top-star Phil Kelsall are his star names today. Star name at the Tower Blackpool in Kelsall's case, but also Nicholas Martin at Turners Merry-Go-Round, and Robert Wolfe at Cushings Thursford Museum, the three most commercial players today, all under Bob Barratt's wing; what a job! Yes, each of the young players brings out a record each year: Kelsall's new one at the Tower is "Fascinating Rhythm," Nicholas Martin's is "I Can't Smile Without You," and Robert Wolfe's is "Dizzy Fingers." All are thoroughly enjoyable and, needless to say, well-recorded. The lads are all in their twenties and have fan clubs and all this fame.

Grosvenor Records has released an LP called "Happy Together," featuring 12-year-old Peter Holt at a 3/10 Compton in the Three J's Leisure Centre in Gomersal, Yorkshire. Peter has won numerous competitions already, such as the 1985-6 ATOS Young Theatre Organist of the Year. By and large, for a 12-year-old it is some feat! Grosvenor does a great job catering to us organ fans, either pipe or electronic. That's it for now. Next time we will take a look at yet another rebirth of a theatre organ in a major cinema chain. □

Closing Chord

Theatre organ buffs in the Southeast suffered an incalculable loss with the death on July 19, of **William Senton Granberry** of Laurel, Mississippi. Mr. Granberry was the victim of a heart attack. For more than 20 years, Senton was a member of ATOS and was a tireless promoter of the theatre organ hobby; he was the mainspring of many meetings, concerts and get-togethers at the 3/13 Robert-Morton in the Jeff Seale Studio in Laurel.

Senton was an avid recordist and photographer, and was responsible for our having audio and photo records of many theatre organ events. Several years ago, he recruited several of us into a tape-exchange group that came to be known as the Knights of the Round Robin, and which has enabled us to keep up with each other and theatre organ activities around the country. In "real life" Senton was a self-described country banker, being the senior vice-president and a director of the Richton Bank and Trust Company of Richton, Mississippi, as well as a director of Merchants and Manufacturer's Bank of Ellisville.

Senton's generosity and his wit were legendary among those who knew him, and his gentleness and openness endeared him to his dozens of tape correspondents in this country and in England. He is one of the few men of whom it can be truthfully said that he never uttered an unkind, harsh or derogatory word about anyone.

Senton is survived by his wife, Allison, and by two children, Allison and Bill.

DOLTON McALPIN□

IN SEARCH OF BETTER TIBIA TREMOLOS

by David L. Junchen

The tibia clausa is the one voice essential for successful performance of popular music on the organ. An organ without a tibia might be able to play jazz or orchestral transcriptions but is totally inadequate for romantic or sentimental popular tunes. The tibia is the backbone of the theatre organ's tonal structure just as the diapason is the foundation of the classic organ. And an organ with a bad tibia is almost as inadequate as one with no tibia at all. What makes a good tibia? Read on, MacDuff!

The tibia clausa was pioneered, if not actually invented, by a man often dubbed as the father of the theatre organ, Robert Hope-Jones. Without at all discounting Hope-Jones' contributions to the art of organ building, the author feels this sobriquet to be inappropriate. Hope-Jones never installed a theatre organ under his own nameplate, and many of the organs he designed for Wurlitzer, the firm which absorbed his bankrupt business, had no tibia at all. Those which had tibias were poorly unified, often appearing only at 8' pitch. (In contemporary practice, by contrast, tibias often appear at many pitches such as 16', 8', 5-1/3, 4', 3-1/5, 2-2/3, 2', 1-3/5, 1-1/3, and 1'.) As late as the early 1920s Wurlitzer was still producing standard models of organs as large as 2/7 without tibias (Style 185) and as large as 2/9 (Style 210) wherein the tibia appeared only at 8' pitch.

The relative unimportance of the tibia in early organs in theatres lay in Hope-Jones' concept of its place in the tonal hierarchy. He viewed it not as a solo voice but as a "thickener" to add depth and weight to other voices without altering their basic colors. Organist Jesse Crawford is often credited with pioneering the use of tibias as solo colors in their own right, not just as thickeners for other stops. Actually, by itself, the tibia is a rather dull and musically uninteresting sound because of the virtual absence of harmonic development. But just turn on the tremolo . . . and *voila*! There's a sound which, more than any other, endeared theatre organs to the general public and still tugs at our heartstrings today.

