

# AN INTRODUCTION TO WERCKMEISTER'S ORGELPROBE

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**ANDRÆ Werckmeisters /**  
Benic. Cherufci, p. r. Musici und Organ. zu S. Martini  
in Halberstadt

Erweiterte und verbesserte

## Orgel-Probe /

Ober  
Eigentliche Beschreibung /

Wie und welcher Gestalt man die Orgelwerke von  
den Orgelmachern annehmen / probiren / untersuchen und  
denen Kirchen liefern könne; Auch was bey Verdünniß  
eines neuen und alten Wercks / so da zu renoviren  
vorfallen möchte / notwendig in acht zu  
nehmen sey /

Nicht nur einigen Organisten / so zu probirung  
eines Orgelwercks erfordert werden / zur Nachricht: Son-  
dern auch denen Vorstehern / so etwan Orgeln  
machen oder renoviren lassen wollen /  
sehr nützlich:

Jetzo von dem Autore selbst übersehen / mit gründlichen Ursachen  
bekräftiget / und zum Druck befördert.

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Buchhändlers daselbst.  
Gedruckt bey Joh. Heinrich Siebert / J. G. Hoff Buchdr.  
Anno 1698.

BuxWV 146.<sup>3</sup> And no less a personage than J.S. Bach appears to have used the *Orgelprobe* in examining organs.<sup>4</sup> Perhaps Bach learned of the treatise through his Weimar colleague J.G. Walther, who was one of Werckmeister's pupils and who, we know, owned a copy of the *Orgelprobe*.<sup>5</sup>

The treatise first appeared in 1681. It was revised for publication in 1698 under the title:

Andreas Werckmeister's . . . enlarged and improved [handbook on] organ-proofing, or a detailed description of how and by which methods to accept, test, and examine organbuilders' instruments for delivery to churches; further, what must be considered in contracting for the construction of new organs or the renovation of old instruments; not only for the information of organists retained as consultants, but also for the benefit of officials contemplating the construction of new organs or the renovation of old instruments (p. viii).<sup>6</sup>

The *Orgelprobe* addresses the entire sequence of events that normally transpired once a church decided to install a new organ, beginning with the preparation of a written contract with the organbuilder. Werckmeister strongly recommends that the church consult with an organist during the contract negotiations, lest it be taken advantage of by an unscrupulous builder. He specifically warns against stoplists drawn up exclusively by the builder:

The specifications are now and then drawn up by the organbuilders themselves, in which case a multitude of small ranks often constitutes the stoplist. Although these stops do not yield any sonority, an organ such as this on paper is quite impressive with its many stops, and one can claim: the more stops the higher the price. But the unsuspecting purchasers are shrewdly kept in the dark as to the simple fact that for the price of a single 8' stop some three 2's can be built and then some (p. 39).

Werckmeister had also discovered that builders sometimes used cheaper pipe metals than those stipulated in the contract. (A favorite tactic was to use less tin for principal ranks than had been agreed on.) To protect churches against such tricks, he gives the approximate weights of a dozen or so different ranks of pipes. A rank of 8' principals, for instance, was supposed to weigh between 165 and 200 pounds.

Upon being paid in full, the builder began work. Contrary to present-day practice, most organbuilders constructed their instruments on site, that is, in the town—conceivably at the very church—where the instrument was to be installed. Once the organ was installed, an examiner was enlisted to inform the church in writing whether all the stipulations of the contract had been met. Frequently, two or three examiners were hired. Werckmeister states categorically that the examiner should be an organist and not an organbuilder, since "jealousy and emotions sometimes run so high that one organbuilder cannot bear the sight of another, let alone approve the other's work" (p. 1). A conscientious examiner definitely earned his money, since he

may have spoiled his clothing by crawling around inside the organ, and . . . he may have

Andreas Werckmeister's *Orgelprobe* is not only a step-by-step guide to testing an organ, but a revealing document about the organ "culture" of the late 17th century—the world of organists, organbuilders, organ examiners, and churches. Despite its availability in English translation,<sup>1</sup> the treatise is not widely known to American organists. The following remarks are intended to serve as a general introduction and to arouse further interest.

Werckmeister (1645–1706) earned his living primarily as an organist, but he is best known as an expert on organ construction and as a music theorist. His entire life was spent in the Thuringian region of Germany, where he was organist at a number of village churches. Although not an organbuilder in the conventional sense, Werckmeister gained much of his knowledge about organ construction by building organs in his

home.<sup>2</sup> He is perhaps most familiar as an early advocate of well-tempered tuning, a topic he addresses for the first time in his *Orgelprobe*.

