The Mesa system forced the developers to address a number of the practical issues associated with monitors and condition variables. Describe some aspects of the implementation of synchronization primitives in Mesa that were not addressed by C.A.R. Hoare.

The aspects of the implementation of synchronization primitives in Mesa that were not addressed by C.A.R. Hoare:
the semantics of nested monitor calls;
the various ways of defining the meaning of WAIT;
priority scheduling;
handling of timeouts, aborts and other exceptional conditions;
interactions with process creation and destruction;
monitoring large numbers of small objects.

Monitor vs semaphore vs mutex:
A monitor is an object that only allow one thread to execute it provided procedures. It is kinda like a simple OS. It can be implemented with a semaphore. A semaphore is an OS implemented low level object that has P and V operations to allow a fix number of processes access a shared resource.
A mutex is an OS implemented low level object and only allow one process to access a shared resource at a time. Mutex can implement monitor and monitor can implement mutex.

Question: The difference between Hoare style monitors and mesa style monitors is that after V operations, Hoare style monitors will launch the application immediately, but for mesa style monitors, the application will enter a waiting list. So what's the advantage of that?