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Document 1001 Rut.

Dear Friends,

I am not too astonished that such things as mentioned in P. Naur's letter could happen. However I object to the remedy proposed, because it is aimed at the particular occurrence rather than at the root of the trouble. In addition there are other troubles which P. Naur's proposal does not remove. For instance in

procedure x(a,b,c); c: = a/b;

there is no way of telling whether some of the parameters are integers (or complex, high accuracy in case of extensions). To write

procedure x(a,b,c); begin integer b; c: = a/b end

as I was advised to do, would render b local and therefore is absolutely impossible.

Furthermore, in

procedure x(a,b,c,d);

begin

⋮

⋮

⋮

⋮

⋮

⋮

⋮

⋮

A(b,c,d,e)

end x;

where some of the parameters enter directly into the parameter list of the call for procedure A, there is no means to distinguish whether b,c,d are real, integer, Boolean, switches or procedures, unless A is declared within X.

There may be a lot of other trouble ahead, and therefore I believe we have to revise procedure statement and declaration in order to remove the true source of the trouble. Now it is easy to see, that with the new decisions, we do not give enough information about parameters in the procedure statement as well as in



the procedure declaration and therefore I propose

- a) Reintroduction of the "heading declarations" in reduced form (not as much as in document 2).
- b) To repeat these declarations with the call in case there is no compound containing the call and at the same time a declaration for that procedure.

Takio

That would mean (except for name {name part} which I omitted)

```
{procedure declaration} ::= procedure { procedure heading};  
                           {procedure compound}  
{procedrue heading} ::= {procedure identifier}{formal parameter  
                           part};{reduced declaration list}  
{reduced declaration list} ::= integer {identifier list}|  
                               Boolean {identifier list}|  
                               procedure {identifier list}|  
                               switch {identifier list}|  
                               array {identifier list}|{empty}|  
                               {reduced declaration list};{reduced declaration list}  
{local procedure statement} ::=   
                               {procedure identifier}{actual parameter part}  
{Global procedure statement} ::=   
                               {local procedure statement}{reduced declaration list}
```

This clearly shows what is going on and takes care of all situations I could think of so far. Probably we do not like it but I do not like the restrictions imposed by P. Naur's proposal either (I am sorry but this is my opinion).

Please convey your opinion to P. Naur.

Sincerely yours,

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matics  
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P.S. When in the train I suddenly realized that according to our general rules a global declaration is a contradiction in itself, I was unable to find out whether global declarations are now part of Algol-60. How is that?