

the greatest difficulty and may be impossible in the present state of our knowledge.

Dr. Abel is no novice in the field of purification of gland secretions. Three of the four extracts of the various ductless glands so far crystallized or brought to a very high concentration are checked up to his credit. In addition to the recent crystallization of insulin, he isolated epinephrin as a mono-benzoyl derivative from the extract of a ductless gland situated near the kidneys, and he has also prepared a highly purified and very potent tartrate, not yet crystallized, from extracts of the pituitary body. The fourth internal gland secretion to be purified is thyroxin, the extract of the thyroid gland of the throat region, which was crystallized by Dr. Edward Kendall of the Mayo Clinic.

BLUE AND ORANGE AUTO LIGHTS TO ELIMINATE GLARE

Use of blue or orange headlights on automobiles, depending on which way the car is running, may soon be common on our roads, and will lessen the possibility of accidents due to glaring lights. This is one of the essential features of a system advocated by Karl D. Chambers, of Asheville, N.C. and demonstrated by him to the summer meeting of the Society of Automotive Engineers.

Common methods of eliminating glare now in use were declared by Mr. Chambers to be of little value. Even with special lenses, which are supposed to keep the light below the level of the wheels, an approaching motorist may receive the full glare of another machine if it is coming over the crest of a hill, if the back of the other machine is loaded unduly, or if the headlight is slightly out of adjustment, he declared.

Dimming was also stated to be of doubtful utility, for when the eye is used to the bright lights, and they are suddenly dimmed, it takes from three to five seconds for the eye to become accustomed to the faint illumination. While this readjustment of the sensitive lining of the eye is taking place, the car going thirty miles an hour will travel from 132 to 220 feet while the driver is practically blind.

In his new system, Mr. Chambers takes advantage of the fact that a colored glass filter transmits light through it of its own color, but stops that of a complementary color. Two filters, one blue and the other orange, are attached to the windshield, ordinarily swung up out of the way, but when the blue filter is in place, a similar blue filter is automatically placed over the headlight, while when the orange filter is in use, the headlights shine with orange light.

The inventor describes the operation of his system as follows:

"If a car is going north, let us say on the Dixie Highway, and is conventionally using blue headlights, the driver must be looking through a blue filter, quite transparent to the light of the wave lengths that his headlights are throwing on the path of his car. Consequently, he can see practically the same as though he were driving with white light with no approaching car causing glare.

"A car coming south now approaches. On account of the fact that it is southbound

it will be burning its orange headlights and the driver must be looking through his orange filter. Consequently, he can see the road as illuminated by his orange headlights perfectly. However, the orange light of the southbound car will not go through the blue viewing-filter of the northbound car, nor will the blue light of the northbound car go through the filter of the southbound car. The result is that both drivers have perfect visibility.

"When the driver of a car equipped with this system approaches another car similarly equipped on the road at night the headlights of the approaching automobile will appear to be lighted by an old-fashioned kerosene lamp with a very much smoked up lamp shade. In actual tests made, the number plate between two headlamps on two approaching cars could be read perfectly and the people sitting in the back seat were easily recognized."

In order that red danger lamps may be distinguished, Mr. Chambers uses viewing filters that transmit deep red light in addition to orange or blue. He also claims that the system lessens the disturbing effect of dust or dirt on the windshield.

UNIVERSE SAID TO BE RUNNING DOWN

The universe is running down. Presented as a purely scientific conclusion, such is the statement of Dr. Richard C. Tolman, noted physical chemist of the California Institute of Technology, in an address to the Sigma Xi scientific society at Pasadena. Dr. Tolman admits this conclusion is probably untenable for a philosopher, who would want to know "who wound the universe up"; or if nobody wound it up, how could it have been running down for an infinite period of past time and still operate?

Taking the position of a court of law rather than that of a speculator in thoughts, the physical chemist of today finds no direct evidence whatsoever to deny the apparent fact that matter is being dissipated into a chaos of worthless scattered energy. To be sure, only a few species of matter are being actively destroyed in this manner on earth, but the tremendous radiations of the sun and stars are explainable on no other basis.

Dr. Tolman points out that future research may prove the atoms of terrestrial matter to be amenable to some setting-off process roughly analogous to the touching of a match to gunpowder. Possibly some of the so-called "novae" or new stars, which burst suddenly into view with a brilliance born of terrific temperatures and enormous radiation, may have been set off by a cosmic fuse of some sort. Obviously the control of such forces on earth by man would involve fearful responsibilities.

It is not necessary, in the degradation of matter into scattered energy, that large atoms should always break down into small ones. It is known that hydrogen atoms - the smallest atoms known - of their own free will combine in quartets to form helium atoms, but release in the process nearly one per cent. of their substance. The off-shoot is transformed into an enormous quantity of energy. Recent calculations show that the new cosmic rays, investigated last summer by Millikan, may well have come from the hydrogen-helium transformation in some distant nebula or star. At least it is known that they do not come from the earth or necessarily from the sun.