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HUBERT S. HOWE, JR.

Queens College of the City University of New York New York City, United States of America ORCID: 0000-0001-5822-8364 hubert.howe@qc.cuny.edu

ХЬЮБЕРТ С. ХАУ, МЛ.

Квинс колледж Городского университета Нью-Йорка г. Нью-Йорк, Соединённые Штаты Америки ORCID: 0000-0001-5822-8364 hubert.howe@qc.cuny.edu

My Development as a Composer

In this article author recounts how he became a composer, who were his teachers, what educational institutions he studied in, where he worked, how he developed his individual musical style and his ideas about music, and also describes what these ideas are. He also describes the context of living and working in New York City and the musical organizations he has worked with and for from the late 1960s to the present.

Keywords:

composing, contemporary music, tonal music, atonal music, the twelve-tone technique, electronic music, New York Composers' Circle.

Мой путь как композитора

В данной статье автор объясняет, как он стал композитором, с кем и где учился, где работал, как развивал свой индивидуальный музыкальный стиль и свои идеи о своей музыке, и кое-что о том, что это за идеи. Также рассказывается о контексте жизни и деятельности в Нью-Йорке и музыкальных организациях, в которых и с которыми автор работал начиная с конца 1960-х годов и работает по настоящее время.

Ключевые слова:

сочинительство, современная музыка, тональная музыка, атональная музыка, двенадцатитоновая техника, электронная музыка, Нью-Йоркский композиторский кружок.

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My background before composing

began composing when I was in college. I originally wrote tonal music, which was appropriate then, as that was most

of what I was studying, and I began to get a very good understanding for how it worked.

My background before coming to college was as a performer. I played the oboe in junior high and high school, and if you

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play an instrument like that, you get lots of opportunity to play in different ensembles, which always need one of more of them. I got to be pretty good, and I played in community orchestras and groups like Peter Meremblum's California Junior Orchestra on Saturdays. Meremblum was an inspiration. He had grown up in St. Petersburg before the Russian revolution, and he played all kinds of Russian works, not just the famous ones but composers like Alexander Glazunov and Alexander Borodin, as well as all the standard classics that were playable by the group. I learned a great deal of symphonic literature that way, and I can still recall many works I haven't heard or played for 50 years in detail now. Unlike other children my age, I was so involved in this music that I never listened to or got involved much in jazz or popular music, and to this day I shun that type of music.

I went to Princeton, and it was then a hotbed of new music, particularly serialism, under the influence of a very great man who was also a mentor to me, Milton Babbitt. But the bulk of the music being written by the students and some of the faculty, notably Roger Sessions, who was the gray eminence in the department, was either tonal or strongly influenced by tonality. Sessions himself, at that time, had also become a serialist, but I became more familiar with his earlier works, which were tonal, although he was stretching it to the limit in his Second Symphony and *From My Diary*, a piece that I played on the piano.

As I began to get more serious about writing tonal music, I began to realize that there was nothing I could write that would not be reminiscent of earlier music, no matter how much I tried to be original, and thus it was necessary to focus on a different approach. This was a big leap, because I also was coming to think that tonality, which evolved over centuries, was the greatest way of conceiving of music that had ever existed. I was never taken by serialism, but I began to develop a strong interest in atonality. This was also abetted by my studies with two other

great teachers, Jim Randall and Godfrey Winham. When I was an undergraduate, I learned how to program a computer, long before this was something that anybody studied in a course (in fact, I have never taken a course in anything having to do with computers, but learned everything I did through reading books (mainly manuals), experience, and asking questions of others.) Jim Randall invited me to collaborate on a research project involving creating the number of possible chords, relationships between chords, and in creating structures called arrays, and that greatly shaped my thinking. All this was described in my first article, "Some Combinational Properties of Pitch Structures," published in one of the first issues of the new magazine Perspectives of New Music.

I stopped playing the oboe some time during my senior year at Princeton. The oboe is an instrument that you need to practice every day if you want to continue to play it, and I was simply too busy to do that. I did not have a teacher while I was there, and I had never learned to make my own reeds well enough to keep a good enough supply. Oboe reeds are fanatically temperamental, and store-bought ones simply are no good. The only way I had acquired them was from my teacher. Also, I was beginning to see that my future in music lay more in composing and teaching than performance. Though I wish it would have been possible to continue to play, it simply wasn't.

How I developed ideas about my music

Shortly after I began writing music seriously, I started to form a vision of how music could be both coherent and not based on tonal relationships. This involved imbuing the surface with sounds that were consistent and related to one another by operations like inversion and transposition. The basis of this would be arrays, which are two-dimensional entities where the structure of both the chords and the voices would be related to one another by those basic operations. For



example, a 3×4 array could be a succession of four three-note chords or three four-note chords, and the structure of both the chords and voices would be related. The title of Godfrey Winham's doctoral dissertation, which was the first ever in composition given by Princeton, and was also a monument in the history of music theory for its clarity, was *Composition with Arrays*. Godfrey's own music is also strongly influenced by serialism, and he was not after the atonal coherence that I was seeking.

The next problem was to look for music that exhibited some of these qualities, and finding that turned out to be a lot more difficult than one might imagine. Late romantic music got very chromatic and dissonant and even began to break away from tonality, but in fact the most inventive music that I found was actually tending to develop what I would now call "extended tonality." This is music with unresolved dissonances, transitions (or lack thereof) to unrelated keys, and a highly dissonant surface texture. Little music actually developed a different approach.

But some music did. I began to find this in some music by Debussy, for example in works like his *Etudes* – works based on thirds, fourths, sixths and so forth. Ravel, while full of unresolved dissonances, is still largely tonal, or better, extended tonal. Late music by Scriabin was much more interesting, because he was one of the first to write pieces, or in some cases passages, based on pentachords and hexachords. The Stravinsky of *Le sacre du printemps* was also highly dissonant, but it is better understood as bitonal or polytonal than atonal.

