

*below left* St Cecilia's R.C. Cathedral, Omaha, Nebraska,  
*opposite top* wedge bellows,

*below* Positiv pipework (from foreground): Dulcian 16,  
Waldflöte 2, Quinte 1 1/2, Superoctave 2, Sesquialtera 2 2/3,  
Rohrflöte 4, Octave 4, Gedeckt 8, Suavial 8, Praestant 8;  
the mean-tone pipes are intertwined with the ranks

Photos courtesy of Martin Pasi

# Mean and keen



*Jonathan Ambrosino* compares modern solutions to meantone temperament and finds something nifty in Martin Pasi's work at Omaha Cathedral

Before the advent of circulating temperaments, some form of meantone tuning was common to all keyboard musical experience. With modern ears now for centuries conditioned to well- and equal-tempered systems, new instruments tuned in meantone assume a kind of *foie gras* status on the menu of organ possibility. Meantone can produce music of mercurial, even rash, beauty as the harmonious intervals dance among the clashing of the discordant. Whether you like this much spice and vinegar in your early music depends not just on taste. As ongoing research increasingly pinpoints when certain organs began to be tuned in circulating temperaments, the relationship of temperament to repertoire will tell us more about the music – certainly of Buxtehude and his forebears, and, in ways perhaps not yet fully understood, of Bach himself.

America, like England, was slow to adopt equal temperament; the Hook brothers switched over only in 1849. In the 20th century, re-introduction of unequal temperaments has roughly paralleled the early music movement. John Brombaugh's 1970 organ for First Lutheran in Lorain, Ohio, was the first to be tuned out of equal temperament, in this case Werckmeister III. Over the 1970s the various Kirnberger and Werckmeister formulae, as well as Valotti, became increasingly standard issue for mechanical-action instruments built with Baroque music in mind.

Charles Fisk's 1980 three-manual organ for Wellesley College was a watershed, being tuned in quarter-comma meantone, with split keys for the accidentals D-sharp/E-flat and G-sharp/A-flat. A provocative and colourful instrument, Wellesley drew much attention and was a focus of many early music symposia. In 1981 Brombaugh installed a small and exquisite meantone instrument in Oberlin Conservatory's Fairchild Chapel. While quite different, Wellesley and Oberlin have in common an ability to communicate just what they are not prepared to do (which initially seems a great deal), while slowly disclosing that which can be rendered with luminous beauty (more than one might think).

Emboldened by the results at Wellesley, Fisk embarked upon a dual-temperament organ for Stanford University, in which a modified form of meantone and a circulating temperament could co-exist in the same instrument. Completed in 1984 just after Charles Fisk's death the previous year, the instrument involved both Manuel Rosales and Harald Vogel, the latter devising the organ's well-tempered tuning system. The two temperaments are accomplished by providing two pipes for every black key, for a total of 17 pipes per octave. Above the keydesk, a metal lever (picture an old-fashioned hand coffee grinder, only larger) ingeniously shifts the black keys between the two sets of pipes. The fourth manual, Brustwerk, never moves out of modified meantone and has sub-semitone keys. While many consider the term 'eclectic' as covering the music of Bach to the moderns, the organ at Stanford was every bit as multi-faceted, encompassing French, German and Dutch elements into a novel Baroque mix. With its temperament lever, fourth manual different from the rest, numerous half-draw stops and numerous transmissions between Great and Pedal, Stanford's keydesk remains something of an obstacle course. But there is colour and character galore to repay exploration of this, perhaps Fisk's most refined organ of the period.

Stanford was 22 years ago. Given the intensive academic activity with pipe organs since then, surprisingly little has been done with meantone. In 1988 Greg Harrold built a Spanish-style organ in meantone for the University of California at Berkeley. Manuel Rosales completed a meantone Iberian-style instrument in 1989 for the Old Mission San José in Fremont, California. And John Brombaugh built an Italian-style instrument in meantone for the Memorial Chapel at Duke University Chapel in North Carolina. Otherwise, the builders of historically modelled instruments generally, though not exclusively, adopted the Kellner-Bach temperament. Bradley Lehman's Bach







**Italian-style sliding stop levers control the meantone stops; traditional knobs with mechanical action govern the rest of the instrument**

but you couldn't help getting the impression that, underneath, he thought a dual-temperament organ would be a terrifically nifty thing to have.

When Martin Pasi was commissioned to build the Omaha organ, discussions about dual temperaments surfaced early on. After reviewing what had been done up to that point, a new concept evolved: out of a comprehensive well-tempered eclectic organ of 55 stops, provide 29 in meantone as a sort of organ-within-an-organ. If the whole point of a dual-temperament organ was to make each tuning system exemplary, why not narrow the range of notes in common to only those few that could really do double duty? At Stanford, Fisk had used five extra pipes per octave; in Germany, Kristian Wegscheider had used six in his dual-temperament opp.1 and 21. Pasi would use eight, so that the two tuning systems would share only C, D, G and A.

