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## **NEW COAT for** an old friend

This functional new bag gives greater convenience-and more assurance than ever that Rockland Diets will retain their original, dependable uniformity and consistency. We think you'll like:

- 1. New pull tab-neatly rips open
- the new zip-top in a jiffy.
- 2. Greater strength-less chance of contamination through bags bursting in handling. 3. Anti-skid surface. No slick finish
- to let stacked bags slide. Sure easy handling.

In its crisp uniform of forest green the new Rockland bag emphasizes that here are the standard reference diets formulated specifically, and under the most rigid controls, to help you achieve consistent efficiency. Get Rockland diets from your dealer, or A. E. Staley Mfg. Co., Decatur, Illinois.

Rockland Standard Reference Stock Diets:

RAT DIET (complete) + LABORATORY PRIMATE DIET • RAT DIET (D-Free) GUINEA PIG DIET • MOUSE DIET • RABBIT DIET MOUSE BREEDER DIET MONKEY DIET . DOG DIET Rockland Diets are available world-wide through Staley International—Cable: STACOR



DIET

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OCKLAND

Electric and Manufacturing Company: Fred J. Miller, past president of the American Society of Mechanical Engineers; Henry D. Sharpe, treasurer of Brown and Sharpe Manufacturing Company; Henry R. Towne, chairman of the board of Yale and Towne Manufacturing Company (1); and Frank O. Wells, president of Greenfield Tap and Die Company.

Another study may of course be in order at this time. If it takes up where these two definitive analyses and the five Forbes articles left off, if some means is devised to make certain that it is unbiased and objective (not left entirely in the hands of the Bureau of Standards), and if, in addition, it goes into the lobbying and propaganda activities that lie behind the perennial agitation for making the metric system mandatory in the United States, a useful purpose may be served. But it surely should not cost the American taxpayers \$500,000.

JOSEPH MAYER

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## Note

1. Writing to Henry P. Fowler, president of the U.S. Chamber of Commerce, on 27 July 1921, Towne designated the 1921 report, which is entitled "The Metric versus the English System of Weights and Measures," as "the most comprehensive and complete presentation . . . since the notable report of John Quincy Adams in 1821 . . a verifable mine of information for those who are interested in this subject."

## Early Comments on the Moon Illusion

In their recent articles on the moon illusion [Science 136, 953, 1023 (1962)], Kaufman and Rock note the long history of concern with this phenomenon. It is of interest that an experimental proof for the view that the presence of intervening terrain creates a sense of greater distance leading to the greater apparent size of the horizon moon was offered by Malebranche in 1693 ["Réponse à M. Regis," Oeuvres de Malebranche (Librairie Philosophique J. Vrin, Paris, 1960), vol. 17, pp. 266-7]. In translation, the passage reads as follows.

"Take a flat piece of glass such as a broken glass pane. Heat it gradually and evenly while passing it over a candle flame at a distance of 3 or 4 fingers so that it won't break. When it becomes warm, lower it into the flame and leave it there until it is covered with smoke, so that by looking through it you are able distinctly to see the flame without seeing other, less brilliant objects.

"With a glass thus blackened, one will see the sun and the moon to be of the same size at the horizon . . . provided the glass is close enough to the eyes to entirely exclude the sky and the land. . . . If the sun is at the horizon, the interposition of the glass will make it appear approximately two times nearer and four times smaller, as here precision is not necessary. But if it is risen high above the horizon, the glass will produce no considerable change either in its distance or in its apparent size. . .

"This being so, it is clear that the interposition of the glass does not change the actual size of the retinal image made by the moon, as it loses nothing of its apparent size when we look at it above our head through this glass. But when it is at the horizon, its distance and its apparent size are notably diminished by the interposition of the glass; this does not at all change its image and only excludes other objects. Thus it is evident that the reason the moon appears large is that the perception of the surrounding land makes us judge it farther away."

Malebranche recognized that the illusion disappeared when one could not see the intervening terrain, and that it was the horizon sun or moon which decreased both in apparent size and in apparent distance. He emphasized that the terrain had to be entirely eclipsed, else the illusion would remain: "For, if one glimpsed the sky and the terrain even a little, this glass would not change the apparent size of the sun, because one would judge it to be more distant than the terrain which one saw dimly."

Kaufman and Rock suggest that if the illusion is defined in terms of size constancy, one must conclude that it is based on the smaller appearance of the zenith moon. While neither moon, horizon, nor zenith would be perceived as equal in size to a disk approximately 2162 miles in diameter at the earth's surface, the illusion can be eliminated most easily by procedures which reduce the apparent size of the horizon moon.

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