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| **Your article** |
| **Le Caine, Hugh (1914—1977)** |
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| [Enter an **abstract** for your article] |
| Hugh Le Caine (1914-1977) was a Canadian scientist and inventor of electronic musical instruments. He began by building instruments for live performance – the more noteworthy of which are the polyphonic touch-sensitive organ which was in many respects a precursor of the polyphonic synthesizer, and a monophonic keyboard called the Sackbut, with which one could control pitch, volume and tone quality in live performance. The Sackbut’s use of voltage control has lead for it to be described as an early voltage-controlled synthesizer. Both of these instruments were initially designed in Le Caine’s home studio, as Le Caine was employed as a physicist at the National Research Council (NRC) in Ottawa, developing micro-wave radio transmission and contributing to the exploration of nuclear physics.  File: lecaine.jpg  Hugh Le Caine working in the physics laboratory at Queen's University, Kingston, Ontario, in 1938  In 1954 Le Caine was invited to work full time at the NRC on the development of musical instruments. It was hoped that a commercial company would manufacture the instruments he designed, and the project began well when the Baldwin Organ Company bought the patent on the Touch-Sensitive Organ. At the NRC lab, with technical and office support, his output increased and he developed several other instruments including the Multi-track, a tape playback machine where the speed of up to six recordings could be controlled though a keyboard similar to the one used in the Sackbut. In 1955 he completed the *musique concrête* piece *Dripsody* using this instrument to alter the sound of a single drop of water.  By 1959 the intentions of the NRC lab had shifted towards the creation of new instruments that could be used in electronic music studios. A studio was opened at the University of Toronto in 1959 (the second one in North America; the first being at Columbia-Princeton in New York).  Le Caine’s lab built over twenty-two new instruments over the next twenty years, and almost single-handedly equipped electronic music studios at University of Toronto and another at McGill University in Montreal that opened in 1964.    Perhaps the most important aspect of Le Caine’s designs for his instruments was the “playability” that he took care to build into them. His ideal was to enable nuance-filled expressive performance. Touch sensitivity was an essential ingredient in this, and was used in keyboards, mixers, and other components. Le Caine applied these principles mechanically, electronically, and through light sensitivity. His designs were so advanced in their respective implementations that some of the features that he developed took until the 1980s to enter into the viable commercial market. |
| Further reading:  (Young)  (Young, Hugh Le Caine) |