MEDICINE

Lawyer Charges Doctors Keep Inadequate Records

DOCTORS HAVE been charged with filing slipshod and incomplete medical records by a lawyer.

Hitting the general practitioner through a medium read by doctors themselves, Stanley D. Rose cites examples of inadequate medical reports submitted as evidence in GP, 21:175, 1960.

It is very common to receive medical reports with no indication of the age of the patient being examined, he stresses.

"I have had more than my share of reports on 'well-developed, well-nourished, obese, white females' with no indication as to whether they were 18 or 58 years old," he said.

Citing another example, lawyer Rose reports this medical booboo written by a doctor:

"I conclude that the patient has sustained a permanent disability of about 40%." It may be questioned, the lawyer suggests, whether few, if any, doctors who write such a sentence have given any thought to the meaning of what they are writing.

Suppose a man loses his left arm two inches from the shoulder. It can safely be assumed that he has suffered a 100% permanent impairment of his left arm. However, the permanent impairment of the whole man as a result of this injury is questionable, he emphasizes.

This man, it is agreed, suffered 100% impairment of the left arm. Assuming further that at the time of the accident, he was a $4,500-per-year truck driver, he is 100% disabled as a truck driver. But two years later, when the case is being settled in court, this man might be employed as a $6,000-per-year insurance salesman, with unlimited prospects. Obviously, there is no permanent disability at that point, lawyer Rose says.

An American Medical Association committee concluded that there is no practical comprehensive system for evaluating permanent impairment by body systems or of the whole man. The committee stated that a patient is "permanently disabled" when his actual ability to engage in gainful activity is reduced or absent because of impairment and no fundamental or marked change in the future can be expected. This is not a medical condition.

Science News Letter, February 27, 1960

TECHNOLOGY

Original Nursery Rhyme Protested English Taxes

THE NURSERY RHYME "Jack and Jill" was originally a sarcastic jab at a corruption of standards of measurement in 17th century England, the president of the American Association for the Advancement of Science said.

During the reign of Charles I, lavish spending exhausted the royal treasury, Dr. Chauncey D. Leake, assistant dean at Ohio State University, reported in a lecture on "Standards of Measurement and Nursery Rhymes" at the National Science Foundation in Washington.

To remedy the money shortage, Charles demanded the sales tax be increased. This type of tax severely affects the poor, who are least able to afford it, because it increases the price of bread, milk and other necessities of life, Dr. Leake pointed out. The poor of that period bought their cereal in amounts known then as "jackpots." A jackpot was originally so large that it took two hands to carry it away. A gill was two such jacks.

In order to increase the amount of taxes, the king's men decided to increase the number of taxable jacks and gills by reducing the amount of cereal each contained. Within a short time, a jackpot consisted of an amount of cereal hardly taxable. Since England, at that time, was an absolute monarchy, no one could directly criticize the Government. Therefore, the poor voiced their protests by composing the nursery rhyme Jack and Jill.

Commenting on present day standards of measurement in the United States, the Ohio State University scientist urged adoption of the metric system in this country "as soon as possible." What is needed most to establish such a standard, he emphasized, is agreement among those individuals who decide what a standard of measurement will be. When asked to predict when the world will adopt a uniform standard of measurements, Dr. Leake said:

"We are a rational people, we will probably get around to it within 1,000 years."

Science News Letter, February 27, 1960

MEDICINE

Undulant Fever May Be Involved in Heart Disease

BRUCELLOSIS, or undulant fever, may be involved in some cases of heart disease attributed to rheumatic fever.

Additional evidence to support this theory has been reported by investigators from the University of California Medical School, Los Angeles, and the Long Beach Veterans Administration Hospital.

Dr. Benjamin E. Konwaler, Dr. Charles M. Carpenter and Susumu Ohno reported experiments in which brucellosis caused heart damage to guinea pigs.

Experimental brucellosis was induced in 37 guinea pigs, which were autopsied 39 to 383 days after onset of the infection. Although no gross heart damage was observed, microscopic evidence of damage to heart tissue was found in 15 of the guinea pigs. The damage was similar to that observed in rheumatic fever.

In previous studies, 206 patients with heart disease were given a skin test with brucellosis organisms. Of this group 117 gave a positive test, indicating they had previously been infected with the Brucella germ. Sixty of this group had been diagnosed as having had rheumatic fever.

