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PUTTING FLESCH TO THE TEST

by David H. Raymond

The Flesch scale of reading ease, appropriately obscure for almost 30 years is now a fad less enjoyable but much costlier than hula hoops. Its reading ease score is $206.835 - 84.6 \frac{S}{W} - 1.015 \frac{W}{U}$, where S = number of syllables, W = number of words, U = number of units. (A unit is like a sentence, but sometimes starts with a conjunction, sometimes has no subject, sometimes no verb either).

Maximum score is achieved by a sentence consisting of a single monosyllabic word:

Damn	Score = 121
Dammit	Score = 37
Damn it	Score = 120

Note that the three constants in the formula have six, four, and three significant digits. The reason is beyond the scope of this paper.

The Flesch formula fad now surging through the United States is particularly prevalent among politicians. The Massachusetts legislature has decreed that an insurance policy must score at least 50. But consider just the first 144 words of the 280-word opening sentence of the Massachusetts statute:

No policy form of insurance shall be delivered or issued for delivery to more than fifty policyholders in the commonwealth until a copy of the policy form has been on file for thirty days with the commissioner, unless before the expiration of said thirty days the commissioner shall have approved the form of the policy in writing as complying with this section; nor shall any such policy be delivered or issued for delivery if the commissioner notifies the company in writing within said thirty days that in his opinion the form of said policy does not comply with the provisions of this section, specifying the reasons for his opinion, provided that such an action of the commissioner shall be subject to review by the supreme judicial court, but during any such review the form shall not be delivered or issued for delivery in the commonwealth; . . .

The score achieved by this passage is minus 6. The message is clear — do as the Massachusetts legislatures say, not as they do.

Now consider the Bolzano-Weierstrass theorem, translated from page 483 of *Advanced Calculus* by Angus E. Taylor.

Theorem: Let S be a set. Let it be bounded. Let it be infinite. Then there is at least one point of accumulation of S.

Proof: S lies in a closed interval. Call it I₁. Divide I₁ into two parts. Each point in S lies in one part or the other. Therefore at least one of the parts contains an infinite number of points of S. Call this part I₂. Divide I₂ into two parts. At least one of these parts contains an infinite number of points of S. Call this part I₃. Keep it up. You get a nest of closed intervals (I_n). There is one point common to all the intervals of the nest. This point is an accumulation point of S.

(Continued on page 8)

VIEWS ON A SOCIETY SEMINAR

by Katherine C. Coon

On June 25, I attended the course on "Impact of Inflation on the Provision of Financial Security" in Minneapolis—sponsored by the Society Committee on Continuing Education and Research. The materials had reached me in the mail several days before.

Upon my arrival at the Marriott Hotel, I scanned the lobby for signs directing me to the meeting. I was immediately pounced upon by a pleasant young man, apparently trained to spot lost actuaries and straighten them out.

The meeting began approximately on time, although the first speaker delayed identifying himself until five minutes into his remarks. There was considerable clapping and clanking from the next room, where Walter Mondale was speaking at a breakfast. This is not to imply that Mondale is more popular than Geoffrey Calvert, John Bragg, or Joseph Zatto, just that his audience was rowdier than ours.

Two speakers read to the group from their articles which had been supplied us in advance. In my youthful exuberance I had dutifully read the material before attending, and saw my chance for a quick nap. But by this time Mondale and his entourage had left and snoring would have been noticeable, so I resisted temptation.

The speakers were knowledgeable and articulate. They covered the points promised in the brochure, and distributed papers that clarified and illustrated their remarks. There was a dearth of recent information, and more time was spent expressing dismay over the problem than examining solutions, although the presentations on pensions were useful and current.

(Continued on page 8)

Build and Blood Pressure

(Continued from page 7)

effective, especially on policies for larger amounts where ECG's, x-rays, and blood chemistry tests have been increasingly utilized.

(c) The new study is more heavily weighted with policies for larger amounts. This is especially true at issue ages under 40 where a steady increase in non-medical limits has increased the average size of policies issued with a medical examination.

(d) In the Build and Blood Pressure Study 1959, five of the large north-eastern companies that traditionally concentrated on the mass market contributed more than half the material. In the new study however, these companies accounted for only about a quarter of the experience. Correspondingly, several companies which have catered more to the carriage trade accounted for half the experience in the new study as against only a fourth in the earlier study.