The music of Schoenberg was by far the most interesting and creative, and I could see that his position as the true master of twentieth-century music was much deserved. You can trace the evolution of his tonality from the early works like *Verklärte Nacht* and the *Gurrelieder* through the *Six Songs* Op. 8 and the Second String Quartet and see how he unravels tonality. His works from the *Drei Klavierstücke* Op. 11 through *Das Buch der*

hängenden Gärten (a work I studied intensely) and to the Serenade Op. 24 are described as atonal, but in fact, I don't think that they really are. Rather, they show a process of evolution from tonality to something different, always trying out new ideas. I agree with much of what Ethan Haimo describes in his book Schoenberg's Transformation of Musical Language on these matters, and he convincingly shows that Schoenberg was really exploring things, always thinking, until he saw his twelve-tone system as the solution to his problems. What he really wanted was a consistent way to write music that was dissonant and not based on traditional chords but which used some of the techniques from older music. It is remarkable how complicated and inventive he was in the context of his very traditional Austrian traditions. He also suffered greatly from anti-Semitism, and we know how that wound up.

Both Allen Forte and George Perle analyzed Schoenberg's Op. 11 differently, but they basically agree that it was a masterpiece of atonality. I came to feel that, if the music had really been written according to the procedures that they described, then it is pretty incoherent, and I once rewrote the opening so that it was more consistent. But Schoenberg's music is most important, I think, for the ideas that it has inspired in others to follow in some different way.

I finally found some music that I felt was truly atonal and more coherent, and it was mainly the exploratory works of Béla Bartók, both in the *Mikrokosmos* and in passages from his middle string quartets. But Bartók's music is still heavily influenced by folk music, and that aspect of it tends to put me off.

Composition Teachers and Teaching Composition

Even though I had some first-rate teachers, I was never really taught composition in the way I have read about other composers studying, and I consider myself basically self-taught. As I have read biographies of

several composers I have been interested in, I think this may be more the usual situation than not. When I showed music I was writing to teachers, I often got the impression that it didn't really click with them, or that they didn't understand or care for what I was trying to do. They sometimes made interesting suggestions, particularly in telling me to study some other piece that might have similar ideas in it. I came to feel that I was wasting my time in lessons.

I learned most of what I really took to heart by analyzing pieces by others, sometimes by the men I studied with, and asking teachers about their views of the works. Interestingly, Milton Babbitt would never talk about his music in any kind of detail. This was also true of the ground-breaking articles about serialism that he wrote over the years. He never discussed the ideas that he was actually using at the time, but talked about ideas he had used years before and originally discovered from studying the works of Schoenberg, Berg and Webern, which he knew intimately. He sometimes would raise outlandish ideas about these works, and I didn't know if he was challenging us over something real or pulling our legs, which he also liked to do. I think he felt that he learned the most studying pieces by others, from which he then built further ideas, and that was what one should do. He also almost never had the chance to ask those composers about their music, even though, for example, he met Schoenberg when he arrived in New York and did ask him some questions, but Schoenberg said he had forgotten about those works then. He later had the chance to meet and talk to Stravinsky, who was very impressed with Milton's detailed knowledge of his music.

When I ultimately became a teacher of composition myself, I had very few serious students. Many of them were teachers in graduate school mainly so then could get a degree and earn a higher salary, and they thought composition was easier and more interesting than education courses. I did have a few really good ones, though,

and I found that they were similarly advanced and pretty self-assured of what they were doing. I enjoyed giving them challenges to extend or expand their pieces in various ways, although I tended to shy away in telling them to discard what they had written. I remember a lesson from a different composition teacher there who told the student, basically, to throw away everything and start over. That sort of advice could never be helpful.

Distinctive aspects of my music

My main musical esthetic is motivated by pitch relations, in every respect melodies, harmonies, harmonic and melodic successions, even large-scale structure and rhythm. One of the important concepts behind my music is that I first extended the basic operations by which sets of notes can be related to include both inversion and cycle-of-fifth equivalence and its inversion, cycle-of-fourths equivalence. If you conceive of inversion as multiplication of the pitch classes in a set by 11, cycle-offifths equivalence is multiplying them by 7, which maps them onto the cycle of fifths, and multiplying them by 5 maps them onto the cycle of fourths. This idea was originally developed and explained to me by Jim Randall, who also used it. These operations are referred to as multiplicative operations; I know it's confusing to call a fifth "7" and a fourth "5", but we are counting semitones here, and the original set or "identity" is M1. Thus, the sets where these four operations yield unique structures are the most interesting ones, and those are what I concentrated on. Following Randall, I created a series of related arrays called "generated collections," which consist of groups of trichords, tetrachords, pentachords and hexachords that are formed by combining four sets of these chords into arrays. These actually can be sorted into different families that consist of a large number of arrays of different sizes. The most interesting ones are the families based on 0127, 0235, 0347



and 0369 (there are many others, but these have fewer elements). This is not to say that these particular chords are stressed or feature more prominently in the music in any way (the surface actually features the related trichords, tetrachords, pentachords or hexachords), but that these chords are unique within these collections.

Another point that I wish to stress is that I want the surface of the music to be imbued with a particular sound or set of sounds, which is manifested by basing it on a group of related arrays. I then attempt to develop passages that unfold in ways that other music has used, such as expository passages, developments, and transformed recapitulations. One basic aspect which I think is most interesting in music is the idea of tones fading in while others fade out, so that the surface is constantly changing. This isn't possible in piano music, so achieving such an effect has to be accomplished by changing textures. This leads to the other main idea which has been with me from the earliest moments I began writing, which is electroacoustic music and generating your own sounds.

I started composing exactly when Princeton was importing the Music 4 program from Bell Labs, and I already had programming ability. Godfrey Winham and I wrote Music4B, which kept the basic concepts of Music 4 but changed the score format and began to add numerous new units to the program. During this time I also traveled to the Columbia-Princeton Electronic Music Center in new York City and learned about all the techniques they were developing, namely tape splicing and the use of synthesis units to create sounds. I never actually wrote a complete piece while I worked there, but I learned a lot, and I developed a keen interest in knowing more about sounds and acoustics. In using the computer, you had to specify all the properties of a sound before you could produce it, and the original things you came up with weren't all that interesting. This required a lot of work, but at least you understood it what you had done.

So the main ideas behind my music are, then, the use of arrays to create a coherent and related surface (as well as background) to the music and the interest in creating my own sounds. These have drawn me in divergent directions.

