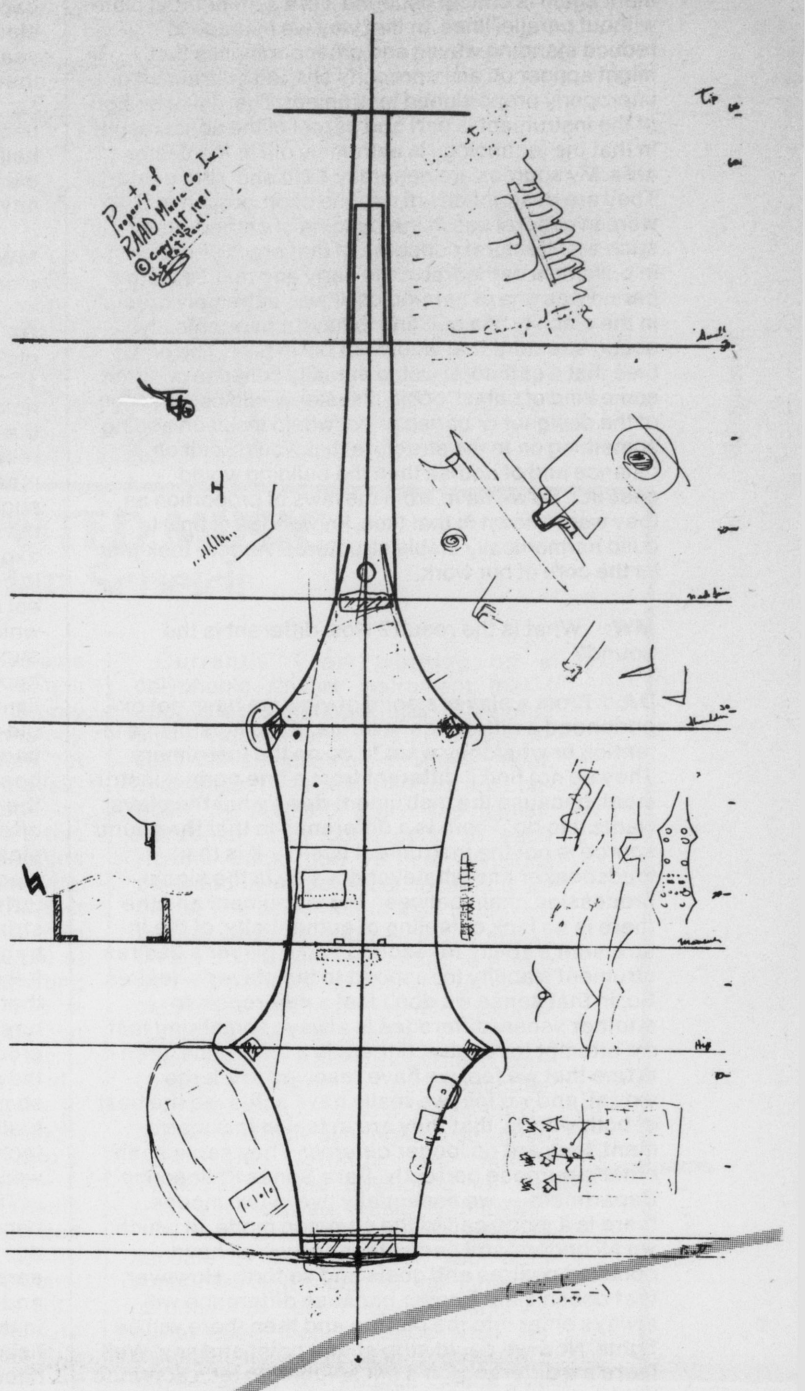
THE NEW VIOLIN

An Interview with Dick Armin

Instrument design has always been the product of necessity and demand. I can't believe that the 50,000 string musicians in North America in a pragmatic sense really have only 500 jobs to look forward to, really well-paying jobs. What are they going to do? North America is producing about 3,000 string musicians per year. What happens to those people? What image do string players have? Well, first of all, with the exception of very few, I would say less than 30 string players in North America and Europe and the Orient, have successful individual careers. Other than that, there are about 300 major symphony positions in North America and 300 in Europe and Japan. We've got a pretty limited map. It's not showing us an awful lot of territory. On the other hand, there are thousands of guitar players and keyboard players and singers and bass players and so forth that are enjoying tremendously individualistic careers. They belong to small groups. They all look for a unique identity. And they all have their own identity to work with. String musicians are not trained to develop a self-identity. They are generally trained to perform in a manner that satisfies criteria. And those criteria are dictated by those that don't want things to change — the classical music press, classical music teachers, managers — the people who are most comfortable in the world of music and generally somewhat removed from the direct experience of performance. My desire is to bring thousands of string musicians into more individualised careers. This might be difficult. It might be frustrating for people to decide not to take jobs in string sections which are fewer and fewer as time goes on, especially in the world of commercial recording. There should be as many violin players in the public as there are guitar players. But there simply aren't. Quality of electric sound before now has not been available to those people. They've not had the instrument that tells enough of the truth to get their identity across. So the whole idea is really not to go back in any sense, but to really individualize the careers of musicians, which I think is something that I've always wanted to do, and I've never successfully done it myself, and I may never do it. But I'd be happy if a lot of people could do it, because of these instruments. I would be extremely happy.



