For $p \in (1, \infty)$ consider the sequence space $\ell^p(\mathbb{Z})$. A bounded linear operator on $\ell^p(\mathbb{Z})$ can be interpreted as an infinite matrix and therefore the notion of band operators can be studied. These operators (or more generally what are called band-dominated operators) have a very rich Fredholm theory and a lot of progress has been made in recent years culminating in the work of Lindner and Seidel [1]. The main theorem reads as follows: A band-dominated operator is Fredholm if and only if all of its limit operators are invertible, where, roughly speaking, limit operators are operators that appear when we shift our operator to infinity (the “boundary” of $\mathbb{Z}$). As was shown recently by Špakula and Willett [2], $\mathbb{Z}$ can be replaced by an arbitrary discrete metric space satisfying some growth conditions. In this talk I want to address the question whether and how this limit operator theory can also be applied to non-discrete spaces. As a particular example, I will discuss the case of Toeplitz operators on Bergman and Fock spaces and show how limit operator theory can be used to extend well-known results from harmonic analysis.