Despite its poor organization, the *Orgelprobe* was a highly respected publication in its time, authored by a man whose name can be translated, fortuitously, as "organ master." It went through two editions and seems to have enjoyed popularity well into the 18th century. It is cited by such 18th-century theorists as Adlung and Mattheson, and it seems to have been put to practical use by the most prominent organists of the day. For example, Dieterich Buxtehude may have adopted one of the well-tempered tunings proposed in the *Orgelprobe* in retuning the organs at St. Mary's Church in Lübeck to a temperament compatible with such tonally innovative works as the *Prelude in F-sharp Minor*,

had to swallow not only dirt and dust but also ill-humored remarks and secret distress. He may have incurred the overt enmity of the organbuilder for the sake of good old truth (p. 56).

The examination was not open to the public. It was attended only by the examiner, the builder, and the church's organ committee. Werckmeister emphatically claims that one or two hours are not enough time for one of these tests; it was presumably an all-day affair. Following the examination, the examiner supplied a written report to the committee. After discussing the report among themselves, the members of the committee would confront the builder—in the presence of the examiner—about any defects, and arrangements would be made for those defects to be corrected, at the builder's expense. If the builder refused to make the necessary alterations, he was expected to pay for another builder to take care of them. If all was in order, the builder might receive a bonus. To celebrate the completion of the organ as well as its successful examination, a lavish banquet was often held, with "toasts of recognition and wide-ranging and good conversation" (p. 58). We know from Bach's organ examinations that sometimes the examiner would play a public recital on the instrument, the equivalent of a dedicatory recital today.

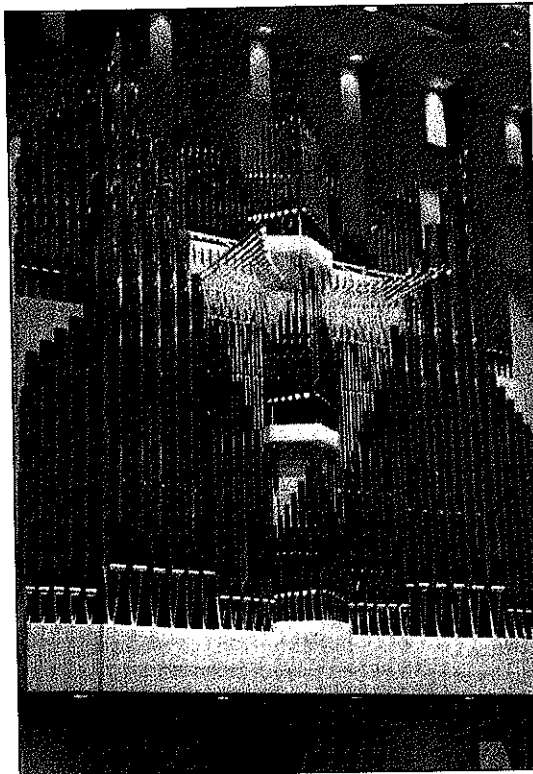
With the instrument now tested and approved, the organ committee's work was still not done. For one thing, Werckmeister recommended that a maintenance contract be drawn up with the builder, which would cover at least the next twelve months. A more daunting proposition was to find someone to be the regular church organist. A good organ needs a good organist, says Werckmeister, and one who will deign to do minor repair work, as opposed to organists who

out of vanity or fear or laziness refuse to move so much as one adjustment screw at the keyboard after a weather change; or to hook back into place a loose tracker; or merely to remove a speck of dust or dirt that may have gotten into this or the other reed pipe (p. 63).

Werckmeister also rails against organists who read only tablature and play the same set of memorized pieces for every service, year round. A good organist, according to Werckmeister, is one who can improvise on chorale tunes and realize a figured bass. Werckmeister also implores organists to be sympathetic to well-tempered tuning, simply because it allows them to play in many more keys than would be possible in old-fashioned mean-tone.

The steps necessary for the actual examination of an organ are discussed in considerable detail. Werckmeister suggests that the examiner begin by visually inspecting the instrument, starting with the bellows. Are they located so as to withstand damage from rain, snow, and exposure to sunlight? Are they made of good, sturdy wood? Do they inflate properly? One curiosity here is the recommendation that "horse veins" (either straps of horse skin or actual dried horse veins or tendons) instead of common leather be utilized to line and seal the interior surfaces.