Working sketch by Dick Armin.

MW: You've been a cellist for a long time.

DA: Yes, I started playing cello at about 9 years of age, as soon as I was big enough to get my arms around one. After a number of years of being forced to apply myself to the cello I found that that was the only thing that I could do well enough to make a living. I was fortunate to have some very interesting and very excellent teachers, all somewhat iconoclastic in their own way, so that I was taught to have a healthy skepticism about a career in music.

MW: How was it that you became involved with electronic instruments?

DA: The idea came with an experience I had shortly after I joined the Toronto Symphony, which was in 1965. I think a year after that, the symphony was recording the music of Toru Takemitsu*, at which time I was simultaneously listening to the Beatles and Jefferson Airplane, Xenakis, and Penderecki. I was fascinated with the ability of musicians to be able to play very effective and popular music without any training at all, that simply out of some native talent and intelligence they could create wonderful music without having the rigorous training that I thought was part and parcel of the music profession. That sparked my curiosity about electronics; the amplification, the possible ability to hear detail in sound that otherwise would not be available.

MW: When did you begin playing electric instruments?

DA: When I left the Toronto Symphony in 1969 I joined a Canadian rock group called Lighthouse. At the time I joined there was practically no technology for electrifying a cello except for a very crude contact microphone which was literally a diaphragm with a microphone inside a casing — it was a terribly non-linear and quite a horrible sounding device. Within a year a company called Barcus-Berry developed a material that you could clip on to the bridge of a cello and have a much, much better reproduction of the cello sound. It was technologically a quantum leap in being able to amplify cello sounds. It didn't take long however, to find limitations because the sound was really not very realistic, although it was loud enough to satisfy a lot of the needs of playing in an electric rock and roll band. And that technology went on and still goes on and is really **the** prevalent technology in picking up the sound of stringed instruments. These are called Piezo-Ceramic pick-ups.

MW: What led you to explore the making of electric instruments?

DA: Just the very basic idea of wanting to find detail in sound, a close-up of sound, something in which there would be so much information, fascinating information, that when amplified it would really be like living inside a cello as opposed to sitting 40 seats back in a concert hall. That was the original kind of inspiration — to try and get an extremely dynamic and intimate sound with a wealth of detail. Without beginning to think of repertoire. Simply sound itself.

The music of Toru Takemitsu, which featured the sound of the shakuhachi, a Japanese flute, and the Biwa, a Japanese stringed instrument, were sounds that struck me as being ultimate in the nature of dynamic potential, and I felt that amplified Western stringed instruments could be capable of producing sounds that were **like** Western stringed instruments but had the potential to literally go much, much farther. In other words it was originally a purely musical consideration. I was not curious about technology or the structure of musical instruments at all. It was purely a desire to come up with incredibly interesting sounds.

MW: You've developed and manufactured a new instrument. Can you tell us about it?

DA: We're a company called RAAD instruments. RAAD is an old northern European word. It is still the name of the Dutch Parliament, but its general meaning is "a circular meeting without hierarchy," and in this way we feel we get a lot more done because we don't have to go through the pretense of having a pecking order in our company. What we're producing is an instrument that looks very different from a normal instrument although it maintains traditional proportion— if one would close one's eyes one wouldn't know that the shape has any importance because the sound is realistic to say the least.But the approach to making that sound is one that required a considerable alteration — mechanical, physical alteration — of the violin idea, in order to produce violin tones, as well as viola, cello and bass. Essentially the instrument consists of a chassis with a neck and fingerboard, and a floating top plate which is very carefully engineered in all respects including proportion, graduation of the plate, application of a new transducer technology, and careful attention to electronic circuits so that they are clean and do not lie to the performer. The floating plate allows us to reduce the complexity factor of normal violin making. We cannot give you an honest ratio of how much that complexity is reduced, but in a sense a traditional violin has a back, ribs and a cavity and a top plate all which contribute toward the ultimate sound of the instrument once it's glued together. We are concerned purely with the top plate since we're not concerned with making an instrument with a self-contained loudspeaker, which really could be a definition of a traditional instrument. So we're able to produce a very good sound, paying attention purely to the top plate of the instrument.

MW: How does this differ from other electric instruments?

DA: Well, we can talk about two kinds of other quote, *electric*, unquote violins. There are electrified violins, which are normal violins on which is put a Piezo-Ceramic transducer. There are about 10 manufacturers of different types of transducers. They all exhibit generally what's called a Piezo-electric effect. This can be done on a traditional instrument, and since the pick-up, or transducer, is normally applied to the bridge of the instrument it can also be put on a frame which would represent the parameters of violin playing, and applied to the bridge of that instrument. Generally we have found the bridge to be a very unsatisfactory source of sonic material since it is . . . I guess one might say it is the thick of the woods as far as complexity is concerned, and there's really no way of sorting out a good harmonic representation of violin tones form that particular point. We find that the bridge is, however, very good at driving a plate, the top plate of the instrument. So the bridge can serve as an excitation point but not a sound source. We do not put a transducer on a bridge for that very musical reason — we put the transducer inside the instrument under the top plate at a distance from the bridge which is very carefully measured, and that transducer

**Toru Takemitsu is considered Japan's leading composer. he is self-taught and his music has influenced composers all over the world. Takemitsu came to Toronto in 1966 when the Toronto Symphony recorded his work, November Steps.*