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Introduction to operator theory and invariant subspaces, by Bernard Beauzamy. North-Holland, Amsterdam, New York, Oxford, Tokyo, 1988, xiv + 358 pp., \$84.25. ISBN 0-444-7052-X

The object of study of this monograph is a single continuous linear operator $T : E \rightarrow E$, where E is a complex Banach space, and the central question considered is the so-called “invariant subspace problem.” We recall that a closed linear subspace $M \subset E$ is invariant for T if $TM \subset M$. The invariant subspace problem asks whether every continuous linear operator T on a Banach space E of dimension ≥ 2 has a nontrivial invariant subspace. (The trivial invariant subspaces are $\{0\}$ and E .) This question was first asked probably by von Neumann in the particular case where E is a Hilbert space, and in this case the problem is still open. When E is a Banach space the answer is negative. Examples of continuous linear operators without invariant subspaces were given first by Enflo [12] on a Banach space built for this purpose. Further examples were given by Beauzamy [6] and Read [16]. Read managed later to produce examples on large families of Banach spaces, including such familiar spaces as l^1 and c (the spaces of summable sequences and convergent sequences, respectively).

One should realize that the invariant subspace problem, basic as it is, was not the only reason for the development of operator theory. In fact, merely knowing that an operator T has nontrivial invariant subspaces does not tell us much about T . Fortunately, when an operator or class of operators is shown to have invariant