Shared Variables

Ada Protected types
Cilk Fork/join

Java Synchronized methods SR Fork/join and semaphores

Message Passing

Ada Rendezvous

CSP/Occam Synchronous message passing Fortran M Asynchronous message passing

Java Network and remote invocation packages SR Message passing, RPC, rendezvous

Coordination

Linda Tuple space and message-like primitives
Orca Data objects and remote operations

Data Parallel

C\* C and data layout and parallel execution
HPF Data mappings, array statements, reductions

NESL Nested data parallelism

ZPL Data regions and directions, array operations

**Functional** 

NESL Recursive parallelism

Sisal Iterative (for all) and recursive parallelism

Abstract Models

BSP Bulk synchronous message transfer LogP Distributed-memory processors

PRAM Parallel random access to shared variables

**Figure 12.7** Languages and models for parallel programming.

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