Computer music is a truly interdisciplinary field; practitioners are well known for experimenting with new and developing technologies from a wide span of disciplines. Such experimentation is a tradition that stems back to the genesis of computer music, where a mathematician with a musical background programmed an early computer in the early 1950s to play a tune. The area of computer music has since evolved in tandem with advances made in computing technology. We are interested in studying how new unconventional models of computation may provide new pathways for music and related technologies. Unconventional computing develops new algorithms and computing architectures inspired by or physically implemented in chemical, biological and physical systems (e.g., DNA computing, quantum computing, reaction–diffusion and excitable media computing). Until recent years, this area of research has been left untouched by computer musicians. Today, interest and research momentum in unconventional computation is building due to our growing need for different kinds of computers: faster, bigger and non-linear. Resulting from this, in hand with technologies becoming more accessible, projects investigating how unconventional models of computation may be used in music are beginning to emerge. In this paper, we discuss some of these initiatives in order to gain an understanding of how this developing area of computer science may impact future music.