All this evidence suggests that brucellosis may sometimes contribute to heart disease, the investigators said. Symptoms of chronic brucellosis are often similar to those of rheumatic fever, they said.

Science News Letter, February 27, 1960

IN SCIEN

PUBLIC HEALTH

Americans Abroad Should Register for Census

AMERICANS TRAVELING abroad at the time of the 1960 Census in April should fill out a census form available at the nearest U. S. consulate or embassy.

A representative of the Bureau of the Census said that this move, though not required by law, later could prove to be valuable to the persons involved.

Census records, he said, have been used repeatedly to establish citizenship and age in the absence of birth records. Since 1935, nearly 3,000,000 Americans have used census records to prove their age to qualify for pensions or social security benefits. These persons could not produce a birth certificate or old family Bible record.

During the war, census records were used by other Americans to establish citizenship so they could get jobs in defense plants.

Servicemen stationed overseas and sailors at sea will be counted through Department of Defense machinery. This count of soldiers, sailors and airmen will be broken up and added into the proper state totals.

Servicemen in the U. S. will be counted as residents of the military base to which they are attached. They will not be counted by census takers who come to the homes of their families.

Crews of merchant ships at sea will fill out forms given to the captains of their ships. These forms will be processed back to the Bureau of the Census by the U. S. Maritime Administration.

Science News Letter, February 27, 1960

EDUCATION

Russian Schools Face Old American Problem

THE RUSSIAN EDUCATIONAL system is now facing a crisis met in the U. S. 40 years ago, Dr. John Turkevich, who will be acting U. S. scientific attache to the USSR this summer, told Science Service.

The problem: An increase in high school graduates trained primarily in liberal arts.

"We in the United States faced the problem partly by expanding our colleges," the Princeton University chemist said.

"The schools of the USSR have strong, uniform, academic training. They found out abruptly that they were graduating five times as many from secondary schools as they could accommodate in the universities . . . The USSR is not expanding its universities. So they have many disgruntled boys and girls."

To combat the problem, the USSR has begun vocation training and work programs in the secondary schools.

Science News Letter, February 27, 1960

CE FIELDS

METALLURGY

Demand for Rare Earths Increases in Industry

THE RARE EARTHS, actually not at all rare in nature, are finding more and more jobs to do in industry, particularly in the field of nuclear ceramics. The demand for the 15 elements of this series will increase in the future.

This was the outlook presented in New York for these ceramic-like materials that have high melting points. This quality appears to make them suitable for such new uses as crucibles in which metals, glass and enamels can be melted, and also for jobs where a material must withstand high nuclear radiation. Rare earths can be used in control rods for nuclear reactors, and also as a radiation shielding ingredient in concrete.

G. L. Ploetz, supervising ceramist, and A. T. Muccigrosso, ceramist, both of General Electric Company's Knolls Atomic Power Laboratory, Schenectady, N. Y., told the American Institute of Mining, Metallurgical and Petroleum Engineers meeting that new electronic applications also will swell the demand for rare earths, also known as lanthanons.

Science News Letter, February 27, 1960

GENERAL SCIENCE

Russo-U. S. Pact Might Prevent Nuclear War

IF RUSSIA and the U. S. could mutually agree on some ground rules covering the use of atomic weapons, it would go a long way toward preventing the chain reaction that could lead to an all-out nuclear war.

Prof. Leo Szilard, physicist at the University of Chicago and one of the men who helped develop the U. S. atom bomb, suggests that the two countries impose restrictions upon themselves. These restrictions must be such that neither country would gain by violating them.

To reduce chances that some minor disturbance could trigger a major war, Prof. Szilard suggests that Russia and the U. S. first adopt an "adequate philosophy" of what constitutes a permissible threat. This being done, both nations' points of view would shift and both governments would come to look upon allied nations as "potential liabilities." This would follow a political settlement between the two nations aimed at eliminating intervention.

Then a "one for one" principle must be accepted whereby one nation would retaliate against the other by nuclear bombing of a specified city. The city would be named 30 days in advance, to give residents a chance to move out and to enable the government to set up emergency accommodations elsewhere. These nuclear blows would be aimed at property destruction. The other nation would be obliged to strike back at a city, or several cities having the same aggregate population, and under the same conditions of forewarning. Otherwise the war would get out of control and chaos would result.

