readers of Congressional weather.

The agreement is especially welcomed by Representative John D. Dingell (D-Mich.), chairman of the Subcommittee on Fisheries and Wildlife Conservation of the Merchant Marine and Fisheries Committee.

Rep. Dingell has been trying to get a bill to protect estuaries through his subcommittee with, so far, little success. The sticking point has been two sections of the bill that essentially would authorize the Secretary of the Interior to control dredging in estuaries independently of the Engineers.

The sections are vigorously opposed by commercial interests who see in them one more obstacle to profitable construction ventures in estuarine areas. With their elimination—the Interior-Army agreement makes them unnecessary—Rep. Dingell feels that his bill, H. R. 25, should have no trouble winning the approval of a conservation-minded Congress.

Everything, however, will depend on how well the Army and Interior Department honor their agreement. Their memorandum of understanding spells out a six-step procedure for dealing with applications for dredging permits. If agreement cannot be reached at local or regional levels, the last resort is a conference between the Secretaries.

"I can assure you I'm going to be monitoring this agreement," Rep. Dingell says.

His bill, now in its third complete revision, has stirred interest among the members of the Senate Commerce Committee, which last September held a one-day hearing on a similar bill. No action will be taken until Rep. Dingell's bill passes the House, however, according to a spokesman, although Senator Edward M. Kennedy (D-Mass.) has introduced a similar bill.

At stake, according to Dr. Stanley A. Cain, assistant secretary of the Interior for Fish and Wildlife and Parks, is the future of "the highest dollar value seafood we have." Oysters, crabs, clams and shrimp are among the species making their homes for at least part of their lives in estuarine areas.

Rep. Dingell's bill represents the first step of a two-step process to protect estuaries. It would require an inventory of all unspoiled and only partially spoiled estuarine areas would be made immediately and a report, including recommendations for protection of important areas, submitted to Congress.

Congress would then designate National Estuarine Areas to be set aside from development. ◈

PYGMY STARS

A Debate Rages—in a Professionally Low Key

Astronomers argue, in a very low key, whether "pygmy stars" really exist.

Dr. Fritz Zwicky coined the term about a year ago to describe a new class of objects he believes are halfway between ordinary white dwarfs—the last luminous state of a star—and neutron stars—extremely dense, dark bodies thought to be the final stage in stellar evolution.

Now, after exhaustive observations, Drs. Olin J. Eggen and Allan Sandage are convinced that there is no such thing as a pygmy star. Dr. Zwicky, they contend, has misinterpreted the motions and colors of high-velocity white dwarfs.

Photoelectric measurements of the colors by Drs. Eggen and Sandage show that the stars are redder than assumed by Dr. Zwicky. From a previously known calibration of color versus absolute luminosity, the distances of Dr. Zwicky's candidates for pgymy status make them white dwarfs rather than a new class of stellar objects.

Although all three astronomers are connected with Mt. Wilson and Palomar Observatories, Pasadena, Calif., they conduct these arguments not face-to-face, but in the staid pages of the ASTROPHYSICAL JOURNAL.

Dr. Zwicky, in cooperation with other astronomers both at Mt. Wilson and at other observatories, is measuring the parallaxes of the stars in question. He expects these measurements to be completed by the end of the year, definitely settling the distances of the stars and thus their nature.

The fundamental point on which Dr. Zwicky based his announcement of pygmy stars involves the distance of five stars from the solar system. Drs. Sandage and Eggen state unequivocally that their observations of these stars "remove the necessity to postulate the existence of pygmy stars." The astronomers find they are farther away than Dr. Zwicky reports. In sharp contrast to the usually guarded statements scientists use in reporting their results to colleagues, the phrases Drs. Sandage and Eggen use are strongly worded.

White dwarf stars have a mass averaging about half that of the sun, but their diameters are not much larger than earth's. When the star's supply of available fuel is almost exhausted, so that not enough energy is being released in the interior to keep it inflated, the star collapses. It continues to shine however, from the heat previously generated.

Although a white dwarf's matter is very dense, it is nowhere near as tightly packed as that in neutron stars, which have been postulated theoretically but never actually observed. A neutron star would be so dense that a cubic inch of its matter would weigh about 16 billion tons, according to some estimates. Such stars consist of nuclei stripped of their electrons and would not radiate visible light.

Pygmy stars, if they exist, as Dr. Zwicky believes they do, would lie somewhere between white dwarfs and neutron stars, although no such stars have yet been observed according to Drs. Eggen and Sandage. ◈

TAR DERBY

New Dark Horse Entry

Ever since Columbus found the Indians smoking tobacco, its effect on health has been a point of contention. The Indians generally believed it had medicinal properties, and this was the chief reason for its early use following introduction into Europe.

The age of science has torn the leaf apart, and found hydrocarbon compounds, which, isolated from cigarette smoke, cause cancer in experimental animals. But psychologically at least, smoking seems to benefit many people who can't give it up, and the national effort is turning to production of so-called safer cigarettes, while warning smokers about the hazards.

Efforts to find the actual ingredients in tobacco that could cause lung cancer, emphysema and heart disease, go on. Tars in the smoke are a likely but still less-than-certain candidate.

Cigarette manufacturers launched their tar derby in 1957; cigarette companies began competing with claims for "safer" cigarettes. People switched to filter-tip cigarettes in great numbers, and debated the safety of different brands. Filters now dominate the market, though for years, under Federal Trade Commission rulings, manufacturers had been forbidden to advertise tar and nicotine reduction. FTC later reversed itself (SN: 12/10/66) hoping that a reopened tar derby would encourage development of a less hazardous cigarette.

But no official has ever said filters do any good, or that one is better than the other or better than a length of tobacco itself.

And that was the scene when Robert L. Strickman gave Columbia University the rights to a new low-tar filter this month.