Working at Queens College

I spent almost my entire academic life at Queens College of the City University of New York. When I first went there, in 1967, it had a first-rate reputation, with several prominent faculty members, including a couple of superstar composers, George Perle and Hugo Weisgall, as well as another ex-Princeton student who originally welcomed me, Henry Weinberg. Overall, there were 12 composers on the faculty when I started, but most of them didn't actually teach composition, but mainly theory. Ronald Roseman, a wonderful guy whom I grew close to in my middle years there, was an oboist. I had actually looked at Queens when I was contemplating graduate school, but I didn't apply because they had no doctoral program.

When I got there, I found that most of the faculty was uninterested in the kind of music I was interested in, and some openly disdained my expertise in computers. "I have no interest in your computers," I remember someone saying. A few years later, when the computer revolution started taking hold, many of these same people asked me for a recommendation for a computer they could buy.

While Queens has always had a small elite group of students, people who will definitely go on to do great things, make lots of money, and have a significant impact on the world, the average student was lower-middle class coming from a generally impoverished background, many of whom were the first in their families to go to college. They were not interested in learning much of anything, and they spent lots of their free time watching television rather than reading or doing homework. They took classes mainly because they had to. When I arrived, every student

was required to take music appreciation, and this had meant that a large number of faculty were required to staff that course. I enjoyed teaching it, but I quickly gravitated away from the "masterpieces of Western music" approach that was what most people taught to one based on trying to learn how to hear things in the music. This whole world was shattered in 1968, when there was basically a student revolution that resulted in a genuinely representative faculty senate that gave the students a significant voice. One of the first actions they took was to abolish all non-major required courses. The system was later replaced by a one where students had to take a number of courses in different general areas, like arts, sciences, and social sciences, but they had choices. The number of music appreciation courses dropped dramatically. This had a big impact on the entire college, which meant that a lot of those faculty were no longer needed.

When I arrived at Queens College, the entire university was funded by New York City, and the faculty salaries were among the best in the nation for a public college, due to a new contract that had been negotiated with the city. While this was the case, the facilities were drab and overcrowded and amenities almost nonexistent. The university did not fund research, and there was no computer. As a result, I had to continue using the computer in Princeton, which was over an hour's drive away, and I was lucky that they allowed me to continue that. The music building had not just shared faculty offices, but shared desks in those offices. The only place of privacy was the library, which was usually crowded.

All this came to a screeching halt in 1976 when New York City defaulted. (The headline in the *Daily News* read "Ford to City: Drop Dead.") We had taught the entire year, and in June, during the final examination period, we suddenly didn't get paid. We waited for over a month, when New York State finally worked out an agreement to take over the senior colleges in the university, and the city would fund the Community Colleges. We hoped that

we would be elevated to the standards of the State University, which were much better, but no, they decided that it should pretty much remain at the impoverished level it was, with one big exception: the buildings. Over the next decades, the facilities were dramatically improved. Most importantly for us, they approved a new music building in 1985. I maneuvered myself into a position on that committee, because I knew this would really affect my own work dramatically, and I eventually became head of the committee. Another significant development was that the University approved the Music Department to become a School of Music.

In 1988-89, though, I was offered a visiting professorship at the University of Alabama in Tuscaloosa, a position that they thought could be fulfilled by coming down for a few weeks at a time and otherwise living in New York, but they were pleasantly surprised that I not only wanted to live there, but bring my whole family. We did that, and we had a great year. While Alabama was poor, they still had better standards than we had in New York. During that year, I was asked if I would be interested in becoming Director of the School of Music. I flew back to New York in April, where I attended my only faculty meeting that year, and found myself elected, a position that I maintained for the next nine years. The most significant thing that I did was to oversee the transition to the new building, which went very well.

The faculty at Queens never supported my music. I organized and arranged all the concerts where my music was played. The orchestra conductor was particularly hostile. He went to great lengths to play music by the other composers on the faculty, but never mine, even though I wrote four symphonies and two other orchestral pieces when I was there. I had a bit more success with some chamber pieces, but again mainly when I organized the concerts. I did establish a tradition of having an electronic music concert each semester, which was mainly ignored by the other faculty and never very well attended.



One of the things I did with my involvement on the building committee was to install a big series of electronic music studios, with a computer music studio, synthesizer room and editing facility. I got to teach courses there during most of the years after they were opened, but there were usually so few students that the courses were in danger of being cancelled. While Queens had a music composition program, it didn't attract many good students, but the ones who were good usually took my courses. Many of the composition students were actually New York school music teachers, who wanted to earn a Masters' degree so they could get a higher salary. They weren't really interested in composing, and many of them stopped after getting the degree.

After I retired, the school of music closed the studios, got rid of all the equipment, and changed the rooms into a jazz performance facility. It turns out that jazz students need to learn how to do computer editing of their performances, so they were able to retain that room but re-purpose its use. They completely gave up on trying to have an electronic music program.

Life Outside of Queens College; Organizing Concerts

Because of the disinterest and hostility I encountered, I looked outside of the college to find people and activities I was interested in, and I found New York City full of such groups. Given the amount of new music that is performed in the city today, it is hard to imagine that it was even more thriving in the 1950s and 1960s; indeed, the city was and is a Mecca for all kinds of musicians and artists. Jean Eichelberger Ivey, a fine composer who I got to know during these times, lived in New York City even though she taught in New Paltz, New York and later at the Peabody Conservatory in Baltimore, and she told me that she lived here because she wanted to be a part of it.

When I was young, I thought that performing groups eagerly awaited new

works by composers and played them soon after they were written. I had actually done this on several occasions while in high school and much more so in college (of course, as I was at a hotbed of student composers). Would that this were the case! I soon discovered that almost all new music performances are organized by the composers themselves, and there are many factors working against them. I became award of this while a graduate student, living in New York City although going to Princeton, where I became involved with the new music scene at Columbia University, particularly the concerts by Charles Wuorinen and Harvey Sollberger and the Group for Contemporary Music. While both of these composers had a regular teaching schedule and were otherwise fully engaged, they were both performers and composers, and they presented all kinds of great music by a range of composers, including much of the electronic music from the Columbia-Princeton center.

