instead they will be cleaned up and returned to the students.

SHRI MADAN LAL KHURANA: Is it possible to clean P.T. shoes?

PROF. M.G.K. MENON: I am talking about all the equipment in general. (*Interruptions*)

[*English*]

Computer-Assisted Sanskrit Teaching and Learning Project

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*188. SHRI L.K. ADVANI:
SHRI SHANKERSINH VAGHELA:

Will the PRIME MINISTER be pleased to state:

(a) whether the Sanskrit Vidya Peeth and the Jawaharlal Nehru University with the support of Department of Electronics are working on the project Computer-assisted Sanskrit Teaching and Learning;

(b) if so, the progress made so far in each of the institutions; and

(c) the estimated expenditure on the project and in what way Sanskrit teaching and learning would be helpful by the work being so done?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE DEPARTMENT OF EDUCATION IN THE MINISTRY OF HUMAN RESOURCE DEVELOPMENT (PROF. M.G.K. MENON): (a) to (c). A Statement is laid on the Table of Lok Sabha.

STATEMENT

(a) The project on development of "Computer Assisted Sanskrit Teaching/ Learning Environment" was started at Jawaharlal Nehru University (JNU) in June, 1988 and at Lal Bahadur Shastri Kendriya Sanskrit Vidyapeeth in November, 1989.

(b) Nucleus Software System has been designed which would be used in implementing the Teaching/Learning lessons and exercises. Further, two lessons have been designed; one deals with teaching alphabets and their properties and another deals with Sandhis.

(c) Total estimated expenditure of the project at the two institutions is Rs. 10.9 lakhs.

These proposed software packages would be available as supplementary instructional aids to facilitate drill and practice, and remedial exercises relating to sentence/ text structure, vocabulary, comprehension, production and evaluation. The packages are expected to improve Sanskrit language studies and to open up new avenues for linguistic research.

SHRI L.K. ADVANI: It was five years back that certain articles appeared in various journals that NASA Army Research Centre and some of the experts in the field of computer technology have reported that a 20 years research for a human language which can meet computer's needs has ended in discovering Sanskrit as being ideally suited for that purpose. I recall that my colleague put a question in this regard in the other House and in reply to which the Government answered that they were aware of this discovery but more research was necessary before this hypothesis can be supported or ejected.

My first question is whether Government of India has made any research in this regard because I would think that this is a matter in which we should be more interested than any other country of the world and because if this is true then it opens up vast potential in so far as creating software in this country for export of the whole world is concerned and so my first question relates to what follow-up action has been taken in pursuance of this discovery and the assur-

ance given to Parliament that more research would be undertaken.

PROF. M.G.K. MENON: I think the hon. Member has raised a very important and interesting question and I would like to say that we are aware of these developments which relate to the structure of Sanskrit as a language and the possibility that this structure and its grammar will play an important role from the view point of languages in the broad sense. There is a Centre for Development of Advanced computing under the Department of Electronics which is in Pune and I can show the hon. Member papers which have been published by them. One of the titles is "Panini as model for intelligent natural language process." So, studies of this nature are being conducted and this is part of a total system which relates to the whole question of knowledge-based computer system development programmes. But, however, a great deal of work needs to be done and I must point out a very basic problem which one encounters here. Very large numbers of those who deal with computers are, however, not very familiar with Sanskrit. Many who deal with Sanskrit as a language are not familiar with the computer. So, this is an inter-disciplinary area and we are trying to bring the groups together. But I fully agree with the hon. Members that this is an area for significant development.

SHRI L.K. ADVANI: Mr. Speaker, Sir, I am sorry that the question that I had posed had not been answered precisely because according to my information till now, though the Department of Electronics is 20 years old, not a single delivery of computer-based language education programme has been done. According to my information during the last five years not a single meeting has been held between the Department of Electronics and the Department of Science and Technology to exchange research results of different projects because in this particular case, as the hon. Minister has rightly said that those who are familiar with computer technology are not familiar with Sanskrit and those who are expert in the field of a Sanskrit are unfamiliar with the field of computer technology. Still I feel somewhat sad that no concrete effort has been made in this direction. Therefore, my formal question is; Would the Government consider setting up of an Integrated Single System to implement specific targets to follow up this particular discovery which is very vital for India? It may not be vital for experts in the field of computer technology but it is very vital for India.

PROF. M.G.K. MENON: Sir, first of all, with regard to the question of a Single Integrated System, there is an Eighth Five Year Plan Programme of the Department of Electronics which relates to technology development for Indian languages. This will cover not only Sanskrit but all the other Indian languages and will cover various aspects which relate to the machine, human interface, translation and so on and so forth. This is a programme which will be taken up on a significant basis during the next Plan period. The total allocation asked for this at the present moment is Rs. 17 crores.

SHRI P.R. KUMARAMANGALAM: There are several questions right from the beginning which have been addressed to the Prime Minister. It is rather unfortunate the way he is treating the Question Hour because he is absent. Courtesy demands that he should be present here now. It is not that I mean any ill-will to Prof. Menon. Normally the Prime Minister presence is required during the question hour when questions are addressed to him. There are several questions addressed to him. I would be grateful if the hon. Speaker permits me to say...