Prof. Szilard said such agreements may be possible as the world moves out of the present moment in the atomic calendar and both nations develop rockets that can be launched from railroad trains. These long-range rockets will become the controlling factors in tomorrow's military thinking and planning. Presumably these movable rockets will make it impossible for one nation, in a surprise attack, to cripple the retaliatory ability of the other.

Prof. Szilard's theory is detailed in the Bulletin of the Atomic Scientists, 16:59, 1960. The editor's introduction hails him as being able to "think years ahead of his contemporaries."

Science News Letter, February 27, 1960

ENGINEERING

A-Plants Now Compete In High-Fuel-Cost Areas

ELECTRICITY NOW can be generated economically with atomic power in some areas where conventional fuel costs are high.

A report prepared by the Atomic Energy Commission for the Congressional Joint Committee on Atomic Energy shows that competitive nuclear power now is possible with pressurized water reactors. This conclusion is based on quotations made to the Commission by reactor and core manufacturers. If started today, a 300,000,000-watt atomic powerhouse would be competitive over its lifetime in high-fuel-cost areas, the Commission said.

Water-cooled reactors "in the reasonably near future" may also be able to produce electricity at competitive prices in high-cost areas where large, single, powerhouse units are needed.

The Commission anticipates at least one more pressurized-water prototype power plant will be built. It is expected to incorporate technical advances learned from operation of the Shippingport, Pa., Indian Point, N. Y., and Rowe, Mass., commercial nuclear power plants now in operation or being built. Design of such a plant could start in 1962.

Three boiling-water reactors are now planned. One manufacturer advised the Commission that a 300,000,000-watt plant of this type could be built now on a fixed-price basis and "may produce" competitive electricity in high-fuel-cost areas.

As for other reactor types, the Commission estimated competitive power in high-fuel-cost areas might be achieved by the middle 1960's for organic-cooled reactors, by the late 1960's or early 1970's for sodium-cooled reactors, and by the early 1970's for gas-cooled reactors using enriched fuel.

A greatly improved fuel element, however, must be developed before sodium-cooled thermal reactors will approach their economical potential.

Science News Letter, February 27, 1960

METALLURGY

Beryllium Detector Helps Prospectors Find Ore

A BERYLLIUM DETECTOR has been perfected to help prospectors find new deposits of this space-age element. Beryllium, a silver-white, hard, workable metal, is sought after for space uses because it combines a high melting point with high strength and light weight.

Developed at the University of Manitoba, Winnipeg, Canada, the Berylometer uses "hard" gamma rays emitted by radioactive antimony to bombard a rock sample. If beryllium is present, these gamma rays, which are at least 1,600,000 electron volts in strength, force the metal to release neutrons. A scintillator counts the released neutrons. No other element can interfere to give a false reading.

Louis and Pauline Moyd, Yonkers, N. Y., consultants, told the American Institute of Mining, Metallurgical and Petroleum Engineers in New York that the portable instrument passed the field tests they gave it.

The instrument detected three different kinds of known beryllium deposits, and several discoveries were made during the tests. The instrument also proved the absence of significant amounts of beryllium that had been erroneously reported earlier because of faulty chemical or spectrographic analyses or incorrect mineral identifications.

In one case, large boulders in a relatively inaccessible glaciated area were checked. The boulders were covered by lichen—tiny plant life. More than a hundred were checked before one, then several nearby, produced indications in the instrument. These were later found, through special assays, to have rich concentrations of white beryl.

The dectector may never equal the Geiger counter's prominence as an amateur prospector's aid, however. Its radioactive heart means the user must have special training and a license. The radioactive antimony decays at a known rate and must be replaced every four months. It also requires special handling in transportation, storage and use.

Science News Letter, February 27, 1960

NUTRITION

Tasty Frozen Milk Becomes Reality

UNIVERSITY OF WISCONSIN dairy scientists have developed a method of producing frozen concentrated milk and reports indicate it has taste appeal. The processing method duplicates many of the steps for sterilization of concentrated milk. High quality raw milk is pasteurized, homogenized and concentrated to contain 36% total solids. It is then packaged in cans and undergoes another heat treatment. After this, the canned concentrate is cooled and frozen. When stored at ten degrees Fahrenheit, the milk retains its flavor for at least three and one-half months, University scientists said.

Science News Letter, February 27, 1960