So what makes a good tibia? The secret lies in how the pipes are affected by the tremolo. The tremolo causes a variation in wind pressure at the pipes. In most organ pipes, lowering and raising the wind pressure causes the pipes to speak correspondingly softer and louder while their pitch varies relatively little. In a good tibia, however, the tremolo also causes a significant lowering and raising of pitch. It is this extreme pitch variation which the ear interprets as the chracteristic tibia "sweetness." Two general factors determine the extent of that sweetness: 1) the degree of violence with which the tremolo disturbs the wind pressure at the pipe; and 2) the voicing of the pipes themselves.

Let's examine first the major mechanical factors which affect the effectiveness of the tremolo system. Keep in mind that the more violently the wind pressure varies, or "shakes," as I prefer to say, the sweeter the tibia sound will be. (By the way, the words 'tremolo' and 'tremulant' are synonymous and interchangeable. The use of one term or the other has no particular significance, representing only the whim of the author!)

1. Factors of the Tremulant Itself

a) Degree of openness of the gate on the windline entering the tremulant: the more open the gate, the more effective the shake. On almost all tremulants except voxes the gate is usually adjusted wide open. In fact, the author often removes the gates altogether, thereby eliminating a particularly annoying source of leaks.

b) Size of wind inlet hole: Anything smaller than 2" diameter will reduce the shake; 2-1/2 or 3" is better.

c) Weights: Weight added to the tremolo bellows usually improves the shake.

d) Trim height: This is the adjustment of how far open the trem bellows is at rest.

This adjustment has little effect on the shake; it is used primarily for adjusting the reliability of the tremolo under the loading effect of varying numbers of notes being played. It also plays a role in speed adjustment.

e) Slide on tremolo bellows: Has virtually no effect on shake; it is primarily a speed adjustment.

f) Condition of tremolo valve: Wear, loosening or hardening of the felt and leather surface of the tremolo valve will adversely affect the shake. Often a marginally effective tremulant will really come to life just by recovering its valve in new felt and leather.

g) Size of tremulant bellows: A larger trem will usually be more effective than a smaller one. As a general rule, a large tremulant will almost always work on any tremolo system; a small one may or may not be effective. Why then, one might muse, didn't manufacturers just make all the tremulants in one large size? In the author's opinion, it was a matter of economics. It cost less to make smaller tremolos, so they were used wherever they would work.

h) Type of tremulant: The above factors pertain to Wurlitzer style bellows tremulants which produce a waveform most pleasing to the ear. Electric tremolos, whether of the oscillating valve or eccentric motor-driven type, can usually be adjusted to have adequate shake, but their waveforms aren't usually as pleasing to the ear. Beater type tremolos have little application in theatre organs since their degree of shake is usually inadequate.

2. Factors of the Reservoir

a) Size and style of reservoir: Size and style of reservoirs have little to do with the degree of shake obtainable. Different sizes and styles do, however, have subtle effects on the tremolo waveform, a discussion of which is outside the scope of this article.

b) Adjustment of valves: On reservoirs with more than one valve, the valves are adjusted to open gradually as the reservoir falls, starting with the smallest. The faster the valves open, the better the reservoir will regulate the wind pressure under varying loads. However, if the reservoir regulated the wind absolutely perfectly, the pulsations of the tremolo would be perfectly compensated for, and no tremolo sound would be heard! It is, in fact, because reservoirs are imperfect wind regulating devices that tremolos operate at all!

Valve adjustment is a compromise between good wind regulation on one hand and an effective tremolo on the other. On a reservoir with a cone valve and one or more pallet valves, such as a Wurlitzer, a good rule of thumb is that the pallet valves should not be opening at all when the tremolo is running and no notes are being played. When a few notes are played the small pallet valve should begin to open; the larger valve should open as bigger chords are played.

c) Weights: The major adjustable factor in obtaining adequate shake is the amount of weight placed on the reservoir. Adding weight increases inertia, making the reservoir regulate more imperfectly, resulting in greater shake. There is a liability in adding too much weight, however, as the more inertia the reservoir has, the more it will wiggle and bounce with the tremulant off, a most unpleasant and unmusical effect. In addition, it is possible for a tibia to shake too violently, which is not musically desirable either. In all of the tibia tremolo systems the author has installed or examined in the past 25 years, only one or two have been encountered which have *not* required reservoir weights to achieve a satisfactory shake.