Pasi's concept announces itself quite plainly at the keydesk. Italian-style sliding stop levers occupy the lower portion of each jamb, controlling the meantone stops of the Hauptwerk, Oberwerk and Pedal. Above the levers, traditional knobs with mechanical stop action govern the complete, well-tempered instrument, now including the enclosed Unterwerk (Swell) and more stops in the other departments. The highest knobs are slightly beyond reach, but there are pistons that affect them through a dual registration system. The plan is a master-stroke of simplicity: rather than stumble over levers or pedals, you just pick a system and get going.

Pasi himself is like an old English Dulciana: large in scale, but winded softly and with a sweet tone. He is often found smiling – if you can find the column he's hiding behind. Efficiency, organisation and logic sum up both his operations and his instruments; they are calm, ordered and never loud. All interior pipes are made of one alloy, 97% lead. The impression is of a man who works hard to keep matters simple.

In a room this acoustically sublime (six seconds' reverberation and real Cathedral Roll), many builders might have headed down the heroic route. Not Martin Pasi. The scaling is only a touch bigger, for example, than what he did at Bedford

temperament, interpolated from the squiggles on the cover of the *Well-Tempered Clavier*, has sparked considerable interest since its unveiling in 2004, and Taylor & Boody have adopted it for two organs thus far. The same firm is at work on a substantial three-manual meantone organ for Yale University, reflecting all the latest thinking and to be completed in 2007.

The question remains: while meantone is surely impractical for most post-Baroque music, if it was the lingua franca of the older music, doesn't even a mildly unequal temperament deny a vital element to repertory we consider central to the organ experience? This question dogged Kevin Vogt, who arrived at St Cecilia's R.C. Cathedral in Omaha, Nebraska in 1998 and soon laid the groundwork for an important new organ. Vogt saw in meantone tuning any number of metaphoric parallels to singing, worship and the rigours of Roman Catholic doctrine, and summed it all up in a well-reasoned tract explaining the new organ project. It was beautifully, passionately written,

Presbyterian, an ordinary parish church outside New York City. The room seems to favour treble over bass, but the impression may be misleading: the voicing of the 16ft and 8ft foundations is so relaxed and unforced, they barely get the room going. At the 4ft level, things begin to stand up, while the 2fts are undeniably big. Arrive at the bracingly silvery Mixtures and one might for a moment think not of Germany, as the organ's Schnitgerian emphasis would indicate, but of Italy. Perhaps because of this chorus structure, and general mildness, the effect in meantone doesn't have the driving, in-your-temples purity one might expect. Rather, this contemplative and thoughtful organ, by and large, stays in the gallery and invites consideration more from colour and texture than any sheer power. There is a hint of Catholic mysticism in this, and also a sensible regard for the nature of (non-French) Catholic worship, today and across the ages.

Much of this effect derives from the casework. When we think of Baroque organs, particularly those of Schnitger and his predecessors, we think of tightness and intimacy: a well-ordered sound in a case snugly fitted around its pipes, containing and projecting the tone in an intense, focused manner. Here, the Hauptwerk is divided into enormous cavities either side of the centrally-located Ober- and Unterwerks, which are in turn mounted as their names imply, putting the swell shutters just a few feet from the keydesk. Granted, an organ with 20 pipes per octave resists tight encasement, and this large, essentially open enclosure is reminiscent not so much of German or Dutch examples as those of Italy and France. As a result, there is a loose, easy quality to the tone as heard in the room, but it is not particularly



focused: all but the largest combinations seem to remain quite serenely in the gallery.

In an organ where so much has been well thought out, questions are few. With the various Clicquot-style reeds and tierce voices, the lack of Cromorne seems a gap. And when you hear the transcendent Suavial undulant on the Oberwerk, you wish a few more stops were available in meantone, particularly the Great Salicional. Otherwise, in its logic, user-friendliness and lack of fuss, this instrument seems a highly compelling model for other organs of its type.

I visited the cathedral on a Friday afternoon and returned on Sunday for the 11.30am Mass. The voluntaries (Buxtehude, Scheidt), as well as most of the hymns, were played in meantone. Apart from things being sweetly in tune, I doubt the polo-shirted families and baseball-capped kids noticed anything out of the ordinary. It seemed ironic that in this building a well-behaved organ strives not to force itself upon you like some intemperate party guest, but the public address system is obnoxiously unavoidable; all amplified voices came across as the Great and Powerful Oz. But still, there were the kids in jeans and the organ playing hymns in meantone. Nifty, one might say. ■



*opposite the organ case in the rear gallery, below left elements of the organ case were reused from the old c.1918 Casavant, below right the keydesk with its stopknobs for well-tempered registers and sliding levers for meantone stops*