally, Fornaciari raises doubts about our interpretation of an X-ray of one of Cosimo's hands. We identify this X-ray as the image of Cosimo's left hand and state that it shows “significant deterioration of the PIP joint of the index finger.” The criticism of this interpretation is two-fold. Firstly, (a) Fornaciari reports that during the exhumation of Medici skeletons which he supervised during the

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years 2004–2006 [4] his team found “no sign of erosive arthritis but only post-mortal damages” in the small bones of Cosimo’s hands. Secondly, (b) he presents a photograph of “the anatomic reconstruction of Cosimo’s hands performed in 2004”, from which he argues that the X-ray in our article shows the right hand rather than the left hand of Cosimo. On this basis, he concludes that since we analyze the left hand of the *Halberdier* (which is the only one clearly visible), the X-ray cannot assist in the identification of the painting’s subject.

With regard to criticism (a) above, it should first be pointed out that we explicitly allowed for the possibility that some of the damage to the PIP joint of the index finger “may have been caused by the ravages of time during the 400+years since Cosimo’s death, rather than by a pathological process occurring while he was alive.” Because of this possibility, we stated that “the X-ray evidence cannot be taken as conclusive”, even though it was highly suggestive. Nothing here is changed by Fornaciari’s report that his team found only postmortem damage to the small bones of the hand.

More importantly, however, we now supplement our previous argument by noting that in the X-ray which we presented, the darkening of the bones around the PIP joints indicates an osteoporotic decalcification in these areas, especially at the head of the second metacarpal bone, which could only have occurred as a live erosive process, not a postmortem deterioration (unless the bones were subjected to acid only in these specific places). Although the images show closed epiphyseal lines, as one would expect in the remains of an elderly person, these changes must have been existent for some time. Since the portraits of the young Cosimo show him with joint deformities already developed at that age, we proposed juvenile rheumatoid disease.

At any rate, the X-ray evidence strongly suggests the presence of an arthritic joint disease in Cosimo’s hands, and the question therefore arises as to whether Fornaciari’s team overlooked the signs of such disease when they examined the relevant bones, just as Fornaciari has overlooked the important statements in our *Halberdier* article that we have quoted previously. In the absence of any opportunity for an independent examination of Cosimo’s skeletal remains by other researchers, the report that there is “no sign of erosive arthritis” in the bones of Cosimo’s hands must be treated as provisional and unconfirmed.

Turning now to criticism (b), we suggest that the anatomic reconstruction depicted in Fornaciari’s letter must also be treated as provisional and unconfirmed. In the present context, the important term in Fornaciari’s description of the image is “reconstruction”: The photograph does not show two naturally occurring, intact skeletal hands; it shows a collection of disconnected bones that were found in Cosimo’s tomb (after having already been

disturbed by previous exhumations) and which have been reassembled in what are presumed to be their approximate original positions.

The X-ray presented in our article corresponds closely to one of the reconstructed hands, but the question of whether that reconstructed hand is the right hand seen in dorsal view or the left hand seen in palmar view is not easily settled. For one thing, some of the bones in this reconstruction have been incorrectly positioned—for example, the fifth metacarpal bone is rotated out of its normal position, and in the carpal line, the pisiform bone should be placed adjacent to the triquetrum, not lateral to it. The orientation of the trapezium and scaphoid bones in the X-ray suggests a palmar aspect, consistent with our interpretation, whereas in the photograph of the reconstruction, the orientation of these bones suggests a dorsal aspect. This discrepancy is unexplained but it clearly indicates, along with the wrongly positioned bones mentioned earlier, that the anatomic reconstruction shown in Fornaciari’s letter cannot be taken as definitive.

In any case, the issue of “left or right hand” is only of secondary importance for our argument. Among the acknowledged portraits of Cosimo which we examined, we noted that in Bronzino’s *Cosimo I in Armor* “it is Cosimo’s right hand that is positioned in the same way as the left hands of the other paintings considered earlier, and which shows the same anomaly of the finger joints as previously described.” The implication, therefore, is that Cosimo’s hand condition was bilateral. The X-ray, whether of the left hand or the right hand, is still relevant for the identification of Pontormo’s *Halberdier* as Cosimo, especially in view of the osteoporotic signs as previously discussed.

In conclusion, for all the reasons given here, we do not believe that Fornaciari’s criticisms are well-founded, and we do not accept that they require us to reconsider our identification of Pontormo’s *Halberdier* as Cosimo I de’ Medici, or our suggestions regarding Cosimo’s articular pathology.

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