3. Windlines

a) Size of feedline: Diameter of the windline from reservoir to chest has virtually no affect on shake. Too small a windline will, however, starve the rank when large numbers of notes are played. A 4'' diameter line is marginally adequate for a 15'' tibia; most 10'' tibias will sag on a 4'' line. Use a 5'' or 6'' line to be safe.

b) Size of tremolo line: Diameters smaller than 2-1/2'' will reduce the amount of shake. Larger sizes will have no effect on shake.

c) Elbows: The oft-told tales that you must have so many elbows in your tremolo lines are just that — old wives' tales. The author has demonstrated that two trem lines of equal length, one straight and one corkscrewed with elbows, have virtually identical operating characteristics.

d) Length of tremolo line: This factor does affect the shake, but it is not an adjustment for that purpose. Its adjustment is for optimizing the tremolo speed and reliability under varying load conditions.

e) Length of feed line: A longer windline from reservoir to chest increases the shake. As with reservoir weights, however, overdoing it bears the penalty of increased bounce and wiggle on off-trem playing.

f) Type of windline: Solid windlines are always preferred. Flex can be used in a few awkward areas, but if it is not secured mechanically it will wiggle along with the trem pulsations, thereby reducing the effectiveness of the shake.

g) Placement of tremolo line: This is probably the most important factor in the entire tibia-tremolo system. It is imperative, for optimum results, to run the tremolo windline out the opposite end of the chest from which the reservoir windline enters. This will produce the greatest disturbance in the wind pressure at the pipes and hence the most satisfactory shake.

4. Blower Static Pressure

All other factors being equal, a higher static pressure will result in greater shake from a given tremolo system. This factor is not usually variable, but it may explain why a satisfactory shake sometimes cannot be obtained if the blower pressure is too close to the regulated pressure of the reservoir.

The previous discussion has covered the major mechanical factors which contribute to adequate tremolo shake. By far the two most crucial for success are that the tremolo windline come out of the opposite end of the chest from the feedline and that the reservoir be weighted. The voicing of the tibia pipes themselves also plays a role in the "sweetness" of the tremolo; that is, the degree to which the pipe's pitch changes with a given change in wind pressure from the tremolo beat. One of these voicing factors is readily under the control of the tonal finisher: the size of the toe holes in the feet of the pipes. The more open the toe holes, the greater will be the shake. Of course, opening toe holes also loudens the pipes considerably! So, how does one compromise? The author's practice is to open the toe holes fairly wide, then adjust the wind pressure until the tibia rank is at an appropriate volume level for the organ. This allows the final note per note regulation to leave the toe holes at an optimally wide setting.

Although most of the voicing factors in a tibia will affect its sweetness somewhat, the one having the greatest effect is the treatment of the leading edge of the block which forms the surface of the flue. A sharp leading edge causes the pipe's pitch to change dramatically with varying wind pressure, creating a lovely sweetness in the tone. A rounded leading edge on the block, conversely, makes the pipe's pitch quite steady over a wide variation in

Do You Know Any Young Organists?

The rules and regulations for the 1987 Young Organist Competition have been sent to all chapter presidents. If you know of a talented youngster (age 13-20) who might be interested in entering, contact your chapter immediately so he can start preparing for the competition. If you have questions, contact Lois Segur, 1930-301 Encinitas Road, San Marcos, California 92069.

wind pressure, resulting in a hard, cold sound. If one has the patience and expertise, it is possible to sharpen a rounded block edge and turn a cold, sexless 1928 Wurlitzer tibia into a lovely "to die for" 1926 style!

There may be a few other factors contributing to tibia tremolo efficiency, but this article has covered the major ones known to the author, who has been a practicing organ builder for nearly 20 years. Since he is *practicing*, however, that means he still may not have it right yet! The author would like, in closing, to acknowledge the invaluable help of organ builder Ken Crome in the preparation of this article. □

(Dave Junchen is the author of the widely acclaimed *Encyclopedia of the American Theatre Organ* and was recently honored with the 1986 ATOS award for Technical Excellence.)

