Adv. 5.9.35

POWER—NATIONAL AND MECHANICAL

Basic Human Need

PROBLEM FOR THIS STATE

The address delivered at the opening of the Norwich congress of the British Association, by Professor Debenham, and summarised in our cable news this morning, will be read with special interest, in the light of this thought-provoking article by the lecturer in chemistry at the University of Adelaide.

By W. Ternent Cooke, D.Sc.

IT will be conceded generally that the foremost material requirement of mankind is foodstuffs, and that the second in importance is clothing and housing of some sort—shelter from climatic and weather exigencies. After these two needs, a subsidiary list of requirements might be compiled which would lengthen according to man's status of material civilisation, and would vary according to the national and personal bias of the compiler.

An analysis of such a list would show that the majority of the items could be, so to speak, reduced to a common denominator, shown to be dependent very largely on one common requirement, that of power, mechanical power mainly, but power also in the form of heat and electricity. Reflection tells us that it is impossible to rest one's eyes on anything around one that is utilisable without, or has been fabricated without, the help of power, either muscular or artificially produced.

Further, our latter day and intensely mechanised civilisation has raised the need for power into such prominence that it ranks as part and parcel of our need for food and shelter. No country can grow its full quota of food and shelter requirements in the immediate neighborhood of its main centres of population, and some nations cannot grow all the food they need; hence the question of power for food distribution becomes a phase of the food supply. Again, few countries produce any large proportion of foodstuffs without the use of power-consuming machinery, or without artificial fertilisers manufactured by the aid of power.

Through History

The demand for cheap power runs like a thread through history. The prestige of bygone nations can be gauged roughly by the amount of cheap man-power at their disposal. Ancient ruins, and such relics as the pyramids of Egypt, indicate the abundance of cheap labor available, acquired often as slaves taken as prisoners of war. For the performance of manual and many other forms of work, the Roman Empire depended largely on slaves. The Feudal system of the Middle Ages was based on serfdom, a modified form of slavery; and later, for the retention of slave labor, the Southern States of America were prepared to go to the extent of fighting a civil war.

With the introduction of steam power, roughly 150 years ago, a new aspect, but no new principle, obtruded itself. The direction of the search was altered for the purpose of obtaining supplies of coal, and, incidentally, of iron ore, to supply cheap power. Human muscular energy sank in value; it was of poorer quality than machine power; and so we find the appalling social conditions produced by the operation of the "factory system," evincing the innate ruthlessness of the struggle for cheap power.

Coming to quite modern times, it matters little that coal has been replaced, to a small extent, by water power, and to an appreciable extent by oil, that all three can be utilised much more efficiently, and also that other metals can replace iron to no small extent. These factors have but served to intensify the demand for power. In all countries the per capita consumption of power is increasing, and it becomes more and more apparent that one of the most valuable natural possessions of a people is a supply of potential mechanical power.

Power And Weakness

Up to the present, it has not been found practical to transmit energy itself over great distances without considerable loss, so that a nation or even a section of it, perhaps, which lacks local power resources will be at a disadvantage; its advancement will be dependent on the attitude and resources of other peoples. Conversely, the possession of natural power, coupled with the ability to exploit the same efficiently, places a people in a position favorable to the assertion and maintenance of such independence as they desire.

Such considerations have played a distinct part in accentuating that spirit of nationalism and self determination so noticeable in recent times. The use of brown coal deposits in Germany and in Czecho-Slovakia, oil shales in Esthonia, petroleum in Rumania, water power in Scandinavia and in Switzerland, to select a few examples, have been helped to foster, and if anything to intensify, the spirit of independence engendered in earlier days by geographical and other natural considerations. The fertility of a country is not to be measured nowadays solely by the extent of its arable lands and pastures.

Examples from nearer home are not wanting. The coalfields of New South Wales gave to that State a particular prominence for many years. The exploitation of the famous Yallourn deposits of lignite in Victoria, was in the nature of a final challenge by that State to any interference by outside economic influences pertaining to power supply. Queensland and Tasmania, having considerable supplies of coal and water power, are reasonably immune from interference. Western Australia, having but moderate supplies of coal, is in a position to make but moderate protest, while South Australia is in the weakest position.

For this State, a cheapening of power costs might be as valuable as an additional inch or two to the annual rainfall, while an indigenous supply, or even a partial supply, of power at a somewhat enhanced cost, perhaps, would confer on South Australia an independence of action which has been challenged on several occasions during past years. Power requirement is a national question, and merits consistent national attention even when, in a day of universal "self-sufficiency," it cannot utilise this advantage as in pre-tariff and prequota times, it is something to be independent of outside supplies, as the nations of Europe are, in their various ways, struggling to make themselves.

Ever since the first World Power Conference more than ten years ago, the need to increase the sources of mechanical power has been agitating the Old Country. Mr. Baldwin, who has shown a deeper interest in, and greater knowledge of, this question than most statesmen, has justly claimed for Britain that, thanks to the compactness of her industrial areas, the density of their population, and their proximity to the coalfields, is as well provided as any country in the world with facilities for the limitless creation of mechanical power. Of this power, Britain uses less per head than America; but, with the schemes now projected, it is expected that, in no distant future, electrical energy will be consumed in Britain on as large a scale per head as it is in the United States. It is of vital importance that it should be; for it is hopeless for the Mother Country to think of paying off her national war debt, even when reduced by agreement to manageable proportions, without vastly increasing the productivity of labor. One great advantage which Britain has over all other countries except America, is in her facilities for the production of machinery, so that she is saved the Customs duties which prevail in countries foolish enough to impose them on the tools of trade. But, whatever economies science may have effected in the utilisation of power, the agencies whereby it is at present generated are, as H. G. Wells has insisted, not unlimited; and, once gone, they cannot be replaced. They are not like the things with which a country can supply itself from other countries when it has run short; for our imports from other spheres, as the philosophic novelist says, do not extend beyond meteorites; though it was conjectured by Kelvin that it was by these that life germs may have reached our planet. The hopes of our posterity may have to rest on the discovery of new sources of energy, among which may conceivably be included the power which Professor Debenham expects may be derived from the blizzards which at present are going far to render a large part of the new continent the most uncomfortable place of residence on the planet.

