ASTRONOMY

Bonnets for Street Lights Will Aid the Star Gazers

THANKS to modern electric street lighting, a generation of city children is growing up that has never really seen the stars.

Cows have been added to some zoological gardens because many children have thought that milk grows naturally in bottles.

Likewise, it is necessary to have planetaria, intricate projection devices that paint in light synthetic stars on artificial skies. There children and grown-ups who are sky-blinded by city lights may learn the constellations in the hope that some day they may venture into the restful darkness of the countryside and actually see them.

The great blaze of light that marks from afar a great city represents waste, light that is thrown up into the sky and serves no possible good. The suggestion has been made by Capt. J. F. Hellweg, superintendent of the U. S. Naval Observatory at Washington, that much of this upward wasted light could be reflected downward to the streets and pavements if each street lamp had a parabolic mirror for a hat. Considerable progress has been made in designing street light fixtures that put more of their light where it is needed, but Capt. Hellweg believes that more careful design and proper installation of reflectors would more than pay by allowing more adequate lighting or smaller bills for electricity.

In Capt. Hellweg's opinion, there would also be a military advantage in dimmer lights as seen from the sky because in time of war attacking airplanes would not find their targets so easily.

The sky lighting of great cities may become troublesome to those professional astronomers who man great telescopes. Stray light that brightens the sky hinders their seeing or photographing faint stars. As Washington has grown up around the U. S. Naval Observatory, its bright lights may become more troublesome although they have not yet seriously interfered with the regular positional observational work of the government astronomers.

Los Angeles, Hollywood, and dozens of towns lie below Mt. Wilson, Calif., on which is perched the world's largest telescope and lesser star mirrors. In future years if the glare of their lights increases in intensity, it may even interfere with the more delicate observations from that great observatory.

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to decentralization is better transportation."—W. C. Hamilton, Research Director, American Steel Foundries.

Future of Buildings

"We have had a large group working for four years to produce a cheap but modern house for the masses. A five room house, equipped with every article of furniture, linens, rugs, kitchen utensils, in a word, everything together with a garage and the lot with all improvements such as sewers, pavement, sidewalks, lawns, trees can be sold to the workingman for two thousand dollars, allowing adequate profit to the manufacturer, adequate time financing cost and every other similar type of expense,"—L. R. Smith, President, A. O. Smith Corporation.

"We are on the eve of a great development of refrigeration both in air conditioning of railroad cars, theatres, restaurants and private dwellings and refrigeration of foods."—E. C. Van Diest, President, General Service Corporation.

"The office building in the future will be a shell structure only, and interiors may be made available to tenants quickly and economically, and designed to suit their own particular needs. As one step in our own research program in this field, we put on the market about a year ago a new type of partition structure made from pre-fabricated units, which, combined with ceiling and floor units that we already had available, provide a complete interior shell for office buildings."—William R. Seigle, Chairman, Johns Manville Corporation.

"It is not unreasonable to expect the future to give us any desired comfort in the home at a cost within the reach of the majority and any desired food regardless of location or season of the year."—Wm. R. Hainsworth, Director of Engineering, Servel, Inc.

"Through the development of new and better devices in transportation, air conditioning, industrial processes, home applications and improvement in public health, we can expect in the next few years great improvements, the creation of new industries and new jobs through the commercialization of new scientific knowledge, which is now being obtained faster than ever before."—L. W. Chubb, Director Research Laboratories, Westinghouse Electric and Manufacturing Company.

Future of Communication

"Lithography and printing can now be appreciated only through the medium of vision. With certain modifications they can conceivably be made to appeal to the auditory sense as well."—Robert F. Reed, Department of Lithographic Research, University of Cincinnati.

"New avenues of approach to the use of ultra short waves have recently been opened. Multiplex transmission send-