

Sound Rays That Can Kill—Or Cure!

Sound can kill. A death ray is now in the making! The "blast" that weapon beloved of science-fiction writers for the rapid slaughter of bug-eyed monsters, may soon become a fact. It is a horrible thought, but soon armies may be marching against each other with silent killers in their hands.

Not long ago an American scientist picked up a small metal tube. He pointed it at a coaxed rat at the other end of the room and squeezed a tiny button. Nothing appeared to happen. There was neither flash nor sound. But the rat jerked, stiffened and toppled over dead!

It had been killed by sound waves traveling at more than 20,000 cycles a second—far higher than the human ear can detect. They were absorbed so quickly by the rat's body that ultrasonic energy was converted into heat, and the rodent died instantly of an intense fever all over the body.

A similar sort of sound gun has been used in Great Britain to set fire, from a distance, to wood and other hairy materials. Mysteriously, they started to smolder—then burst into flames. It is also called, locked, it would have lived. But such protective measures will not be effective much longer.

The intensity of the ray is being stepped up so that the nerve centers and the brain itself can be destroyed. And the range is being increased...

As with all kinds of sound, the waves radiate outward from a central source. An early example pitched so high that only animals would hear.

There are many ways of producing audible waves of sound, but only comparatively recently has it been possible to concentrate them and pin-point them in a given direction.

Although there has been very little publicity to date, the ultrasonic race between Russian and American scientists is nearly as fierce as that to produce bigger bombs and guided missiles.

Indeed, ultrasonics are playing an important part in perfecting long-range weapons of power for space craft!

It has been found that an ultrasonic "whistle" increases or decreases the rate at which solid fuel burns, and also controls its thrust.

Sound waves shot through a material speed up many chemical reactions—including burning and oxidation. They have been made to boil water in less than a minute.

How ultrasonic waves are still much of a mystery. In their efforts to solve the problem, scientists the world over have been studying the bat—because these nocturnal creatures use ultrasonic waves to catch insects on the wing and to avoid obstacles.

Watch the flight of a bat when dusk falls and note the fantastic speed with which it darts and turns through the air. It sees not with its eyes, but by sound waves emanating from the bat's mouth in trills or bursts in the "fit-bit."

The way the signals are bounced back tells the bat of food or danger in the vicinity.

TABLE TALKS

Its ears have a much higher frequency response than those of a human. A bat which has been blinded will fly as well as ever, and this research has led to hopes that a model of the bat's amazing echolocation system may one day be manufactured to assist blind people. For, while ultrasound can kill, it can also cure. It has already been used with success in surgery, particularly for operations on the brain.

The technique is proving most valuable in curing Parkinson's disease, a nervous disability coming from a section of the brain smaller than the head of a matchstick.

In London a complicated measuring machine locates the exact position of the minute nerve center so that a needle can be driven through to reach and kill it.

In the United States, however, the same result has been achieved by directing ultrasonic waves at the spot.

When the diseased brain section is at point of focus, the rays destroy it within seconds.

There have been promising experiments in cancer treatment, and in the disintegration of such internal ills as gall-stones and kidney stones. But this is by no means the only use of ultrasonics as all the science of ultrasonics has to offer the human race. "Echolocation" is also called, locked, it would have lived. But such protective measures will not be effective much longer.

Commercial applications include the machining of hard, brittle materials, like precious stones, the cleaning of small mechanical components in watches and other precision instruments by penetrating to previously inaccessible parts, and the fatigue-testing of highly stressed metals.

In Britain they have developed an ultrasonic drill which can punch holes of any shape to accuracies of one half-thousandth of an inch.

Ultrasonic vibrators have also been invented to prevent barnacles adhering to the hulls of ships!

For the uses of ultrasound are legion. In America they are experimenting with it as a means of cleaning clothes, of searing meat tenderer and of searing wine.

And there is yet another function of very special interest to Londoners. High frequency "whistles" have been used to disperse fog and smog in small areas.

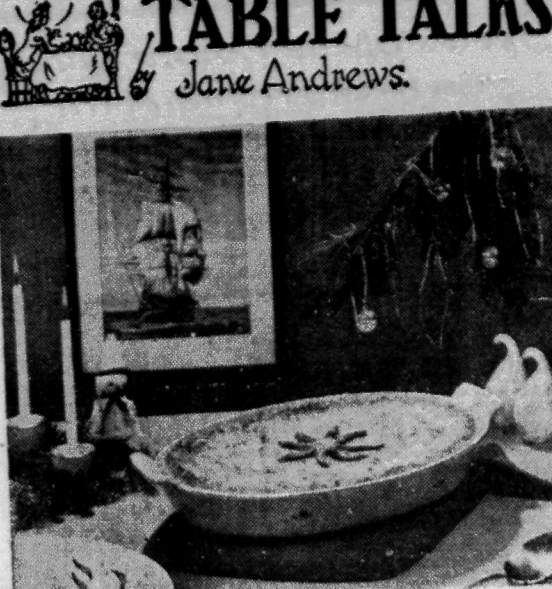
The sound waves make particles of dust, soot or fog collide so violently that they stick together and become heavy enough to fall to the ground.