The League of Composers-International Society for Contemporary Music

I heard about a group called the League of Composers-International Society for Contemporary Music, U.S. Section. It had been pretty inactive in the few years before I got involved, and the old guard was looking for young blood to revive it. I found myself elected President of the Board at the first meeting I attended. The present group was a combination of two older organizations, each of which had a distinguished early history. The ISCM was founded in the early 1920s by central European composers, some of them students of Arnold Schoenberg, and it produced a big international festival each year. The New York group supposedly represented the entire USA, which was one of the things that made composers in the rest of the country think that new music was dominated by a cabal of insiders from New York City. The League of Composers was founded by a music afficionados from New

York City in the 1920s, and it also presented concerts, awards and commissions. This history was wonderfully described by Claire Reis in her book *Composers*, *Conductors and Critics*, which I gobbled up. The main activity of the combined group was to present a few concerts each year.

The first big problem that we faced was raising money. Grants were and are still very hard to get, although there were some foundations that supported it; but at that time, there was still a tradition of private individuals giving generously to support new music. Joseph Machlis, a former Queens College professor who had made a fortune on his textbook The Enjoyment of Music and was then writing novels under a pseudonym, as well as Mrs. Ernest Heller, were prominent supporters. Also, the government was starting to get involved in supporting the arts, and, surprisingly, it was president Nixon who founded the National Endowment for the Arts around that time. Getting money from the state or national government was very difficult, however.

The next issue was that, particularly the older composers, felt that nobody would attend a concert of young composers they had not heard of, and that we had to include music by more famous composers like Schoenberg or Webern, which actually meant that less of the program could be devoted to my own music or that of people I wanted to present. In truth, many members of the audience didn't know or care about that music anyway. Nevertheless, we did succeed at presenting a few events, and we even had some of those early programs broadcast live on WNYC public radio.

Always grubbing for money meant that we had to look where we could find it, and we tried several things that led us in different directions. One was to try to get support from the cultural institutions of other countries, like Canada, where the arts are much more generously supported. Another was Switzerland, where a very interesting and wealthy woman, Marguerite Staehelin, lived in the city and actively

promoted Swiss music. She brought several prominent Swiss composers — I remember meeting Heinz Holliger, Klaus Huber and Julien-François Zbinden (who, of his piece, said "rubbish!") — to New York. I even got to visit her in her home town of Basel one summer.

Being involved with the ISCM led me to attend international meetings in Europe and attend some of the festivals there. Many Americans had had the dream of bringing the big ISCM festival to the United States, and some, like Gunther Schuller, actually had the wherewithal to help do it. The forthcoming bicentennial celebration of 1976 gave us the opportunity to make a pitch for this event. So at one of the international meetings in 1974 I floated the idea of doing that, and they were quite interested. This would require an enormous fund-raising effort, which we then embarked on. Schuller had secured a significant contribution from Paul Fromm, a remarkable man who seemed to devote his life to supporting new music - his money had helped found Perspectives of New Music, for example. The most important part was securing a grant from the NEA, which we managed to do, although there were several problems with them. For one thing, they would never support more than one-third of the cost (they actually only supported one-fourth), and you had to show significant contributions from others before they would consider you. There were also huge delays in finally getting the money; but we did.

Many students and the orchestra of the New England Conservatory played at the festival. We managed to convince the University of Iowa to bring their student orchestra to play a concert at the festival, and the other major group was the Boston Symphony Orchestra. Iowa and NEC basically paid for their involvement, and their exposure to the distinguished audience surely enhanced their international reputation, but the Boston Symphony was a huge expense, and they were getting very nervous when we had to wait for our final payment from the NEA, which came months



late; they were ready to sue us, and had suggested that we take out a loan to pay them first.

Representatives from 30 or more countries to Boston in October of 1976, where the thirteen concerts were held. We had to pay for the accommodations and meals for all the delegates, and groups like the NEA did not take kindly to having their funds used for such purposes, so we had to show that none of their funds were. The festival was a big success, and concerts were recorded and broadcast on National Public Radio and received lots of critical acclaim.

All the music was played at the festival chosen by an international committee headed by Elliott Carter. The big disappointment for the Americans, and the Board of the League-ISCM, was that this was not a showcase for American music, and we played very few Americans, including none from the local group except George Perle. Some people were actually resentful that we included a piece by the Hollywood composer Leonard Rosenman, not exactly representative of our new music, but he wrote an outstanding piece.

I served for nine years with the ISCM, but I finally grew tired of doing all this work for which I received very little opportunity to hear my own music and mainly got complaints from the rest of the group, so I finally quit in 1979. The group continued but became rather dormant for many years before being revived in the 1990s. The people running the group now either do not seem to know of this history, and they mention almost nothing except the earliest beginnings of the two separate organizations.

ASUC/SCI

The American Society of University Composers was founded by an elite group that included some of my Princeton professors, and I attended their first public meeting in 1965. The group was founded on the premise that colleges and universities were becoming the best workplaces for composers in this country, as there was very little opportunity

to earn a living from composing itself unless you wrote music commercially. The group looked very promising, like it might turn into the compositional equivalent of the American Musicological Society, which was the dominant organization acquiring funding for scholarly activities. There were national conferences, mostly on the east coast, which featured concerts, lectures and other presentations.

The group's founders soon became disillusioned with what they thought the group was turning into – not such an elite group, but an organization of average, even uninspiring composers from all over the country. Some of the works played at these early conferences showed these disappointing tendencies. So at a meeting in about 1967, they all quit. At that time I had met many people from other places whom I liked, and I thought the group still had some good possibilities. I was one of the few who stayed on, and I soon became an officer of the Executive Committee. I served for several years and worked with Harvey Sollberger at Columbia University during this time, where the group had a mailing address. In that capacity I published the first editions of the society's Proceedings, which still exist, although they never became the kind of serious journal that would match that of the musicologists.

