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SUBJECT: Special Condition and Cleanup Procedures

There are two things currently called conditions that really are not conditions. The first of these, the cleanup mechanism, is really a means of specifying an action to be taken when a particular activation of a procedure is to be aborted by a non-local transfer. The cleanup mechanism, conceptually, has nothing to do with conditions. The second of these, the unclaimed signal mechanism, is a means of specifying a default handler for when no specific handler for a raised condition has been established. Unclaimed signal is not, in itself, a condition, it is only an indicator of a default action to the condition mechanism.

A new feature similar to **unclaimed signals has been proposed**. This new mechanism could indicate a local default handler for the case where no specific handler has been established for the raised condition in a particular activation (stack frame) of a procedure. This new feature has been known as the "matches\_all", "all", or "any" condition .

This new local default mechanism would fit into the condition signalling mechanism as follows. When a condition is raised a search is made for a handler. Each stack frame in the stack is searched for a handler for the condition. If no handler is found for the condition in a particular stack frame the local default is invoked if one exists for that frame. If not the search is continued in the next frame. If no specific handler or local default handler is found in the current

stack the most recently established global **default handler** (unclaimed signal handler) is invoked. If no global default handler has been established, the crawl out mechanism is invoked.

In order to make clear that there is a difference between the above mentioned mechanisms and true conditions, the manner in which they are established should be distinct. In other words establishing a global and local default handler as well as establishing a cleanup procedure should be performed by separate routines, not the normal handler establishing routine, `condition_`. This has the secondary benefit of not necessitating the reservation of the special names "cleanup" and "unclaimed\_signal".

By separating out these special mechanisms we will also be better able to take advantage of their special properties thereby enabling us to ~~make~~ the entire condition mechanism more efficient.

In order to implement the above proposals the following calls would be implemented:

```
call establish_cleanup_procedure_ (proc);
call set_local_default_handler_ (handler);
call set_global_default_handler_ (handler);
```

where `proc` and `handler` are entries. Calls would also be provided for reverting the handlers. For compatibility purposes the condition mechanism would continue to recognize the current methods of establishing these special handlers for some period of time.