Like so many wonderful discoveries, ultrasound which can do huge benefit to mankind—or kill him.

This incredible new form of power is as easy to control as electricity. But can man control his own nature so that the full fury is never unleashed in the cause of war?

EXPENSIVE POSTAGE
The highest denomination stamp ever issued was the King George V 100 pounds red and black Kenya stamp of 1925-27.

And from Robert Louis Stevenson's writings comes this timely line: "The man who forgets to be thankful has fallen asleep in life."



FESTIVE SEAFOOD CASSEROLES, for this company Tuna Bake, are favourite dishes for holiday supper parties.

During the holiday season, casseroles will be featured at many a supper party—and with good reason. These easygoing dishes can be prepared in advance, don't require watching in the oven, and stay hot in their handsome containers until guests are ready for them.

Seafoods can be counted on to make elegant party casseroles. How would you like one containing hushky chunks of tuna and cream sauce, baked together in a creamy, toasted almond sauce? Or perhaps tender morsels of crab meat baked in a sherry-flavored sauce attractively flecked with bits of red pimiento and green pepper? Recipes for both of these delicacies have been supplied by the home economists of Canada's Department of Fisheries.

COMPANY TUNA BAKE
2 cans (7 ounces each) tuna
2 packages (10 ounces each) frozen asparagus
1/2 cup chopped, blanched almonds
1/2 cup butter, melted
1/4 cup flour
1/2 teaspoon salt
1/2 teaspoon pepper
Few grains nutmeg
2 cups milk

Paprika
Drain tuna and break into large pieces. Cover asparagus with boiling salted water. Boil 10 minutes. Drain. Cut asparagus into 1-inch pieces. Place in a greased quart casserole. Top with the 1-quart mixture. Blend in butter and seasonings. Sprinkle with paprika. Bake in a moderate oven (350° F.) for 25 to 30 minutes. Make 6 servings.

CRAB CHARLOTTE CASSEROLE
3 cups cooked crab meat OR 3 cans (6 1/2 ounces each) crab
1/4 cup butter
1/4 cup flour
2 cups milk
2 tablespoons minced onion
1/2 teaspoon celery salt
1/2 teaspoon grated orange rind
1 tablespoon chopped parsley
1 tablespoon minced green garlic
1 pimiento, finely chopped
2 drops Tabasco sauce
1 egg, well beaten
1/2 cup grated cheddar cheese
Pimiento or tomato for garnish

Remove any shell or cartilage from crab meat. If using canned crab, drain. Break meat into pieces. Melt butter; blend in flour. Add milk gradually and cook until thick and smooth, stirring constantly. Add onion, celery salt, orange rind, parsley, green pepper, pimiento, Tabasco sauce. Stir a little of hot sauce into egg; add to remaining sauce, stirring constantly. Add crab meat. Turn into a greased 1 1/2-quart casserole. Mix bread crumbs and cheese. Sprinkle around top edge of casserole. Bake in a moderate oven (350° F.) for 15 minutes. Remove from oven and garnish top with pimiento and a whiff of finely cut tomato wedges. Place under broiler and broil for about 2 minutes to lightly brown the crumbs. Make 6 servings.

SPICED APPLE CUTOOTS
3 cups thick unsweetened apple sauce
2 cups sugar
1/4 pound red cinnamon candies
Powdered sugar
Cook apple sauce, sugar, and candies in heavy saucepan for about one hour or until very thick, stirring frequently. Allow to cool. Spread on waxed paper and pat 1/4 inch thick. Let stand 10 minutes to dry out. Cut into desired shapes with small, round cutter. Lift each piece from paper with bread spatula and dip in powdered sugar. Sprinkle on sugar and paper and let stand overnight before using.

MUFFINS
1 pint scalded milk
1/2 cup butter
1/2 cup sugar
1/2 teaspoon yeast cake
1 Flour to make a thin batter
2 eggs
Add butter, sugar, and salt to the scalded milk. When cooled to lukewarm, add the yeast, crumbled, and mix thoroughly. Add enough flour to make a thin batter. Let stand in warm place until light and full of bubbles. Add egg, beaten, and more flour to make a thick spoon batter.