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Inventor Strickman says his filter consists of a nontoxic polymer that cuts nicotine and tar without affecting flavor. He has refused, pending a patent, to disclose the filtering substance, doesn't know his polymer's molecular weight or chemical configuration, and has described its action, at different times, as being both chemical and mechanical.

Strickman's filter is completely unlike the cellulose or charcoal filters now being used; it appears to be a crystal-like substance.

Strickman is president of Allied Testing and Research Laboratories in Hillsdale, N.J. He has given at least a 51 percent interest in his filter to Columbia.

Officials of the University, approached about four months ago, told Strickman that the University could not accept the gift unless the filter could be offered to all cigarette companies, with none holding exclusive rights. Acceptance of the gift amounts to endorsement of the filter.

Columbia's endorsement of the half-tested filter, while unprecedented and eyebrow-raising, was apparently motivated by the effect on tar and nicotine content of the smoke. Strickman convinced Columbia, at least, that whatever it is made of, the filter cuts tars by up to 70 percent.

Brand	Tars (Total Particulate Matter) mg/cigarette	
	Commercial filter	Strickman filter
Carleton	10.6	3.2
True	14.4	6.6
Kent	17.2	7.9
Lark	21.8	9.6
Winston	23.3	9.9
Viceroy	23.4	6.7
Lucky Strike	25.7	10.3
Marlboro	26	7.9
Chesterfield	26.4	10.7
Pall Mall	26.9	10.9

Tests of the ability of the filter to remove any other potentially dangerous material, such as polonium 210 or toxic gases from the inhaled smoke have not been performed. Nor have animal tests been done.

Cigarette companies, who can hardly ignore a Columbia-endorsed filter, have themselves been plagued by the fact that tars apparently carry the flavor of cigarette smoke.

They all, when they filter their smoke, have been forced to resort to stronger tobaccos to make up some of the loss. Almost invariably they add artificial flavoring to the filter to make up for the lost tars. The companies don't disclose their additives, but advertisements often make subtle references to them.

Strickman's filter apparently passes flavor without all the tar.

Public Health Service officials, including the Surgeon General, agree that inasmuch as all the publicity about the dangers of cigarette smoking since the 1964 report has failed to lessen the use of cigarettes by the public, anything that will make smoking safer is worth a try.

If tars cause lung cancer in man, as they have done with smaller animals, the filter may prove a long step in protecting smokers.

The same day the Strickman filter was announced by Columbia, Secretary John W. Gardner of the Department of Health, Education and Welfare, joined the FTC in recommending:

- A stronger health warning notice on cigarette packages.
- The same notice in all cigarette advertising.
- Statements showing tar and nicotine levels on cigarette packages and in advertisements. These are all items the Congress, under pressure from industry, refused to enact in 1965. But renewed pressure from HEW and FTC, stimulated by publicity over the still-vague Strickman filter, could make the difference in this Congress. ◈

DRUG ADVERTISING

Manufacturers Fight FDA Rules

American physicians, the Food and Drug Administration says, frequently prescribe drugs on the basis of advertising claims. Therefore, FDA believes, drug ads should tell not only the truth, but the whole truth.

On the contrary, the pharmaceutical industry says, doctors do not count on drug ads but rely instead on contacts by salesmen and details in package inserts. Therefore, they conclude, the function of drug advertising, like any other, is simply to call attention to the product. Although they agree that drug ads must be truthful, they contend the FDA would make an ad a textbook.

And though there was a time last winter when FDA and industry publically joined hands to solve their differences, nine months later there is anything but agreement between the two. FDA has proposed some very specific rules for ad writing, rules industry finds too rigid. Now ad makers are outlining strategy for an attack they have to make by late September—the extended deadline for filing objections to the FDA proposal. There are likely to be some revisions in the list of do's and don'ts for writing ad copy and possibly an open hearing on the issues if the two sides can't quietly negotiate their differences.

Now, it appears, it will be January at the earliest before anything is settled.

This controversy, like so many FDA-industry conflicts, dates to 1962 when Congress passed the Kefauver-Harris Drug Amendments that set higher standards for ad content as well as drug content. Three years ago, FDA, after conferring with industry and the medical profession, issued regulations implementing the law.

The regulations that came out of that meeting were general in nature, calling for a "fair balance" of data pro and con, a "reasonably close association" of information on uses and dangers, and use of only those promotional claims that have been approved in advance by FDA.

These regulations have not proved satisfactory to either side. FDA Commissioner James L. Goddard has called a number of drug makers to task for claiming their birth control pill is safer than any other, their antibiotic suitable for "every day" use and their tranquilizer a sure cure for daily frustrations, even though none of these superlatives is based on scientific evidence.

If FDA and the pharmaceutical industry cannot reform drug advertising so that laws and regulations are properly observed, there will be a kind of "crisis of confidence" in advertising itself, Dr. Goddard says.

In response, drug advertisers said the regulations should be spelled out more specifically. They said they wanted to know what FDA would allow and what it wouldn't (SN: 12/10/66).

FDA agreed and set last January as the time such regulations would be out. It finally issued them in May, giving industry and the public 60 days to complain. And three weeks ago, at the request of the Pharmaceutical Advertising Club, Dr. Goddard extended the period for comment by another 60 days.

That gives advertisers eight weeks more to amass ammunition against rules they now consider too specific. Lawyers and ad men are busily compiling lists of legal and factual objections to FDA's proposed rules.

Specifically the new rules require, for example, that data on side effects and dangers apply not only to the disease and dosage form for which a drug is advertised, but also to all other diseases for which it is commonly prescribed. Further, FDA spells out the fact it will not accept half quotes from medical papers, exaggerated use of statistics or misleading headlines or pictures. ◈