chemical engineering industries in the country, should be immediately taken up for serious consideration. The country possesses the necessary equipment and talent; we have large foundries and machine shops and skilled and capable workmanship is available. We may be lacking in some of the specialised materials of construction like stainless steels and special alloys, but we could, for the moment, do without them. It is a matter of profound regret that the Central Government could not see their way to subsidise Sir M. Visvesvaraya's scheme for founding an automobile industry in this country, as this would have facilitated the establishment of the chemical engineering industries by providing the necessary background. The present opportunity should not be lost in laying the foundations of this industry on sound lines.

The Government of India have suggested that Indian Manufacturers might prepare a consolidated statement of their requirements of heavy chemicals and obtain them through Messrs. Imperial Chemical Industries, who are in close touch with the world markets with regard to these commodities. While this arrangement will provide a temporary and easy solution to the problem, this remedy will, in the long run, prove worse than the disease, as it will only serve to perpetuate our dependence on foreign supplies to nourish our industries. The Central Government should take a broader and more generous view of the problem and help the establishment of these key industries in the country. Such a step would be in the best interests not only of India, but also of the Empire. The industrial prosperity of Canada, Australia and other Dominions, has proved to be a source of great strength to Britain in the present crisis; flourishing chemical and engineering industries in India would, in a similar manner, constitute great assets to Britain in war as well as in peace.

It is for the Central and Provincial Governments to move in the matter of organising and mobilising the material resources and technical talent and help the country to enter on the second phase of industrial development. It would be a grievous mistake if the Government should lose this opportunity. A Board of Scientific and Industrial Research or a National Research Council should be constituted to deal with all the aspects of the problem. The Industrial Research Bureau which is now miserably staffed and financially starved, may be reconstituted into a bigger and more comprehensive body and provided with ample funds to finance schemes of industrial research.

ALCOHOL AS MOTOR FUEL*

Now that a beginning is being made in India in the use of alcohol for mixing with petrol as fuel in motor vehicles, trials conducted elsewhere on the suitability of such mixtures should be both valuable and interesting. The report of an elaborate trial with alcohol used nearly straight and in mixtures of varying proportions with petrol for driving a motor car appears in the *Philippine Agriculturist* 28, No. 2 (A. L. Teodoro, Fifty thousand kilometres on alcohol as motor fuel). The trials relate to two groups, one comprising the use of nearly straight alcohol (gasoline being only 3% and 5%) and the other comprising mixtures in which the gasoline was 10, 30, 50, 70, 80 and 90%. The car used in the trials was a De Soto De Luxe Sedan (1929 model) which had run on gasoline for four years during which a distance of 10,678 miles had been driven. Slight alterations were made to the car before the trials such as, enlarging the diameter of the high speed metering jet, and of the area of the pump discharge jet; ignition timing was set 5 to 14 degrees ahead of the usual adjustment for gasoline, and idling adjustment was changed according to the kind of alcohol motor fuel used. Details of the behaviour of the engine in respect of starting, acceleration, power, engine wear, corrosion and economy of operation are given in full. Likewise for each one of the fuels used particulars under working conditions and of the number of miles driven are also given, with full numerical data, for all of which reference to the full report is commended. As the result of these trials in which quite 50,000 kilometres were run it is concluded that the car performed very satisfactorily on these alcohol fuels for a period of five years. No difficulty was encountered in starting except when the engine carburetion and ignition systems were faulty and when the driver improperly used the choke. As much power as could be produced with

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gasoline was obtained with the alcohol fuels. No sticking of the piston valves was noted. The mileage increased as the amount of gasoline increased in the mixture; thus with the nearly straight alcohol fuels the mileage was only from 8.9 to 9.8 miles per gallon, while with the gasoline mixtures the mileage rose to 11.3, 12.7, 14.4, 15.3, 16 and 17.4 as the gasoline percentage rose from 10 to 30, 50, 70, 80 and 90% respectively. For the proper utilization of nearly straight alcohol proper adjustment of carburetion and ignition and care in manipulating the parts which control these systems are specially mentioned as requirements.

A. K. Y.

ANNOUNCEMENTS

Workshop on Recent Advances in Chromatographic Techniques

Place: Madras
Date: 14–20 December 1989
Contact: Dr B. Sivasankar
Centre for Biotechnology
Anna University
Madras 600 025

Workshop on Management of Research and Development

Place: Pune
Date: 20–24 January 1990
Contact: Programme Coordinator
Engineering Staff College of India
Visvesvaraya Bhavan, Khairatabad
Hyderabad 500 004

Workshop on Clinical Pharmacokinetics

Place: Lucknow
Date: 26–29 March 1990
Contact: Dr P. K. Grover
Pharmacokinetics and Metabolism Divn
Central Drug Research Institute
Lucknow 226 001

Ninth Annual Convention & Conference of Society for Information Science

Place: Goa
Date: 18–20 January 1990
Theme: Local Area Network (LAN): Its significance in information system
Contact: Dr P. C. Bose
Society for Information Science
PID Building
Hillside Road
New Delhi 110 012

A Six-Week Course on Wind Energy for Water Pumping

Place: Enschede, The Netherlands
Date: 5 February to 16 March 1990
Contact: Reading/CWD Wind Energy Course
C/o Consultancy Services Wind Energy
Developing Countries
P.O. Box 85
3800 AB Amersfoort
The Netherlands