The next step was to check the wind pressure by means of a special gauge, pictured on the bottom left side of the book's frontispiece. If the examiner had no wind gauge, Werckmeister shows how to construct one. The examiner was then to move on to the pipes, checking for placement and disposi-



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tion. Mixtures were to be given special attention as to whether all their pipes could actually speak, for many builders, since they could not properly voice or tune these tiny pipes, resorted to closing the pipe mouths! The section on reed pipes opens with these remarks:

On examining reed stops, one should check for accurate proportional length and diameter of resonators within each rank. This is very important, for if the resonators of low pipes are very wide they are bound to out-shout the pipes in the treble range. It is a great shame that one rarely finds tonally balanced reed stops.

Occasionally, this may be linked to such other causes as poorly computed resonator length, faulty wind, oblique attachment, or variable width of reeds or shallots. The building of good and durable reed stops obviously requires great care. To facilitate easy tuning, the pipes must not be placed too close to each other. They must not be riddled with holes near the bottom, lest they give off childish sounds by comparison to their fellow pipes. They must be mounted securely. The boots ought to be wide enough to avoid contact with the tongues; otherwise one can never get them well tuned. Thick tongues are more durable than thin ones, but they require strong wind. The tuning wires

must be adequately strong and [the holes through the block] should be so evenly drilled as to ensure smooth touch with the reed; neither should they be too feeble. They must easily yield to tuning and should sit neither too tightly nor so loosely as to drop down (pp. 5-6).

Werckmeister offers similarly detailed comments on all the basic components of the organ: the windchest, pallets, sliders, roller boards, stops, stop irons, keys, pedals, and so forth.

Having tested with his eye, the examiner was now to let his ear be the judge. In Werckmeister's words:

For the purpose of discovering by ear all that cannot be examined with the eye, one cancels all stops of the organ, but opens all pallets, not only those with legitimate but possibly also some with surreptitious functions; while the bellows are being operated in proper fashion, one places a plank across the entire pedalboard and steps on it so that all or most pedal keys are depressed. If one then can hear [wind] blustering, rushing, and running, all things are not good. Such a defect is usually related to the stop action. For unless the sliders have been reliably engineered, the full force of the wind lifts them up, and the wind penetrates around them into the holes and pipes. The same test is applied to the manuals by placing both arms on the keyboard. If an organbuilder indicates displeasure with this procedure, one must pay particular attention to ensure that the bellows are actually being operated while all pallets are open. For some organbuilders install secret valves to be opened or closed at the right moment, so that for the duration of this test no wind is admitted to the windchest. In order to detect this [cheating] one need only draw a stop now and then [during the test]. Honest people, however, will not act so slyly. If the wind drop and the blustering is not too noticeable, one may let it pass, particularly if the weather has been dry. For it could not be otherwise, since sliders do shrink; that is, in a manner of speaking, a congenital characteristic of the slider chest. However, the limits of tolerating this defect are reached when—all stops having been canceled, the manual keys being depressed with both arms—the wind drop is so extensive as to cause the bellows to shake. In order to determine this [toleration limit], one of the examiners must test the keyboard by tapping [the keys] with both arms in quick succession, while the other observes the bellows. If these are shaking, there can be no doubt that the wind is allowed miraculously to escape, that holes have been drilled all over the top boards and the pipes, and that toes have been mashed. Some organbuilders have so masterfully developed such practices that not one out of a hundred organists will detect these defects (p. 17).

(As the passages quoted earlier demonstrate, these are but a few of many deceitful practices of organbuilders cited in the *Orgelprobe*. Werckmeister acknowledges, much to his chagrin, that his explanations of these ruses will probably be read most eagerly not by examiners but by dishonest builders anxious to try out such tricks on unsuspecting parishes. Indeed, according to Werckmeister, the whole organ-examination system of the day was rife with corruption. For instance, some examiners secretly received from the builder in exchange for a positive report a free clavichord or harpsichord, even though the organ might have a thousand defects. Kickbacks from the

builder in the form of cash payments to members of the organ committee were not unheard of either.)

Werckmeister's next step was to listen one stop at a time, note by note, through all keyboards and the pedalboard to determine if the individual pipes are in tune, if they have been evenly voiced, and if they speak promptly. He recommends that this be done in major thirds, since "it is well known that often when a third is played on a slider chest, the middle key is also heard" (p. 23). In other words, if the pitches C and E were played simultaneously, a D pitch might also sound. The examiner was then to determine if each stop was in tune with the 4' principal, presumably the stop used by the builder to tune the organ. Last of all, the examiner was to play with various combinations of stops, to ensure that a variety of ensembles was possible, and to employ a wide range of organistic techniques. As a means of checking the steadiness of the wind supply, sustained chords were to be used in the right hand against rapid figuration in the left hand or the feet. In passing judgment on organ balance, Werckmeister sensibly recommends that the examiner listen from various locations in the room.