ASUC (people hated that acronym!) split into regions, and some regions became quite active — particularly in the Midwest and far West, where the organization brought people together who had not had a reason for doing so before. The New York region was not particularly active, as it included New Jersey and Puerto Rico but not Connecticut, which was part of New England. In fact, how well the group did really depended on who was leading it and whether they had the wherewithal to organize events. Over the years they continued and began to really flourish. Student chapters were formed which featured a competition and prizes that were funded by ASCAP. In about the 1990s, partly in recognition that there were



plenty of composers outside universities, the organization renamed itself the Society of Composers, Inc., abbreviated SCI. It grew to over 1000 members, and has presented national and regional conferences regularly. I hosted the national conference with my colleague Ronald Roseman at Queens College in 1999 and a regional conference in 2007. I was active in several of SCI events, but not regularly, and I never resumed the intensity of involvement that I had in the early years.

Teaching at Juilliard

In 1974, I began teaching one day a week at Juilliard, in which capacity I had several excellent students. I taught electronic music, and I did so for 20 years, until they decided that they weren't really interested in music which didn't involve performers. Juilliard was a unique place. The students were already extremely accomplished musicians, and the good ones didn't really need to get that much from their lessons, but what they got instead were connections to many of the significant organizations and jobs in the music world. I had many outstanding students, many of whom became professional musicians both in New York and throughout the world. But not all Juilliard students stayed in music. Several of them went into other fields, and their musical training, which required devoting many hours to the discipline of practicing, usually boded well for their success in these other fields.

The teachers at Juilliard were usually judges of various competitions and awards that were given out, and of course they scored well in that context too. The school also put on outstanding performances of many operas and other concerts, in particular I remember hearing Roger Sessions' Montezuma. They also started a twentieth-century music festival, which became focused on a particularly narrow category of music, which didn't always click with me. Also, the faculty was predominantly elderly, and they were completely set in their ways and not really open to new ideas.

After 20 years, Juilliard ultimately let me go, and I had the sinking feeling that, to an extent, they saw electronic music as in conflict with the training they were giving to their performers. When they resumed a course of this kind (taught by one of my former students), it included a performance element.

The Radio Shack TRS-80 Computer and Personal Computers

It is hard to imagine these days how difficult it was to be working with computer music in the late 1960s and early 1970s. The only machines that existed were mainframes, and they were huge, expensive, and access was difficult. Queens College had a puny IBM 1620 computer (more like an adding machine, this was the what Princeton used to spool its print jobs) when I got there, but I immediately made it known to the guy who ran it that I was interested in working with a machine that had a digital-to-analog converter, which was rare to find in those days. I had to travel to Princeton to run jobs, and fortunately they allowed me to do that, but it was an hour and a half drive each way, so my use was limited.

When the first personal microcomputers appeared in 1977, I made a trip to Atlantic City to attend a computer show where they were first shown. I saw the Commodore Pet, Apple II, and Radio Shack TRS-80. The Apple II didn't impress me; it was the most expensive and seemed to be the crudest. The Commodore Pet was more appealing, but not as much as the Radio Shack TRS-80, which I bought. It was a crude and limited machine, with a maximum of 64K RAM, only 48K of which was usable, a crude-looking monochrome screen, and keyboard. The only mass storage device was an audio cassette, and the only programming language was level I BASIC. The Z80 processor had no arithmetic operations, and all math had to be done by a series of repetitive loops (division was particularly slow), but it worked and was useful for a number of purposes. I had



visions of being to produce my computer music at home, even if it took a very long time to compute.

Things improved when they introduced a number of new features, particularly a floppy disk drive, printer, and a Microsoft-developed operating system with a much better version of the BASIC language. (This was long before Microsoft became the giant that it is now; that can be traced to the IBM personal computer.) I started writing more complex programs and saw that the machine was indeed useful for many purposes.

As we had done with the IBM 7090, where all really serious programs were written in assembly language, I learned the assembly language for the Z80 and started writing some programs in it, as well as some practical applications written in BASIC. It turned out that there was a great market developing for applications written for this machine, as thousands of people were buying the computer and there were very few programs for it. So in the early 1980s, I started a small company, Howe Software, and started selling programs I had written. One of my more successful programs was a disassembler, which would take any program written for the machine and show the source code. Another was a program called Home Budget and Checkbook Analyst, which would take care of your basic monthly budget.

There was a small company, H&E Computronics, based near where I lived that was publishing a magazine that was geared to the TRS-80, and I became a columnist for them with a column on the assembly language and internal structure of the computer. This ultimately led to a full book, TRS-80 Model III Assembly Language, but the main advantage of writing for them was that I could advertise my software, and I sold quite a bit of it. I also advertised in some larger publications, but they were more expensive. During the lean times of the recession in 1982, I was doing well.

The TRS-80 was never going to become the kind of machine that I was hoping for when I got it, but in 1982, when IBM introduced

their own personal computer, things began to look much better. This was based on the Intel 8088, a much better processor that had the capability of addressing 1 MB of storage, although only 640K was usable, and it had an arithmetic processor for mathematical operations. Even better, IBM published the architecture of the machine and invited other manufacturers to develop peripherals for it, and this type of device began to proliferate widely. This was in contrast to Apple, who sued a competitor who had made a clone of the Apple II and allowed no other companies to make equipment that would work with their computer (although it was impossible to stop other printers from being used). That is why the IBM PC design, now just referred to as the "PC", came to dominate personal computers, and Apple became a small, niche machine. It was only much later, after Steve Jobs returned to Apple following his adventures with the NeXT computer, that Apple took off.

One of the companies that IBM worked with was Microsoft, who developed the operating system, MS-DOS, and programming languages, at first just BASIC but later other languages. Many manufacturers, not just IBM, had the idea that the main money to be made from personal computers would be in selling the hardware, and software was something more akin to a frill. That was a colossal misjudgment, and Microsoft began to grow and become a behemoth that would ultimately surpass IBM, which ultimately got out of the personal computer business. Every competitor who developed a new computer, and there was a proliferation of them in the 1980s and beyond, wanted to use Microsoft's software. Because of the myriad of peripherals developed all over the world that had to interface with the computers, the software had many bugs that had to be ironed out (and this was before the internet and malware), but the advantage of Microsoft was their incredible competence in programming, and everything ultimately worked. MS-DOS soon led to Windows, and the rest is history.