False Claims in Health-Food Circles

Hollywood's Robert Cummings and radio's Carleton Beals have a lot in common. Both are busy promoters of health food, both have written big-sounding books on the subject and both run into trouble last month with the Food and Drug Administration.

Actor Cummings, who doubles as vice president of the Nutri-Bio Corp. of Los Angeles, was named when the FDA seized a batch of the company's vitamin and mineral tablets in Washington on charges that they were being promoted by false and misleading claims (e.g., that they help prevent impotence, heart trouble, tuberculosis, and some 30 other maladies; promote beauty, athletic ability, and radiant living). Some of the claims, said the FDA, after noting that any literature used to promote a food product is considered part of the product's label—were contained in Cummings' book, "Stay Young and Vital."

For his part, Cummings was only too happy to cooperate with the FDA, promised to fire Nutri-Bio's Washington distributor, and speaking through his wife, who heads up Nutri-Bio's home-planning division, Cummings said the company strictly forbids the use of its distributors of the type of literature seized by the FDA. Cummings pointed out, "but it has no connection with Nutri-Bio."

Who knows, maybe the most famous size 26-46 daily paper-clothes slogan that people will wake up to in the exciting year ahead will be "All the News That's Fit to Read" on Saturday.

Esquimos Break An Ancient Monopoly
To break the Hudson's Bay Co.'s 201-year-old monopoly on retail trade in the Arctic, Canada's 12,000 Eskimos two years ago acquired the legal right to establish their own cooperatives. Recently, at Cape Dorset on Baffin Island, they opened a fourth of a new chain of stores. The man behind the new co-ops is a 31-year-old Eskimo artist named Kananginak. whose stone carvings and Eskimo prints are used on U.N. Christmas cards.

When the Hudson's Bay Co. market was \$5; by marketing them himself, he earns \$17 a print. That set Kananginak to wondering whether the HBC was making similar profits on the fire-arms, radios, and tobacco it sells to the Eskimos. Establishing a cooperative among the 300 Eskimo expects to gross \$125,000 a year, shrugged off the threat of an Arctic price war. "Eskimo trade," said an official, "is a minor part of our business."

POWER PILL—Gloved hand above holds power equal to tons of coal. The objects are uranium dioxide fuel pellets used in nuclear reactors. They are 1 1/2 inches long, weigh one energy equivalent of nearly a ton of coal. They have twice the strength of the pellets, which were first produced in 1958. About half a million of the new-size pellets supply the fuel for a large reactor.

Master Farmers Who Stick To Old Ways

It was like bringing coals to Newcastle when the steam threshers from a half-dozen counties brought their old-time ways to our state last year. Yet whistles screamed, clouds of black smoke roved from ancient stacks, and people came from far and near to see the show.

As something rather new in the re-enactment of scenes from early days, the art of threshing and doing other farm chores by team has become a major sport from Maine to California, it appears. And so devoted to their team are the steam threshers that few sacrifices are considered so great for them to retrace an old-fashioned way of doing things.

For his part, Cummings was only too happy to cooperate with the FDA, promised to fire Nutri-Bio's Washington distributor, and speaking through his wife, who heads up Nutri-Bio's home-planning division, Cummings said the company strictly forbids the use of its distributors of the type of literature seized by the FDA. Cummings pointed out, "but it has no connection with Nutri-Bio."

Who knows, maybe the most famous size 26-46 daily paper-clothes slogan that people will wake up to in the exciting year ahead will be "All the News That's Fit to Read" on Saturday.

Esquimos Break An Ancient Monopoly
To break the Hudson's Bay Co.'s 201-year-old monopoly on retail trade in the Arctic, Canada's 12,000 Eskimos two years ago acquired the legal right to establish their own cooperatives. Recently, at Cape Dorset on Baffin Island, they opened a fourth of a new chain of stores. The man behind the new co-ops is a 31-year-old Eskimo artist named Kananginak. whose stone carvings and Eskimo prints are used on U.N. Christmas cards.

When the Hudson's Bay Co. market was \$5; by marketing them himself, he earns \$17 a print. That set Kananginak to wondering whether the HBC was making similar profits on the fire-arms, radios, and tobacco it sells to the Eskimos. Establishing a cooperative among the 300 Eskimo expects to gross \$125,000 a year, shrugged off the threat of an Arctic price war. "Eskimo trade," said an official, "is a minor part of our business."