There are, as well, some comments on special-effects devices. For instance, the tremulant

must beat very gently and must steadily maintain the speed to which it is set, even with big registrations. . . . All tremulants must be hidden from view, lest one or the other [of the parishioners] be incited to laughter on seeing it in operation, causing thereby a public offense in the church (p. 29).

The Zimbelstern was supposed to tinkle brightly, and not sound like cowbells.

Finally, Werckmeister makes clear his disdain for keyboards with short octaves, since they require abnormal fingering:

[With the short octave,] the normal order of the keyboard is totally contradicted and a great deal of special effort in practicing is required. It is ridiculous to resort to prolixity, detours, and bombast in order to achieve something that could be attained by a more direct and more comfortable route. I, for one, have yet to see an organist who is as adept in the low [i.e., short] octave as he is in the other octaves. So far, I have heard no other defense [of the short octave] than that it allows reaching [with one hand] an octave and a third [i.e., a tenth]. That is a rather poor expedient. For it could hardly be considered advantageous to spoil a keyboard, particularly in the bass range, just because one can reach with one hand the two thirds [in the chords] D-d-f# and E-e-g#. Not only is the low range unsuitable to [such] thirds, but we also have a right hand with which we can accommodate [chord spacing] in many more ways than these thirds could ever effect (pp. 46-47).

Werckmeister is hardly being fair to the builder here, and one suspects he is not being entirely sincere either, for how could he not have known that the primary justification for the short octave on an organ was financial? By omitting large bass pipes whose pitches were rarely called for by composers, much money could be saved. Nonetheless,

and in spite of all the other attacks on organbuilders in the treatise, the *Orgelprobe* was championed by the greatest organbuilder of the day, Arp Schnitger, who contributed this charming poem to the preface of the revised edition:

How oft has soared aloft human imagination  
And wrought such art as does command our  
adulation?  
Could those long departed now awaken, resurrected,  
What man has wrought, with awe by them would  
be detected.  
Though music has been used with art and skill  
forever,  
Our own high standard ancients had reached  
never.  
A huge and complex organ one single man can tame  
And thousands upon thousands in fervent prayer  
in flame:  
But how could it be so, if defects should abound?  
What could an organ do? Outlandish it would  
sound.  
Just take pure harmony away from this fine art,  
And see, a ghastly howl is all it will impart.  
Now, here Werckmeister can give us much  
information,  
A master and a man of gifts and education  
And of experience! He shows how in detail  
New organs one must test and try them without fail.  
A worthy task, to be by wise men high commended,  
One which shall cause his fame to be richly  
augmented.  
For as posterity this treasure will accept,  
His name always among the famous shall be kept.  
Of course, some blockhead will find fault, it's not  
surprising.  
Cynics so asinine can not help criticizing.  
But know that only fools this treatise can resent,  
While you, dear Werckmeister, to heaven shall  
ascend.

#### NOTES

1. *Werckmeister's Erweiterte und verbesserte Orgelprobe in English*, tr. Gerhard Krapf (Raleigh: Sunbury Press, 1976). For a facsimile edition, see *Bibliotheca Musica Bononiensis*, Sezione II N. 44 (Bologna: Arnaldo Forni, 1984).
2. He hardly had much financial success in this capacity though, attested to by his confession that "if an organbuilder could not profit any more than I did in this venture, his wife and children should have to go begging." See p. 50 of the English translation.
3. See Kerala J. Snyder, *Dieterich Buxtehude: Organist in Lübeck* (New York: Schirmer Books, 1987), pp. 84-85, 354-56.
4. See Peter Williams, *The Organ Music of J.S. Bach*, 3 vols. (Cambridge: Cambridge University Press, 1980-84), Vol. 3, pp. 139-54.
5. According to Walther's *Musicalisches Lexicon*, Werckmeister's official title as an organ examiner was "Royal Prussian Inspector of All Organs in the Vicinity of Halberstadt."
6. The page number for this and all subsequent quoted passages refers to the English translation.

An earlier version of this paper was delivered at the symposium, "The Historical Organ in America," held in January 1992 at Arizona State University.

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