When Steve Jobs left Apple in 1985, he set out to found a new computer company, NeXT. He envisioned that machine would have great abilities in both graphics and sound, and the machine was designed with a high-quality audio interface and great potential graphics. He hired a talented bunch of engineers to work all this out, and the music guys did a great job, the graphics people less so. The first machines started to roll out in late 1989, and lots of computer music people started to order them. But they were extremely expensive, and few people could afford them. When Queens College built its new building, I got them to include a few NeXT workstations in the computer music lab, and we did get them in about 1992. They were very good and finally offered an alternative to working with mainframes, although not without some problems.

While NeXT was a great advancement, they were soon outpaced by rapid developments in computer engineering by Intel, whose Pentium processors soon came to have as much or more power at greatly reduced prices. Once again, the PC design began to out-compete all the others, and NeXT ultimately folded when Steve Jobs returned to Apple in the late 1990s. By this time, though, excellent music hardware and software was available for all computers.

I soon learned that I could use all of the instruments and techniques that I had developed over the years with Music4B and 4BF and Music360 in Csound, and I have used that ever since. And since the 1990s, we have all had the personal computer home workstation that we dreamed about in the early years.

SEAMUS

The Society of Electro Acoustic Music in the United States, or SEAMUS, was founded in 1984 at a time when the term "electroacoustic music" had not yet really replaced "electronic music" in the United States, but we soon had to give up that term because it was usurped by popular music. Over the years, it developed into a major forum for electroacoustic music and is still going strong. I did not join in the early years, as that was when I was over involved at Queens College, becoming Director of the School of Music and working on planning for the new building. I did join in the 1990s, and have tried to attend regularly, at least when my submissions were accepted at their festivals.

SEAMUS is now going strong, with regular annual conferences, student competitions, and awards. More than anything else, this signifies the acceptance and endurance of electroacoustic music in the United States.

American Composers Alliance

I joined the American Composers Alliance in 1979, after I met Oliver Daniel, who was an executive with BMI and really impressed me with the depth of his knowledge of American Music. Many of the composers I respected – Milton Babbitt, Charles Wuorinen, Miriam Gideon, and numerous others – were members of BMI, and many of them had started out with ACA and left only after their music was taken on by bigger commercial music publishers. ACA's publishing arm, American Composers Edition, became my music publisher.

For years ACA had an office on West 74th Street where you could drop off copies of your scores and order printed copies of them. It was supported by BMI during all these years, and that was in turn because ACA members gave up part of the royalties that they earned for this support. ASCAP, the other music licensing organization, which is much bigger, did not do this, so ASCAP composers got higher royalties, but they had no group like ACA. I was only dimly aware of royalties at that time, and never earned them because I didn't know how to report performances. But royalties never pay very much, and the most I ever heard of a composer earning who had numerous big performances was about \$1,200. The only things that pay real royalties are performances of operas and symphony orchestras.



But in the 1990s, BMI reduced their payments to ACA. They had to leave the offices on 74th Street, and the person who had been the Executive Director all those years was fired. Many older members were also leaving the organization, and I got onto the Board of Directors. We hired a new Executive Director, Jasna Radonjic, and found a much less expensive office in Greenwich Village. This lasted for quite a while, and in 2002 I became the President of the Board.

One of the activities which ACA got into was the production of concerts, which we organized as an annual festival. We managed to contact members from all over the country to play their music in New York, and several of them were enthusiastic about it. But like everything else, this required funding, and it wasn't going to come from BMI. Our solution was to charge a fee of the composers themselves to pay for performers and venue rentals, which could partly be offset by box office income. These festivals started in 2000 and ran through 2011. They got good audiences and increased ACA's visibility, and some older composers came back and a few younger ones joined.

There was always grumbling among some of the composers who didn't think they should have to pay to get their music, and indeed, it would be much better if they didn't have to. On top of this, Jasna left as Executive Director, and we needed to hire a replacement. We interviewed a few people and hired Gina Genova, who became guite a successful replacement, but not without drama. She did not get along with me well and wanted more control of the organization, and at some point she maneuvered me out of the Presidency of the Board. I wasn't sorry to be rid of the responsibility, but this left me with a bitter aftertaste. ACA stopped giving concerts, but they did bring back a few when they had outside funding. These were always guite limited, and I never had any music that would work for them. Nevertheless, I remain in ACA and am now part of the custodial program, where your music will be made available after you pass away, as long as ACA is around. They only keep PDF copies, no more paper.

The New York City Electroacoustic Music Festival

For years, starting in 1992, when my former student from the University of Alabama James Paul Sain started the Florida Electroacoustic Music Festival, he made me the composer-in-residence at one of their earliest festivals, and I started attending them regularly. They were very collegial and brought together many composers from all over the world to play, hear and talk about their music. I really enjoyed these festivals, and was very disappointed when, in 2008, he announced that the seventeenth festival would be the last one.

For years I had thought about organizing the same kind of thing in New York City, which seemed like it could be a great magnet for such an event, and this opening gave me the opportunity to make it happen. At that time I had one of my best students from Queens College who were then in the CUNY doctoral program, Paul Riker, and another student from CUNY, Zachary Seldess, as colleagues to help make this happen. We secured the support of the CUNY Graduate Center as a place where we could hold the concerts, and we held the first New York City Electroacoustic Music Festival (NYCEMF) there in 2009. We presented thirteen concerts and brought in a few additional members of the team from other institutions, particularly Travis Garrison and Joo Won Park. This was such a successful event that we organized an even bigger one there in 2010. This had nineteen concerts, including a few at other venues such as Galapagos Art Space and Issue Project Room in Brooklyn.

However, in 2010 the two main graduate students I had been working with got jobs and left the institution, leaving me with fewer colleagues to help with the work then, and we were not able to present a festival in 2011; but by 2012, I was ready to try again.

I put together an organizing committee of all the electroacoustic music people I could find in the city, as well as some new graduate students and a few of what was then our regular staff, like Travis Garrison, and we brought it back in 2013, again mainly at the CUNY Graduate Center but with more venues outside, including the NYU Skirball Center and two Brooklyn spaces, Galapagos and Shapeshifter Lab. This time we had 21 concerts, with one entire day in Brooklyn.

