ternate in line with 11 neon lights. All 22 flash in rapid sequence 40 times a minute to appear as a stroke of lightning to the fog-bound pilot and guide him to the landing runway. These new approach lights work hand-in-glove with the airport's previously installed Instrument Landing System, the radio beam aid that directs the plane to the vicinity of the field and into position where the pilot can see the new "bottled lightning." The field is also to be equipped with Ground Controlled Approach (GCA) apparatus in which radar-scanning and radio-voice jockey planes into proper landing approach.

The Newark airport is already equipped with important bad weather landing aids. Since the Cleveland-Newark flight is the much used leg of many transcontinental freight runs, this new Cleveland lighting system means better cross-country cargo service. It will also be used in passenger traffic.

Science News Letter, May 21, 1949

GENERAL SCIENCE

Divorce Rates Climbing

➤ IT IS not just in Hollywood and Reno that divorce rates are climbing; the increase is world-wide. This is the finding of statisticians of the Metropolitan Life Insurance Company.

England and Wales, which 35 years ago had a divorce rate only one-fiftieth of ours, now has a rate half as large as that of the U. S. In 1913, England and Wales had only 2.2 divorces for every 1,000 in the annual marriage record.

At the outbreak of World War II, the ratio had increased 10 times or about 20 per 1,000. By 1946, the rate had climbed another four times to 81.0 and in 1947 divorces had climbed to 138.5 per 1,000 marriages.

In Scotland, the ratio of divorces to marriages was nine times as high in 1946 as in 1910. In Canada, the rise was even sharper—from 7.2 per 1,000 in 1920 to 60.0 per 1,000 in 1948.

On the continent of Europe, countries for which data are available all show a marked rise in divorce rate. In general, those with the lowest rates back in 1910, have the largest relative increase. In Belgium, the Netherlands, and Sweden, where divorces were formerly few, the rate has jumped to five or more times the rate in 1910. Switzerland, where the ratio was always high, now has a rate doubled.

Although, in England, the rising tide of divorces is attributable, at least in part, to the liberalization of divorce laws and the catching up with an accumulation of cases piled up during the war, the statisticians blame the disrupting effect of the war for the increase in broken families.

"Despite the fact," they comment, "that millions of men in the armed forces were out of reach of civilian judicial processes, and despite national crises which should have diverted thought from domestic affairs, the divorce rate continued to rise the world over during tthe greater part of World War II. This was the case even in the occupied countries.

"After the end of the war . . . the divorce rate showed a very sharp rise. In France, for example, the rate in 1946 was 207.2 per 1,000 average annual marriages . . . a figure more than twice that of the year before, and almost three times that in 1944. On the other hand, in the neutral countries, Sweden and Switzerland, the postwar rise was moderate."

There are indications, the statisticians report, that the postwar peak of divorces has already been passed in a number of countries. But it appears unlikely that the rate will return to prewar levels in the near future.

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PSYCHOLOGY

Mothers Flunk and Forget

➤ WHAT happened when mothers were given cut-up-design tests in the presence of their 11- to 13-year-old daughters and failed, was reported by Drs. Nevitt Sanford and Joseph Risser, of the University of California and Stockton Junior College, in the JOURNAL OF PERSONALITY (Dec. 1948).

Most of the daughters took their mothers' failures almost as hard as did the mothers themselves. Some were comforting: "That's all right, Mother; you'll get the next one." "You almost had it."

But two of the 26 daughters in the experiment said nothing but happily and excitedly bounced up and down in their seats, the experimenters report. Others made such unkind comments as: "Oh, Mama, can't you see that?" "Mama, you're stupid!" Either to help or to show their superiority, some daughters were unable to resist the temptation to help the mother make the design, although one got slapped for her pains.

The experiment was so arranged that each mother was first given three designs to make, which she could complete easily. Then she was given two in succession that it was known that she could not do.

After the second failure, the mothers, believing that the tests were graded in difficulty, anticipated more failures. Nearly all made excuses at this point: "My eyes are so tired, I just can't see how I can go on." "I just can't see these cards." "I have such a headache; perhaps we should do this another evening." "I don't see why the mothers have to take the test."

After the mothers had been allowed to succeed on nine of the design puzzles and had been failed on six, they were asked to recall the names of all the designs they had worked on.

They remembered those on which they had succeeded better than those that they had failed. The tendency to forget in the case of failure was greater than it had been found to be in previous experiments along the same line, a fact which the experimenters attribute to the greater blow to self-esteem suffered by these mothers in the very lifelike situation of failure in the presence of their adolescent daughters.

This self-defensive forgetting, the experimenters conclude, is most likely to occur when the need to regain self-respect is at its greatest.

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ENTOMOLOGY

Female Mosquito Song Recordings Trap Males

➤ ANOPHELINE Loreleis (female mosquitoes to you) lure males to their fates with tremulous voices. And, incidentally, those same alluring voices electrically transcribed and played back in a malarial swamp in Cuba brought males thronging to their death in traps.

These new facts about song and love in the mosquito world were related before the meeting of the Acoustical Society of America in New York by Drs. W. H. Offenhouser, Jr., and Morton C. Kahn of Cornell University Medical College. They made first recordings of malaria-mosquitoes' songs in Africa in the summer of 1947; made similar records and used them for trapping purposes in Cuba last year.

All mosquito sounds are "warble-modulated", they told their audience. The vibrato or tremolo effect comes at the rate of five cycles per second in some insects. Others have a double vibrato, with a higher 25 cycles per second rate superimposed on the five-per-second one. By human standards, the male mosquito would be judged a sissy; he sings, but his voice is higher-pitched than the female's.

The Cuban mosquito whose recorded song was used in trapping males is one of the worst of the malaria-carrying species, known scientifically as *Anopheles albimanus*. Translated literally, the name means the white-handed anopheles. Why that name, entomologists are unable to explain; only the rearmost of the insect's three pairs of feet are white.

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