News 5.9.35

Machine Proves Men Think More Quickly Than Women

THE question whether women can think more quickly than men has often been raised, frequently with a great deal of feeling, but it was settled very definitely, once and for all, at the University Medical Conversazione held last week.

There was displayed a machine which measured with an accuracy of one-hundredth part of a second, what is scientifically called the reaction time or "personal equation." This is the time that it takes a person to react to a stimulus which may be one of a series of colored lights or some kind of noise such as an electric buzzer.

The machine which measures this is called a phonic chronoscope, and aroused a great deal of interest at the exhibition. Alcohol has a retarding effect on a person's reaction time, and a notice above the instrument said, "Are you under the influence of alcohol?"

The average time taken by men to react to a light stimulus was 0.6 of a second, while women took 0.9 of a second.

The quickest time recorded by men was 0.2 sec., while the woman champion could manage only 0.4 sec. This machine really measures the speed of thought, and might be useful in testing cases of alleged drunkenness.

Several of the medical students offered to show the visitors how alcohol would slow down their speed of thought provided that those interested would guarantee an adequate supply of beer. Needless to say the public were quite willing to accept the word of those demonstrating.

The machine is quite impersonal and cannot lie even if it wanted to, so the public must accept the verdict of an impartial judge, that men can make up their minds more quickly than women.

News 5.9.35

FULL STAFFS IN SYDNEY HOSPITALS

5 SEP. 1935

Adelaide Contrast

SYDNEY, Thursday.—Interest has been taken here in the statement by Sir George Ritchie that conditions in Sydney hospitals were no better than at the Adelaide Hospital.

Hospitals in Sydney are fully staffed with resident medical officers.

Sydney Hospital, in the heart of the city, in particular can give every care to patients.

There are 400 beds and 26 resident doctors on the staff. The medical superintendent (Dr. Telfer) and the other doctors work harmoniously, and cases are given adequate and competent treatment.

At Royal Prince Alfred Hospital there are 568 beds always fully occupied and 27 resident doctors on the staff, controlled by a medical superintendent.

[There are 15 resident doctors, including the medical superintendent, and three medical registrars caring for 550 inmates of the Adelaide Hospital.]

The appointment of Mr. G. A. Frayne, B.D.S., as honorary dental surgeon at the Adelaide Hospital was approved in Executive Council today.

Adv. 6.9.35

REVISED FEES FOR EXAMINATIONS

5 SEP. 1935

Efforts To Obtain Reduction

The chairman of the Unley High School Council (Mr. T. E. Yelland) said yesterday that the revised fees for University public examinations that will come into operation for the examinations in November would not relieve the situation. His council had already made emphatic requests for a reduction in such fees, which it thought should not be used to produce revenue, seeing that the Government granted the University approximately £45,000 annually. Surely after students had been brought to the education standard required, it should be made as easy as possible for them to obtain their University certificates. In these times of depression the University should have met the situation, and also made special provision for the children of the poorer class who could not afford to pay even the present revised rates.

At the last meeting of the Unley High School Council, it was decided to send a circular to each high school council, asking it to support Unley in an endeavor to obtain a reduction in fees for the University public examinations. The circular states that it is intended to approach the Minister of Education in the hope that he will act as intermediary.

Dr. Felix Arden, of Dulwich, will leave today by the express for Sydney, where he will join the Port Wyndham as ship's surgeon. He intends to do post-graduate work in England.

Adv. 6.9.35

MEDICAL AUTHORITIES VISITING AUSTRALIA

5 SEP. 1935

Will Attend Melbourne Congress

Two leading British medical authorities, Dr. R. Hutchison and Professor Edwin Bramwell, will pass through Adelaide this week to attend the congress of the British Medical Association in Melbourne.

Dr. Hutchison, who is president of the Royal Society of Medicine, London, and will arrive by the Anchises tomorrow, will preside over the children's diseases section of the congress. He has established a unique

Dr. Hutchison

Prof. Bramwell

record for B.M.A. meetings, having attended all the overseas meetings of that body since 1897. After the congress, Dr. Hutchison will give the first Sir Herbert Maitland memorial oration in Sydney, about September 19. Sir Herbert Maitland, who died in 1912, was a Sydney surgeon. Before leaving England, Dr. Hutchison met Sir Herbert Maitland's widow, who was paying an extended visit to Great Britain. Dr. Hutchison retired last year from the post of senior physician at the Children's Hospital, London, and the London Hospital.

Professor Bramwell, who is professor of clinical medicine at the Edinburgh University, and will arrive from Perth by train tonight, is president of the Royal College of Physicians. He is recognised as one of the leading authorities on the physiology of the human brain. At the congress he will preside over the neurology section. On September 18 he will deliver the annual Halford oration at the Institute of Anatomy at Canberra. Professor Bramwell is accompanied by his wife.

Dr. R. E. Priestley will represent the Melbourne University, of which he is Vice-Chancellor, at the jubilee of the Adelaide Medical School. He will leave Melbourne on Tuesday, September 17