CHEMISTRY—CONSERVATION—SOCIOLOGY

Chemistry Able To Destroy Our European Civilization

But If the People Wish, Science Can Create Abundance And Free Man Mentally; Current From Coal Predicted

"CHEMISTRY can and perhaps will destroy our European civilization", Dr. Harold C. Urey, Nobel Prize chemist of Columbia University, warned the American Association for the Advancement of Science meeting at Ottawa.

In the war machines of today, he observed, the important agents are chemicals, explosives, incendiary mixtures or poison gases.

If the people desire, he said, a very different future of chemistry can be painted. Science can produce an abundance of valuable goods, contribute to man's knowledge of the universe, free him from superstition and error and bring him intellectual freedom.

Profound modification of our social and economic institutions is seen by Dr. Urey from the greatly increased productive capacity for material things that chemistry and other sciences make possible.

"There is little doubt but that much of the unrest of the civilized world for the past 25 years resulting in revolutions, new systems of government and world-wide depressions, are all rather closely related to this productive capacity largely brought about by science," he said.

The 1929 economic catastrophe brought about a drop in chemical production that did not fit into the normal way that a new great industry would be expected to grow. Dr. Urey charged that "the masters of industry" may not have realized the natural course of their production but instead stubbornly tried to make production follow a curve of scarcity.

"Cowardly"

The idea that the cure of present bad economic conditions lies in decreasing artificially our ability to produce was termed "cowardly" by Dr. Urey.

Since the World War, no country has arranged its internal affairs in such a way that anything approaching the maximum production of material goods for peaceful purposes has been accomplished, he continued. The United States and Canada have succeeded better than any other country "due undoubtedly to a correct political philosophy, adequate resources, adequately trained men and freedom from threats of invasion." But there was some fatal defect that caused increasing unemployment and inability since 1929 to get production machinery going again.

If adequate chemical production for peace and not for war can be achieved, Dr. Urey foresees for the future:

Better clothes from better textiles, more beautifully dyed, produced with less effort. More wholesome food in greater variety and abundance, sufficient to support larger populations. Houses of materials as yet unknown, more durable, more beautiful and more easily constructed. Liquid fuels for autos and airplanes made from materials grown on farms. New medicines for disease.

Electricity From Coal

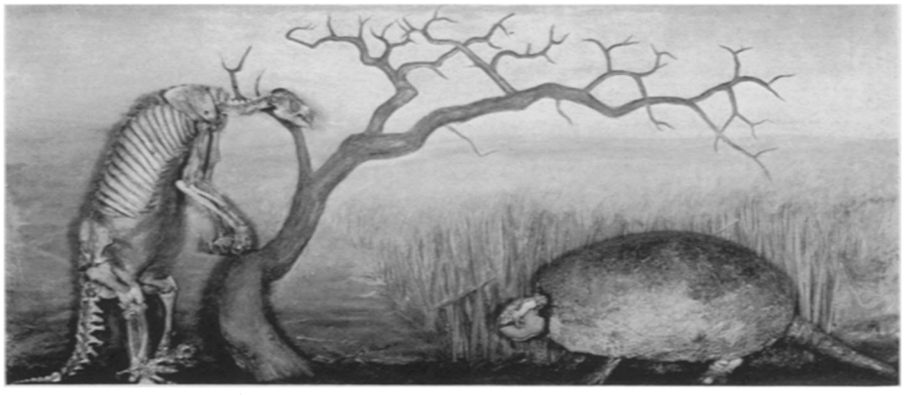
The inventor's dream of making electricity directly from the energy of the combustion of coal, without the present intermediary of steam, may be realized in the present generation, Marvin W. Smith, of the Westinghouse Electric and Manufacturing Company, forecast.

This revolution in power production would be accomplished if it were possible to use the electro-magnetic properties of the rapidly moving ionized products of combustion so that they may function properly with some electrical transforming device. The roundabout performance of burning coal, vaporizing water and whirling steam turbines, converting their mechanical energy into electricity by rotating electrical generators, would be rendered obsolete.

"Until very recently, these inventors' dreams remained very remote and seemed far from any practical realization," Mr. Smith explained. "However, with increasing knowledge of the fundamental properties of matter and a better understanding of the conduction of electricity in gases, recent calculations and experimental work indicate that this dream is not so hopeless as it once seemed, and that perhaps within the life of the present generation we may see static electrical devices extracting power from the kinetic energy of the gases of combustion without the intervention of rotating electrical machinery.

"Another very efficient method of producing electricity directly from fuel is by the use of the so-called 'gas cells', in which fuel, such as natural gas, is oxidized through electrolysis in such a way that the energy in the fuel is converted into electrical energy."

We may be able to live in a clean spring or fall atmosphere all the year around in any part of the earth, Mr. Smith predicted. Air would be cleaned and sterilized electrically, as well as controlled as to temperature and humidity



GROUND SLOTH AND GLYPTODONT

Mounted against a background partly painted, partly modeled in high relief, the skeletons of a ground sloth and a glyptodont, animals that lived during Pliocene times, before the latest great Ice Age, are displayed in a unique new exhibit in the Field Museum of Natural History. Their bones are well exposed for examination by scientists, yet their naturalistic poses and outlining prove interesting to the non-technical public.