PIPES & Personalities

FANTASTIC FUSION

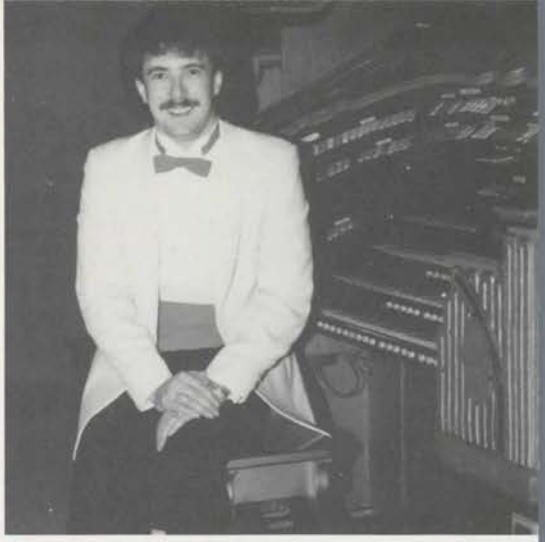
Get ready to start thinking about theatre organ in a whole new way. It's a whole new concept that will allow music of virtually any era to be performed with great success. It's called "Fusion," and its chief components are: your favorite theatre organ, a Yamaha FX-20 synthesizer and Mr. Rob Richards. Rob is no newcomer to the theatre organ and has had experience performing in various eateries that have been equipped with theatre organs. He has also concertized throughout the United States and Australia. It was Rob who conceived, planned, arranged and executed "Fusion."

My dictionary defines "fusion" as "a merging of diverse elements into a unified whole." This is essentially what happens as Rob arranges and encodes the portion of the music he wants the Yamaha FX-20 to play onto a floppy disk that interfaces with the instrument while at home. In performance, the disk is merely put into the playback mode, and instead of the usual recorded sounds, the Yamaha is literally played back from the disk. At the same time, Rob performs from the console of the theatre organ. The melding of sounds from the two sources is surprisingly cohesive and quite musical. When one stops to think, the concept seems very logical; the state-of-the-art orchestral keyboard synthesizer of the 1920s performing in tandem with the state-of-the-art orchestral synthesizer of the 1980s, creating a pleasant and unified musical whole.

On May 15 the Detroit Theater Organ Club opened its doors to the public for its annual open house and Rob Richards' premiere of "Fusion." The concert began in traditional fashion with Mr. Richards performing "Getting to Know You" on the club's 4/34 Wurlitzer. This was followed by the contemporary "The Girl Is Mine," utilizing the Yamaha RX-11 drum machine in conjunction with the Wurlitzer. The concert selections were followed by a delightful Charlie Chaplin silent classic, *The Cure.*

For the second half, Richards changed clothing to reflect the musical difference from the first half, going from traditional formal wear to what can best be described as "early Miami Vice." Beginning with "Footloose," from the motion picture of the same name, Rob introduced us to electronic rhythms and sounds which were not detectable as such. Rob's version of "The Lost Chord" quite literally brought the house down emotionally, with celested Flute and Harp sounds emanating from the Yamaha while the Wurlitzer wailed a magnificent melody. And what an ending — this instrument has never shimmered more. "Rhapsody in Blue" was as syncopated and jazzy as Gershwin probably intended. His encore was the contemporary theme of the world relief effort to fight hunger, "We Are The World," by Michael Jackson and Lionel Ritchie. The arrangement was complete with synthesized vocal sounds and phased guitar imitations.

The "Fusion" premiere was somewhat of a calculated risk for both Rob Richards and the Detroit Theater Organ Club, but the standing ovation following "Rhapsody in Blue" indicated that it was a rousing success. In fact, Rob's "Fusion" was so well received that he was invited to return for an engagement in conjunction with the Montreaux Jazz Festival in late summer. The niche that Rob Richards has clearly carved for himself by coupling two complex keyboard instruments into a highly burnished musical whole is clearly his over which to reign, and something that has been a long time coming to a musical field that constantly struggles for attention from the public at large.



Rob Richards at the DTOC Wurlitzer.

It's here. It's now. Rob Richards, take a bow!

SCOTT S. SMITH□

BERLIN HIGH SCHOOL UPDATE

For those who are following the story of this unique situation where high school students are maintaining a 2/10 Wurlitzer as an adjunct to their traditional education, here is the latest news from their teacher, Jim Martin.

In September, 1985, students met to begin

Students and teachers at Berlin High School pose with their "pet" Wurlitzer.