Working with the Graduate Center was always a problem, as they charged us quite high prices to rent their performance spaces (being in midtown Manhattan naturally required a substantial premium), and there were issues with the availability of the building, which we couldn't get into until after 8:30 AM and had to leave by 10:30 PM. We supported the festival through registration fees, which are typical at academic conferences and other festivals, as well a very small grants. So by 2014, the committee discussed the possibility of organizing the events at a nonacademic venue. That is when we discovered the Abrons Arts Center in lower Manhattan.

Abrons is a large space affiliated with the Henry Street Settlement, which goes back to the nineteenth century. At that time, the lower east side was a very poor area, and Henry Street was founded as a place of refuge for the poor. They had a Playhouse, which was built in 1915, mainly used for plays but also for concerts. Later they added a music school for the children of the area. The original buildings are now a national landmark. I had attended some concerts there going back to the 1960s, where I remember seeing Edgard Varèse at one time. The Abrons Center was built as an expansion of the Playhouse in about 1970, and it has two additional venues, the Experimental and Underground Theaters. They were looking for programs like our festival, and we came along at the right time.

We held our first NYCEMF at the Abrons Center in June 2014, when most colleges have begun summer recess and Abrons was between its Spring and summer events. We took over the entire building and had 29 concerts in all three spaces, including some simultaneous programs in different theaters during a few afternoons. By that time, NYCEMF had grown into a major world festival, and we have regularly been bringing composers from over 30 countries in all continents, even Africa, to New York. While attendance is not required, participants still have to pay a registration fee, which is the main way the festival has been supported, although we have been able to obtain some smaller grants and regular box office income, which is never enough to support much of it. Abrons was a very cooperative venue to work with, although we weren't always able to use all the spaces we wanted in the building, because some galleries had art exhibits that ran through the time we were there.

In 2016, the New York Philharmonic invited NYCEMF to become part of its Biennial, which had been organized by their music director, Alan Gilbert, who was genuinely interested in new music. That brought us an association with National Sawdust, a new theater in Williamsburg, Brooklyn that had been built in an old sawdust factory, and it was a very exciting venue to be working with. That year NYCEMF expanded to 35 concerts, with many additional activities like sound installations, lectures and presentations, which were held at New York University. Musically, it was a big success, although national Sawdust was disappointed at the amount of box office income that we were bringing in. In the long run, however, the New York Philharmonic did not maintain an interest in the Biennial. as Alan Gilbert decided to leave in order to pursue his conducting career in Europe, and the new Director, Jaap van Zweden, didn't keep it going. But soon after he arrived, the pandemic hit, everything closed down, and nobody knows what will happen next.

Our association with National Sawdust continued the next year, 2017, when we had 28 concerts, but stopped after that, as the



box office problem proved insurmountable. In 2018 we had only 21 concerts, all at the Abrons Center. By this time, we had established a good working relationship with New York University, and we were able to secure inexpensive accommodations in their dormitories for participants, which greatly helped our international visitors.

In 2019, Tae Hong Park, an important member of our Steering Committee who was our NYU contact, suggested hosting the 2019 International Computer Music Conference in association with NYCEMF. This was an even bigger challenge. ICMC has been going since the 1960s, as indeed I had participated in several of them and even hosted one at Queens College in 1980. They always include many events beyond what NYCEMF ever did, including a full schedule of lectures and presentations, workshops, panel discussions, installations, a listening room, keynote speaker, and organizational meetings. As we would have to use New York University for many of these activities, it became impractical to continue with the Abrons Center, because it would have been impossible to travel between venues. We found another venue, the Bishop Fulton J. Sheen Center, which was within walking distance of NYU, to work with instead. We had 25 concerts, seven "immersion" concerts in the NYU library's Immersion Room, seven panels, 13 workshops, and all the other activities as well. This was by far the biggest and most well-attended festival.

In 2020, we planned another large festival along the lines of 2019, including some of the events like lectures and presentations like with ICMC, but then the COVID-19 pandemic hit, and we were unable to host any live events. Thus, we decided to put it all online, and 2020 became our first Virtual Online Festival. It included seventeen concerts and a program book much like the others, but it could only be printed by being downloaded from the web site. With the pandemic still going in 2021, we opted to continue the online format, and we received a comparable number of submissions to the past festivals,

showing that there was still great interest in the festival despite these limitations. In 2022, we hope to bring it back as a live event.

The New York Composers Circle

I heard about the New York Composers Circle in 2008 at an award meeting by New Music Connoisseur, and I was immediately interested. I soon attended a meeting, and I joined it in 2009. I was interested not just in the concerts but also in the salons, because they were one of the first events I had seen that was like a composer's forum, where composers could present their works and get feedback from others. The first concert I participated in was in 2010, and I was soon going to all their events. At that time the Executive Director was Richard Brooks, whom I have known for years and very much respected as a leader. However, he resigned from that position in 2013, and I was elected to replace him.

NYCC seemed finally to be the kind of organization I had been looking for all these years. Devoted only to presenting concerts and hosting salons, we were not distracted by academic concerts or things like publishing that took up most of the energy at ACA. The composers in the group are a truly diverse group, including avant-gardists like me, traditional tonal composers, composers writing jazz and more popular music; and they all get along pretty well. NYCC has taken up a lot of my time since I retired, and the group has given some truly important concerts.

Their salons are unique and valuable, and we faced many challenges in keeping them going. First we were doing them at the Ellington Room at Manhattan Plaza, but it became difficult to reserve that space. Then we were accommodated at Eugene McBride's apartment in the same building, but that was an imposition on him, and he ultimately left the group. Then we looked at commercial spaces, and we found the Manhattan Theater Club on West 43rd Street. This meant paying for the space, and we had to use member



dues to pay for that. Finally, we discovered an even better space at the Opera America Center on Seventh Avenue at 31st Street, and we were there for a few years before the pandemic hit.

The concerts had been presented at Saint Peter's Church at the Citigroup Center on the east side for many years, but in the Fall of 2017, they decided to start charging much more than we had been paying for the space, and we had to find other venues. We tried many different ones, including Benzaquen Hall at the DiMenna Center, Advent Lutheran Church, and other churches, before settling on Marc A. Scorca Hall at the National Opera America Center, and later the Church of the Transformation, "Little Church Around the Corner," on East 29th Street. These have worked out fine, until the pandemic came in the spring of 2020. All concerts were cancelled, leaving a huge backlog of works that had been scheduled for that spring as well as all the works submitted for the following year.

