

it is retained a carbonized impression of every detail of the fossil.

The process is very inexpensive, and despite the extreme thinness of the peelings they are practically indestructible.

Under older methods, fossil cross-sections were cut with a fine diamond saw and polished until nearly transparent. This necessitated considerable care and usually required several weeks of skilled labor, making the slides rather expensive.

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PHYSIOLOGY

"Nonsense" to Say That Drink Makes Driving Safer

By DR. YANDELL HENDERSON,
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EDITOR'S NOTE: Because of reports from New York City that reaction time of motorists was quickened after a stiff drink of whiskey, Science Service asked Prof. Henderson, eminent authority on the effect of alcohol on the human mechanism, to discuss this subject.

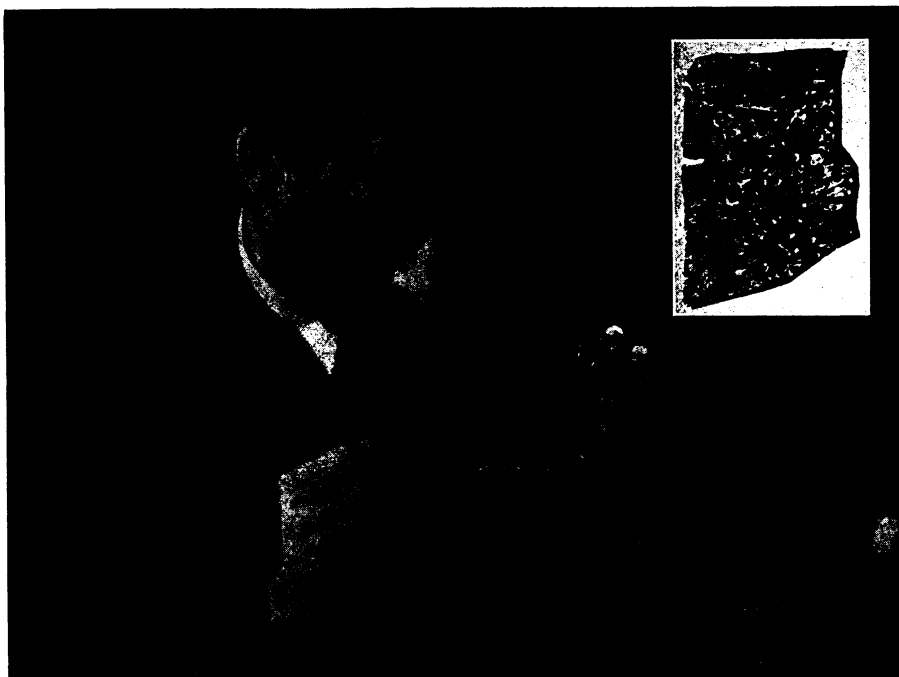
The relation of alcohol to motoring should be judged not only from scientific observations but also with a large measure of common sense. Two sets of observations are now offered. One tells us that the smallest quantity of alcohol causes a state of intoxication. That, in my opinion, is nonsense.

The other now reported from the Johns-Manville testing and safety truck asks us to believe that reaction time is actually reduced by a small amount of alcohol. Perhaps in the tests on the men quoted that was true, but to infer that those men or any men would drive more safely after a drink is also nonsense.

The truth for practical purposes is that the amount of alcohol in one bottle of light beer neither helps nor harms. On the other hand the motorist who has drunk half a pint or more of undiluted full proof liquor is a menace to himself and everyone. As motorists have no water available except in the radiator of the car, they drink undiluted liquor.

To lessen drunken driving requires that our standard liquor instead of being 45 to 50 per cent. alcohol shall be diluted to 30 or 35 per cent. This has been done in Sweden. It would not promote bootlegging for illicit liquor is now seldom over 35 per cent. and often only 30. Our Federal liquor tax should be changed to tax according to the percentage of alcohol and degrees of proof—high on high proof, low on low proof. That is what common sense applied to all these tests should teach us.

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REVEALS AGE-OLD SECRETS

William C. Darrah, of the Harvard botany faculty, using his new technique which permits examination of fossil wood cells under higher magnifications than have ever before been possible. The inset is a photomicrograph of fine details of petrified wood, made possible by Mr. Darrah's new process.

PHYSICS

Old Violin Makers May Have Tested By Branding

THE SECRET of how the old master violin makers determined the right kind and graininess of wood to use in their beautifully-toned fabrications now is believed found. They may have used a hot branding needle on wood which had been given a slight wax coating.

If the wood was homogeneous the melting wax formed nearly a circle around the hot needle. If the wood was inhomogeneous and possessed grain the branding tests showed a long, stretched, narrow ellipse.

Such at least is the simple test discovered by Prof. K. Lark-Horovitz of Purdue University who, for years, has been studying the composition of the wood in old violins by X-rays. From the studies, some of the mystery behind the beautiful tone of an Amati or a Stradivarius violin has been learned.

Prof. Lark-Horovitz has found, for example, that the best instruments have a top of spruce or pine and a back of maple.

The top, X-ray investigations reveal,

must possess a distinct fiber structure. The back, of maple, is almost without structure if the instrument is to have a good tone.

What Prof. Lark-Horovitz never could figure out was how the old sixteenth-century violin makers, 300 years before the discovery of X-rays, were able to tell what the wood structure might be.

The only clue was the markings of branding needles which can be seen on the old masterpieces of the violin-makers' art.

From this clue Prof. Lark-Horovitz finally found the simple hot branding needle test which, in its way, might tell roughly the same facts in the hands of a master as the more modern X-rays.

"There is nothing known," explained the Purdue scientist, before the Franklin Institute, Philadelphia, "about the actual use of this method, but it might be an explanation of the many traces produced by branding needles which we see on old instruments."

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