- **Crash**: A faulty process stops prematurely and does nothing from that point on. Before stopping, however, it behaves correctly.
- **Send omission**: A faulty process stops prematurely, or intermittently omits to send messages it was supposed to send, or both.
- **Receive omission**: A faulty process stops prematurely, or intermittently omits to receive messages sent to it, or both.
- **General omission**: A faulty process is subject to send or receive omission failures, or both.
- **Arbitrary** (sometimes called Byzantine or malicious): A faulty process can exhibit any behavior whatsoever. For example, it can change state arbitrarily.
- **Arbitrary with message authentication**: Faulty processes can exhibit arbitrary behavior but a mechanism for authenticating messages using unforgeable signatures is available. With arbitrary failures, a faulty process may claim to have received a particular message from a correct process, even though it never did. A message authentication mechanism allows the other correct processes to validate this claim.

![Figure 5.1. Classification of Failure Models](image)