SHRI SOMNATH CHATTERJEE: Will you first put a question on this subject. (*Interruptions*)

SHRI P.R. KUMARAMANGALAM: My question is specific. Question No. 205 is also connected to this. The hon. Minister has answered to the first part. Question No. 205 is really connected to this question to the extent of Indian languages and the development with regard to that. I would like to know whether any soft-ware with regard to the

development of learning systems; development of machine translation systems and development of Human-Machine Inter-face systems with regard to language Sanskrit have been developed and delivered to any particular institution. Or, is it still in a nascent development stage? The hon. Minister has said that lessons have been designed. Have the designed lessons been delivered to any educational institution? Are the lessons available in the market? What is the situation? Or, is it still in the development stage? But it is unfortunate that the Prime Minister is not here. I hope, Mr. Speaker, you will convey my feelings to the hon. Prime Minister.

PROF. M.G.K. MENON: In the answer which had already been laid on the Table of this House, it has been mentioned that a programme relating to Computer-Assisted Sanskrit Teaching and Learning Environment was started at Jawaharlal Nehru University in June, 1988 and at the Lal Bahadur Shastri Kendriya Sanskrit Vidyapeeth in November, 1989. I think the time elapsed is too short from the view point of having something delivered in the market. What has already been done is the development of the nucleus soft-ware system which would be used in implementing the Teaching system. These packages would be available as supplementary instructional aids to facilitate drill and practice. The packages are expected to improve Sanskrit language studies. But this should be available in a reasonably short-time period i.e. by sometime next year.

[*Translation*]

SHRI DAU DAYAL JOSHI: The hon. Minister has stated that it is an eight year project but five years have already been wasted. The hon. Minister has also stated that the work was going on in Lal Bahadur Shastri Sanskrit Vidyapeeth and Panini's Grammar was being computerised. I would like to submit that I knew the way the previous Government had neglected Sanskrit as a result of which despite sanction of lakhs of rupees the work was not accomplished. So I would like to know the definite programme through which the Government would put an end to the neglect of the language and make amends for the carelessness of the previous Government.

[*English*]

PROF. M.G.K. MENON. As I mentioned, this is a programme in the Eighth Five Year Plan, namely, the question of technology development of Indian languages. And it will cover learning systems, machine translation systems and human machine interfaces. There has been considerable success in the sense of transliteration from one language to another. I can show the hon. Member the actual transliteration which has been done from one Indian language to another.

[*Translation*]

PROF. VIJAY KUMAR MALHOTRA: Mr. Speaker, Sir, he has given no assurance regarding a single agency for computer based education programme. Are you going to entrust. This work to a single agency; it may be Technical Education of Indian Languages Agency or any other agency. Will the hon. Minister assure the House that this single agency would be set up for this time bound programme.

[*English*]

PROF. M.G.K. MENON: This will be done under the auspices of the Department of Electronics as a single agency and the key institution for it which will coordinate this work is the Centre or Development of Advanced Computing.

[*Translation*]

SHRI HARIN PATHAK: Mr. Speaker, the hon. Minister has said that 10.9 lakhs or nearly Rs. 11 lakhs have been spent over both the institutional projects. This means that Rs. 5 lakhs were allotted for one project. I would like to know whether the Government wants to enhance the amount as the present amount is inadequate.

PROF. M.G.K. MENON: The hon. Member said that the amount was inadequate. I wish to submit that the main expenditure in the project is only on the microprocessors and mini computers. What matters is the people who would be engaged on this project. It is not a question of spending crores of rupees on computers but of planning the things properly.

SHRIMATI VIJAYARAJE SCINDIA: I would like to say that since Sanskrit has been claimed to be a scientific language by people working on computer technology all over the world and in India, why more time is being taken by mixing it up with other languages? I would like to know the views of the hon. Minister on this issue.

[*English*]

PROF. M.G.K. MENON: I would like to first point out the technical aspects of this. Which is that we will first have to follow the roots of experimenting on the rules of grammar of Sanskrit which are well-established Pananian Grammar and then using these rules in other languages. Thereafter one can go on to see if Sanskrit itself can be used as a programme language. This is there for an area for significant research. One has embarked on it. I think we will make good progress because as the hon. Member Advaniji mentioned earlier, this is an area where we have specialised capabilities in the country and we ought to capitalise it; I hope you will agree with me.

Commercialisation in Education

*189. SHRI GANGA CHARAN LODHI: Will the PRIME MINISTER be pleased to state:

(a) whether any effective steps are contemplated by Government to immediately curb the growing menace of commercialisation in the system of education; and

(b) the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE DEPARTMENT OF EDUCATION IN THE MINISTRY OF HUMAN RESOURCE DEVELOPMENT (PROF. M.G.K. MENON): (a) and (b). A statement is laid on the Table of the House.

STATEMENT

(a) and (b). The Central Government has been taking persuasive and preventive measures to curb commercialisation of education. It has urged upon the State Governments to take steps to prevent charging of capitation fees. The Central Government have enacted the All India Council for Technical Education Act, 1987. Under the Act, AICTE has been vested with statutory powers for the coordinated and integrated development of technical and professional education in the country and to prevent its commercialisation. Under the provisions of the Act all institutions of technical education, Government or private, will have to observe the norms, standards and guidelines prescribed by the AICTE in respect, inter alia, of fees, admissions, curriculum etc.

The University Grants Commission (Amendment) Act, 1984 (Act No. 59 of 1984) also empowers U.G.C. to lay down regulations in respect of fees to be charged and it also forbids a university/college to charge, directly or indirectly, any payment otherwise then by way of fees, or any donation or gift.

As regards medical education, the Indian Medical Council (Amendment) Bill, 1987 provides for regulation of fees, deposits etc. payable by students. It also prohibits collection of capitation fee, donation etc. by Medical Colleges or persons in charge of their management. The Bill was referred to a Joint Parliamentary Committee which submitted its report to the Parliament on 28th July, 1989.

[*Translation*]

SHRI GANGA CHARAN LODHI