11.1. ALGOL 60 MAINTENANCE.


20.10.60.

Thank you very much for sending the copy of your letter to P. Naur on the ALGOL maintenance group to which we felt it desirable to react immediately, since the establishment of this group raises several important questions.

11.1.1.1. We are strongly against forming a similar European group in parallel to an American one since this might either finally lead to two different ALGOLs or be the first step to establishing committees on a purely national basis with each country having its own representation irrespective of active membership.

We therefore strongly urge that your alternative proposal be adopted, i.e. that your group be expanded to include all organizations actively working on or with ALGOL without any restrictions with regard to location.

As a first step in the direction proposed we hereby apply for membership in the ALGOL maintenance group.

11.1.1.2. There is another point which is quite independent of the way organization and procedure on ALGOL maintenance is set up. We are somewhat concerned over the 'change' part of the official aims 'interpretation and changes of ALGOL' of the group. We are quite convinced that you will do everything possible to dampen possible ambitions of members of the group to enter improvements apart from corrections of ambiguities into the language at an early date. However, we would like to be sure that all members of the group are fully aware of the fact that in Paris all committee members were agreed that for some time to come the report should not be touched except in the case that ambiguities should arise which somehow must be removed. Therefore we feel that all definite changes not necessitated by ambiguities although they might and even should be discussed very thoroughly, should be shelved for a period of two years at least as far as definite action (or rather official approval) is concerned. Even removal of ambiguities should be done in such a way that the actual changes of the report are minimized. In many cases the proper way of dealing with ambiguities would be to accept them as what they are that is things undefined in the sense of the report, and for the time being to agoll voluntarily on restrictions of the language removing the ambiguity.

The remainder should be settled by adding a few explanatory remarks to the report without changing the latter.

To detect, and by such simple means eliminate ambiguities ought to be the main job for any ALGOL maintenance body now. Changes to remove ambiguities in a more general and formal way should be made only after careful discussion and practical experience at a later date.

Indeed it is our opinion that ALGOL should be established as a proven means of communication and programming before any further 'improvements' of the language itself are undertaken.
In this connection the project of the 'Taschenbuch' of algorithms to be published by Springer deserves serious considerations. Preparations have now reached a state where the editors are forced to freeze the language to be used which will be described in detail in an introductory volume. It is obvious that the ALGOL version thus described will have to be used throughout the entire Taschenbuch, and at least for the near future any changes in ALGOL would simply have to be disregarded.

If such changes were made, the people for whose benefit both ALGOL and the Taschenbuch were intended in the first place namely the large class of engineers and scientists who have to do extensive numerical calculations without knowing much about computers and logics, will be the ones to be most seriously inconvenienced by the confusion arising out of different versions of ALGOL. Obviously all this holds for the algorithms reproduced in your Comm ACM department as well. Therefore we feel that any improvements implying changes of ALGOL 60 would not nearly counterbalance the damage done to what might be called the general computing public, and this should be our main concern.

11.1.2. Comment from M. Woodger. 25.10.60.
'I would draw attention to the last three paragraphs of AB 4.1. It seems to me that the European group already exists in the form of the AB group and the European ALGOL Committee. There is, one hopes, not much maintenance to be done, but interpretation is always very important. There is need for a published detailed description of a translator, officially agreed to perform the intended actions.'

11.1.3. Letter from H. Rutishauser. 15.11.60.
After reading all proposals and counterproposals to remove the imperfections of the ALGOL-report I am now convinced that in order to avoid utter confusion, we have to maintain the ALGOL word by word as it stands now. In order to avoid ambiguity we simple should not use the elements which are not properly defined. I think that these elements are now known well enough; but for completeness you may list them again in the next ALGOL-Bulletin. I am sorry that I have to revise my opinion but in view of the danger involved I am now strictly against any changes of the ALGOL-report.

11.1.4. Remarks from C. A. Petri.
11.1.4.1. We fully agree with the US group on the whole of 10.1.10.5. (ALGOL Actions Taken) and we authorize you to make use of our approval at your discretion.
11.1.4.2. In the matter of a European counterpart of the US ALGOL Maintenance Group, we definitely prefer the solution of a separate European group with the ALGOL-Bulletin as an official organ and as primary communication channel. If Mr. Naur is willing to continue his valuable services that European group could be regarded as existing, without any major organizational changes.
11.1.5. Report of the Working Conference on ALGOL

Moscow, 16th November 1960.

(Editor's note: This report was submitted in Russian. Considering its importance I have made an exception to the rule that contributions must be submitted in English. The translation is mine and may not be correct in all details. Corrections from participants of the Moscow conference are welcome.)