(e) Both the 1979 and the 1959 studies include a rather high proportion of exposures in the early durations. Generally, death rates among marked and severe overweights increase with duration, while death rates among underweights decrease with duration. Therefore, the mortality found for all durations combined in both studies tends to understate the true mortality among marked and severe overweights, but overstate that among underweights.

The more interesting results of the new investigation are as follows:

(1) Average weights of insured men have increased, more so for medium (5'7"-5'10") and tall (5'11"-6'2") men than for short (5'3"-5'6") men. Average weights for women under 30 have also increased, but those for women 30 and older have continued to decline. The proportion of underweights has decreased in both sexes.

(2) The weights associated with lowest mortality have increased by about 15 lbs. for men and by about 10 lbs. for women. The optimal weights for short men are close to the statistical average; those for medium men about 10 lbs. below average, and those for tall men about 15 lbs. below average. The optimal weights for short and medium sized women are about 10 lbs. below average and those for tall women 15 lbs. below average.

(3) Mortality of overweight men and women classified by ranges of absolute weight was not much different in the new study from that in the earlier study. The mortality of overweight men, classified by percent departure from average weight, was 10 percentage points lower than in the 1959 study for those 30 percent overweight, 20 percentage points lower for those 40 percent overweight and 30 percentage points lower for those 50 percent overweight.

(4) The mortality of men and women 20 percent or more underweight was very favorable in the Build and Blood Pressure Study 1959. However, the mortality ratios turned out to be somewhat above 100% in the new study.

(5) The mortality of men with elevated blood pressure at time of application was appreciably lower in the new study than in the earlier study. The differentials ran from 10 percentage points for borderline blood pressure to 35 percentage points for systolics of 160 mm or diastolics of 100 mm. The corresponding mortality of women with elevated blood pressure was not much different for borderline blood pressures, but distinctly lower for high blood pressures.

(6) The new study included an experience on some 26,000 men who at time of application for insurance reported treatment for hypertension. It should be emphasized that these men were carefully selected for life insurance, so that their experience may not apply to the usual treated hypertensives in the general population. The mortality experienced by these men whose blood pressure after treatment was below 150 mm systolic or below 100 mm diastolic was in the aggregate only 109% of standard, with normal mortality from heart disease. By contrast, the mortality of those men with systolics in excess of 150 mm or diastolics in excess of 100 mm after treatment was about twice standard; their mortality from heart disease was likewise twice the expected. The virtually normal mortality recorded in the new study for men carefully selected with blood pressures after treatment below 150 mm systolic or 100 mm diastolic is concrete evidence of the efficacy of recent treatment for hypertension. □

Flesch to the Test

(Continued from page 1)

$$\text{Score} = 206.835 - 84.6 (154/122) - 1.015 (122/17) = 93$$

The last example is from *Truck Stop Lust* by Emanson.

Crackle, crackle came interference over the citizens band radio in Hernando Portocarrera's eighteen wheeler. Suddenly a sultry voice became audible and purled, "Hello, eighteen wheeler jockeys. This here's Cynthia Salmonella at Leroy's Trucker Haven, and it's lonely tonight in Massachusetts. How about some of you eighteen wheeler jockeys pulling into Leroy's for some exotic relaxation?"

$$\text{Score} = 206.835 - 84.6 (108/55) - 1.015 (55/4) = 27$$

Imaginary research indicates that fewer than 1% of Massachusetts citizens have even a vague notion what the theorem is about, but 84% of them have a pretty good idea what sort of exotic relaxation Cynthia is offering Hernando. But if we are to mindlessly follow the formula that the Massachusetts legislature prescribes we must conclude that the Bolzano-Weierstrass theorem is easier reading than *Truck Stop Lust*. □

Society Seminar

(Continued from page 1)

The meeting was well-organized; presentations progressed smoothly; the equipment functioned properly; the room was spacious and comfortable, although the temperature fluctuated from 60° to 80°; ice water was provided; the luncheon was better than my cooking. There were even a few laughs, such as when we were greeted "lady and gentlemen."

All things considered, I found the program interesting and informative. I might even attend another one some day. □