POWER PILL—Gloved hand above holds power equal to tons of coal. The objects are uranium dioxide fuel pellets used in nuclear reactors. They are 1 1/2 inches long, weigh one energy equivalent of nearly a ton of coal. They have twice the strength of the pellets, which were first produced in 1958. About half a million of the new-size pellets supply the fuel for a large reactor.

HEAVY DOUGH

In the Island of Yap 750 miles north of New Guinea, huge millions are used as money.

As something rather new in the re-enactment of scenes from early days, the art of threshing and doing other farm chores by team has become a major sport from Maine to California, it appears. And so devoted to their team are the steam threshers that few sacrifices are considered so great for them to retrace an old-fashioned way of doing things.

For his part, Cummings was only too happy to cooperate with the FDA, promised to fire Nutri-Bio's Washington distributor, and speaking through his wife, who heads up Nutri-Bio's home-planning division, Cummings said the company strictly forbids the use of its distributors of the type of literature seized by the FDA. Cummings pointed out, "but it has no connection with Nutri-Bio."

Who knows, maybe the most famous size 26-46 daily paper-clothes slogan that people will wake up to in the exciting year ahead will be "All the News That's Fit to Read" on Saturday.

Esquimos Break An Ancient Monopoly
To break the Hudson's Bay Co.'s 201-year-old monopoly on retail trade in the Arctic, Canada's 12,000 Eskimos two years ago acquired the legal right to establish their own cooperatives. Recently, at Cape Dorset on Baffin Island, they opened a fourth of a new chain of stores. The man behind the new co-ops is a 31-year-old Eskimo artist named Kananginak. whose stone carvings and Eskimo prints are used on U.N. Christmas cards.

When the Hudson's Bay Co. market was \$5; by marketing them himself, he earns \$17 a print. That set Kananginak to wondering whether the HBC was making similar profits on the fire-arms, radios, and tobacco it sells to the Eskimos. Establishing a cooperative among the 300 Eskimo expects to gross \$125,000 a year, shrugged off the threat of an Arctic price war. "Eskimo trade," said an official, "is a minor part of our business."

POWER PILL—Gloved hand above holds power equal to tons of coal. The objects are uranium dioxide fuel pellets used in nuclear reactors. They are 1 1/2 inches long, weigh one energy equivalent of nearly a ton of coal. They have twice the strength of the pellets, which were first produced in 1958. About half a million of the new-size pellets supply the fuel for a large reactor.

CROSSWORD PUZZLE

ACROSS
1. Part of a
2. River
3. One of the
4. One of the
5. One of the
6. One of the
7. One of the
8. One of the
9. One of the
10. One of the
11. One of the
12. One of the
13. One of the
14. One of the
15. One of the
16. One of the
17. One of the
18. One of the
19. One of the
20. One of the
21. One of the
22. One of the
23. One of the
24. One of the
25. One of the
26. One of the
27. One of the
28. One of the
29. One of the
30. One of the
31. One of the
32. One of the
33. One of the
34. One of the
35. One of the
36. One of the
37. One of the
38. One of the
39. One of the
40. One of the
41. One of the
42. One of the
43. One of the
44. One of the
45. One of the
46. One of the
47. One of the
48. One of the
49. One of the
50. One of the
51. One of the
52. One of the
53. One of the
54. One of the
55. One of the
56. One of the
57. One of the
58. One of the
59. One of the
60. One of the
61. One of the
62. One of the
63. One of the
64. One of the
65. One of the
66. One of the
67. One of the
68. One of the
69. One of the
70. One of the
71. One of the
72. One of the
73. One of the
74. One of the
75. One of the
76. One of the
77. One of the
78. One of the
79. One of the
80. One of the
81. One of the
82. One of the
83. One of the
84. One of the
85. One of the
86. One of the
87. One of the
88. One of the
89. One of the
90. One of the
91. One of the
92. One of the
93. One of the
94. One of the
95. One of the
96. One of the
97. One of the
98. One of the
99. One of the
100. One of the