The contents of AB 10 were considered at a working conference on ALGOL which took place on the 16th November 1960 in Moscow. The conference was attended by representatives from the following organizations:

1. The Steklov Mathematical Institute of the Academy of Sciences of the USSR.
2. The Mathematical Institute of the Siberian Branch of the Academy of Sciences of the USSR.
3. The Computing Centre of the Academy of Sciences of the USSR.
4. The Computing Centre of the Moscow State University.
5. The Faculty of Mathematical Mechanics of the Moscow State University.

The recommendations presented in this letter represent the common point of view of all participants.

11.1.5.1. The participants of the conference feel that a continuation of the common work on the perfection and sharpening of ALGOL is necessary.

11.1.5.2. As to the alternatives raised by Dr. Wegstein we prefer the creation of a European group rather than a fusion with the American group. The organization in Europe of a separate discussion center will accelerate the exchange of mailed information, will simplify the establishment of possible personal contacts and will make the work as a whole less troublesome.

11.1.5.3. We already find the arranged form of discussion used in the ALGOL-Bulletin generally convenient, but we are also ready to consider other possible forms of discussion.

11.1.5.4. We are in favour of the voting procedure proposed by the American group.

11.1.5.5. The organizations taking part in the working conference on ALGOL express their preliminary agreement to enter into the European ALGOL group.

11.1.5.6. Corrections to ALGOL.

11.1.5.6.1. The conference worked out recommendations relative to the proposals of P. Naur and the following discussion. A corresponding letter will be sent in a few days.

11.1.5.6.2. We realize that the problem of the correct evaluation of expressions in ALGOL 60 presents a rather difficult problem which has not yet been solved at the present time. At the same time we do not wish to solve this problem at the cost of restrictions in the possibilities of the language. In particular we do not agree with the proposal of Woodger (AB 10.1.5). We intend to submit a series of proposals on this question not later than the 1st January 1961.

On the behalf of the participants of the conference:

E. Z. Lyubimski, The Mathematical Institute of the Academy of Sciences of the USSR.
A. P. Ershov, The Mathematical Institute of the Siberian Branch of the Acad. of Sc.
E. A. Zhogolev, The Computing Center of the Moscow State University.
M. R. Shura-Bura, The Faculty of Mathematical Mechanics of the Moscow State University.

The conclusions based on the above points of view as to the action to be taken in the present situation clearly must be a compromise. Even so, as I see it, the divergence of opinion is much less pronounced than it might have been and there ought to be a good chance of arriving at a solution which is acceptable to all concerned. The primary basis for this must, I feel, be the urge, expressed strongly and aptly by Bauer and Samelson and by Rutishauser, for moderation in our activity directed towards the final adoption of official changes to ALGOL 60. There is no need for me to repeat the arguments, but I would like to put this consideration forward as being probably the only really important one since it is concerned with the very existence of ALGOL as a unique well defined language.

Secondly, on the question of removing the imperfections of the ALGOL 60 report: If we feel that there is even just the slightest danger that clarifications might be mixed with changes then obviously our moderation must extend to the final adoption of clarifications as well. A final decision on this latter issue may of course also be influenced, partly by the practical inconvenience in postponing the final clarification, partly by the present state of the discussion of the known imperfections. As I see the situation all these considerations point in the same direction. In fact, the imperfections so far discovered in the ALGOL 60 report will have no effect whatever on any practical use of the language that I know of. At the same time valuable and relevant suggestions for improving the formulation of the report are continuously being put forward.

As a first conclusion I would therefore like to suggest:

Suggested conclusion no. 1:
For the present, and until a specified date, no changes of the wording of the ALGOL 60 report will be officially adopted. The date in question should not be earlier than 1st January 1962.

The second conclusion which may be drawn from the above expressions of opinion is that there is decided preference among non-American correspondents for maintaining a separate European mechanism for discussion. At the same time the voting rules established by the American group have met with some positive approval. I would therefore suggest:

Suggested conclusion no. 2:
Official changes to the wording of the ALGOL 60 report (subject to the Suggested Conclusion no. 1) will, as far as non-American workers are concerned, be adopted by a so-called European ALGOL Maintenance Committee. The rules for membership and of formal procedure will be the same as those of the corresponding American Committee (AB 10.1.10.3 points 2 and 3).

As to the practical question of distribution of information we at Regnecentralen are willing to continue the circulation of the ALGOL Bulletin at least for the time being. Perhaps this means that the actual establishment of the European Committee according to the Suggested Conclusion no. 2 may wait until the final adoption of changes must take place, i.e.:

Suggested conclusion no. 3:
The European ALGOL Maintenance Committee will be formed only when final adoption of changes to the wording of the ALGOL 60 report must take place.

Comments and objections to the above three Suggested Conclusions are invited. No comment will be taken to mean approval.