We had to halt all activities, including both concerts and salons, until we finally figured out a way to resume the salons via Zoom. This actually turned into something of a boon, because now we could include people from all over the United States and the world, including regular participants from California and Moscow, Russia, in the meetings. Interest in the salons has grown, and new guests keep attending, including some interested in joining. Even when we resume having in-person salons, we are likely to keep using Zoom for these meetings, in order to keep up this interest. The group has not yet figured when and how to resume concerts, but as the vaccines are now being given widely, it is expected that full concerts can resume in the fall of 2021.

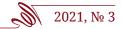
Finding my own voice as a composer

From the beginning, my trajectory as a composer went along two separate paths: computer music and instrumental music. While I had written tonal music in college

and, at one point, I even imagined doing that as a composer, I quickly felt that whatever I tried to write would sound somewhat derivative of older music, even though I tried some daring departures. I started by writing both instrumental and computer music when I was a graduate student. There were always certain commonalities between what I wrote in each domain, but when working with the computer, I was always on a path to try to discover original and interesting sounds, starting from certain basic acoustical ideas like the overtone series. I was interested in timbre and wrote several "studies in timbre" as well as several pieces that I called "overtone music", which was the title of my first CD. While overtone pieces created many interesting timbral properties, the works I wrote that were more focused on timbre used filtering. By the 1990s, I had learned quite a lot and was ready to attempt more.

While I wrote small instrumental pieces all during this period, the first work I really got into was *Piece for Five-Octave Keyboard*, originally intended to be playable on an instrument like the Yamaha DX7 but also a piano. In spite of all the effort I put into that piece, the work was never playable, because it used unrealistic hand stretches. I later revised it for piano four hands, but the piece has never received a satisfactory performance.

I next had a major opportunity to write instrumental music when I was a visiting professor in Alabama, because there were instrumentalists there who might actually play your music (unlike my experience at Queens College). At the same time, though, I became interested in prolonging atonal harmonies somewhat in the manner of tonal music, where a single harmony can stretch over several measures. This led to pieces that were overly long. My first Symphony, written in Alabama, is over 40 minutes, and even though it was the most elaborate and complex piece I had ever written at that time, only the short second movement, which I also made a separate piece (Elegy for Strings), was ever played. My second Symphony, while more compact,



was similarly long, as I also intended it to be played as five movements without pause (half an hour).

I finally broke out of this with my Quintet, written in 1994. While this piece is also long (18 minutes in two movements), it is completely different from the earlier works, and I am very satisfied with it. The piece also received an excellent performance by Speculum Musicae when I returned to Alabama in 1995 for a sort of reunion of several of the professors who had held the same endowed chair I had (the others were Peter Westergaard and Andrew Imbrie). From this point on, I wrote much more instrumental music, usually geared to performance opportunities that became available. The next pieces were my Nonet and three Chamber Concertos.

After these works, I was ready to tackle some more bigger pieces, and I wrote my third and fourth Symphonies in 2007–2010. Since I wrote both full and chamber orchestra versions of these works, I managed to get all of the third one performed, although in different concerts. I regret that I never had the opportunity for even a reading of these works by a full orchestra. While I have written a few more orchestral and wind ensemble pieces since then, I have pretty much given up on writing pieces that require so many players, because there just aren't any opportunities to get them played.

Since my son Jonathan is a fine pianist, I have written many works for piano. The first of these, *Composition for Piano*, was a dud, but I am quite proud of my *Tetrachordal Etudes* and especially my *Fantasy for Piano*. My other *Etudes* contain some pretty good stuff too. I also feel that my piano piece *Nocturne*, *Dance and Dream* is quite successful.

Since the mid-2000s, my computer music has deepened in the exploration of interesting sounds, particularly those involving non-harmonic components. My first two *Inharmonic Fantasies* didn't explore the full range of possibilities, but starting with the third in 2014 I have written many works. I did a thorough exploration of all of

these possibilities in my article "Structuring Spectra in Electroacoustic Music", which I have sent to the journal Organised Sound in England. It has not yet been published, and I don't know if or when it will be, because they organize issues around a specific topic and I don't know when they will find one that will be suitable. But in these pieces I have explored the techniques of pitch compression, frequency shifting, the undertone series, and the use of irrational numbers, mainly Π (pi) and square roots, although there are other possibilities, like the golden mean (already thoroughly explored by John Chowning in Stria). More recently, I have written several inharmonic fantasies for solo instruments and fixed media, mainly because I have met some performers who are interested in playing these pieces.

I have continued my interest in exploring harmonic partials both in my *Harmonic Fantasies* and in some instrumental works of spectral music, mainly in my three *Expansions*. The first of these was a computer piece, but the second and third are for orchestra. They are both much shorter than my earlier orchestral works, and are both quite playable, although they would require an orchestra with full string sections. (*Expansions 2* has 24 separate string parts, which should be doubled.)

More recently, I have explored different kinds of partitions and complementations, as well as repetition, which I shunned in my earlier works. This has led to more instrumental music, and I hope to expand these works and write for ensembles I have not used before.

Postscript

This was written in March 2021, while the coronavirus pandemic was still active but vaccines were being introduced and many places were beginning to open up again. We don't yet know how this will play out, although it is a good bet that things will return to what we had before by the fall of 2021.

About the author:

Hubert S. Howe, Jr., Ph.D. (Composition),

Princeton University (08544, New Jersey, United States of America); Professor at the Queens College, City University of New York (11367-1597, New York City, United States of America),

ORCID: 0000-0001-5822-8364, hubert.howe@qc.cuny.edu

Об авторе:

Хьюберт С. Хау, мл., Ph.D. (композиция),

Принстонский университет (08544, Нью-Джерси, Соединённые Штаты Америки); профессор Квинс колледжа (подразделения Городского университета Нью-Йорка) (11367-1597, г. Нью-Йорк, Соединённые Штаты Америки),

ORCID: 0000-0001-5822-8364, hubert.howe@qc.cuny.edu

