

Organ Maintenance:

A Matter of Degree

by Luke Tegtmeier

Temperature is central to accurate tuning. If you have ever played in a wind ensemble, you probably remember tuning before rehearsal every day. Some days, after a few minutes of playing, the band director would insist on re-tuning. “Now that your horns are warm, let’s tune again!” This is because wind instruments go sharp as they get warmer. The same is true of flue pipes in an organ. These pipes (Principals, Strings, and Flutes) will change pitch by approximately 2 cents for every Fahrenheit degree of temperature change. Since there are 100 cents in a half-step, a difference of a few degrees is very noticeable!

Reed pipes, on the other hand, are less affected by temperature. Oboes, Trumpets, and Krumphorns will (ideally!) stay closer to pitch. When the whole Trumpet rank seems to go out of tune every time the temperature changes, it’s actually not the Trumpet—all of the flues are changing pitch together, while the Trumpet stays the same.

This is why pipe organ technicians joke that we tune to a thermostat! But the variables related to temperature are different for each situation. Placement of the organ pipes,

Ed. Note: As one of the biggest investments a church can make, the pipe organ requires careful attention to ensure its longevity. In this series of articles, Luke Tegtmeier will help bridge the gap between organist and organ builder.



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the effectiveness of your HVAC system, the temperature change during the week, and ceiling fans are just a few of the variables to consider. Work closely with your technician to make sure that the organ is being tuned under the correct conditions.

For example, I was tuning at one of our regular clients this past Advent. Unexpectedly, the Swell and Choir were horribly flat compared to the Great. The reason: the two enclosed divisions were located in deep chambers where the temperature was at least 10 degrees cooler than the main room where the Great was located. Obviously the person in charge of the thermostat did not understand that the room had to be at temperature long enough for the heat to reach the enclosed divisions. But a temperature difference of 10 degrees causes a pitch difference of almost an eighth-step! Knowing the instrument well, I simply tuned each division to itself, knowing

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that the flues at least would come back together when the temperature was more agreeable. Before leaving, I checked temperature and pitch again. Sure enough, the enclosed divisions were much warmer and more in tune with the Great. That made me confident that the instrument would be in tune at the correct temperature. I also made myself a note to be sure to reiterate the importance of correct temperature with this client prior to the next tuning!



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