DOWN
1. One of the
2. One of the
3. One of the
4. One of the
5. One of the
6. One of the
7. One of the
8. One of the
9. One of the
10. One of the
11. One of the
12. One of the
13. One of the
14. One of the
15. One of the
16. One of the
17. One of the
18. One of the
19. One of the
20. One of the
21. One of the
22. One of the
23. One of the
24. One of the
25. One of the
26. One of the
27. One of the
28. One of the
29. One of the
30. One of the
31. One of the
32. One of the
33. One of the
34. One of the
35. One of the
36. One of the
37. One of the
38. One of the
39. One of the
40. One of the
41. One of the
42. One of the
43. One of the
44. One of the
45. One of the
46. One of the
47. One of the
48. One of the
49. One of the
50. One of the
51. One of the
52. One of the
53. One of the
54. One of the
55. One of the
56. One of the
57. One of the
58. One of the
59. One of the
60. One of the
61. One of the
62. One of the
63. One of the
64. One of the
65. One of the
66. One of the
67. One of the
68. One of the
69. One of the
70. One of the
71. One of the
72. One of the
73. One of the
74. One of the
75. One of the
76. One of the
77. One of the
78. One of the
79. One of the
80. One of the
81. One of the
82. One of the
83. One of the
84. One of the
85. One of the
86. One of the
87. One of the
88. One of the
89. One of the
90. One of the
91. One of the
92. One of the
93. One of the
94. One of the
95. One of the
96. One of the
97. One of the
98. One of the
99. One of the
100. One of the

ANSWER ELSEWHERE ON THIS PAGE

THE FARM FRONT

Massachusetts and other states along the U.S. eastern seaboard are emerging as leaders of an "agricultural revolution" which may possibly end in the complete renovation of the "farm image" in the United States. As Dr. A. A. Spielman, dean of the College of Agriculture at the University of Massachusetts, said recently, "We no longer have farmers in Massachusetts; they have been replaced by milk producers, cranberry producers, potato producers, and other specialists."

While the United States now is out front in this field, he said, there is danger of this country falling behind, unless more students enroll and continue to develop agriculture in that country, writes George Moneyham in the Christian Science Monitor.

Another professor asserted it would be almost impossible for a student to comprehend the number of fields which modern agriculture encompasses. Positions being supplied by agricultural graduates include city managers, golf-course planners, supermarket managers, and insect exterminators.

Airports also are calling on agricultural graduates to help maintain the turf near runways. Dean Spielman says students from throughout the world go to the university to participate in the food-technology program with hopes of raising the eating habits of their home countries.

Dean Spielman says the college has four major functions: teaching, research, co-operative extension service, and "service and regulatory" activities. The extension service comprises approximately 35 per cent of the college's effort and is devoted to the development of agriculture in the United States and Massachusetts, the dean said, including the four divisions in his estimate.

The development of agriculture appears to be offsetting the over-abundance of labor which might have occurred as a result of automation and mechanization.

ISSUE 51 - 1961

Put Their Carpet On The Ceiling
According to dispatches from the scene, a lady in Kansas has moved in perfect union to the hymn, the last young lady in the women's section slipped her still-etc. into the grating over a hot air duct in the center aisle. Without a thought for her fancy and continued up the aisle. The first man following her noticed the situation, and without skipping a beat, reached down and swooped up the shoe. The entire grating came with it. Starred, but still singing, the man marched on, carrying in his hand the grating with the shoe attached. There was never a break in the recital; right in tune and in time to the beat, the next man stepped into the open duct.

According to dispatches from the scene, a lady in Kansas has moved in perfect union to the hymn, the last young lady in the women's section slipped her still-etc. into the grating over a hot air duct in the center aisle. Without a thought for her fancy and continued up the aisle. The first man following her noticed the situation, and without skipping a beat, reached down and swooped up the shoe. The entire grating came with it. Starred, but still singing, the man marched on, carrying in his hand the grating with the shoe attached. There was never a break in the recital; right in tune and in time to the beat, the next man stepped into the open duct.

According to dispatches from the scene, a lady in Kansas has moved in perfect union to the hymn, the last young lady in the women's section slipped her still-etc. into the grating over a hot air duct in the center aisle. Without a thought for her fancy and continued up the aisle. The first man following her noticed the situation, and without skipping a beat, reached down and swooped up the shoe. The entire grating came with it. Starred, but still singing, the man marched on, carrying in his hand the grating with the shoe attached. There was never a break in the recital; right in tune and in time to the beat, the next man stepped into the open duct.

According to dispatches from the scene, a lady in Kansas has moved in perfect union to the hymn, the last young lady in the women's section slipped her still-etc. into the grating over a hot air duct in the center aisle. Without a thought for her fancy and continued up the aisle. The first man following her noticed the situation, and without skipping a beat, reached down and swooped up the shoe. The entire grating came with it. Starred, but still singing, the man marched on, carrying in his hand the grating with the shoe attached. There was never a break in the recital; right in tune and in time to the beat, the next man stepped into the open duct.

According to dispatches from the scene, a lady in Kansas has moved in perfect union to the hymn, the last young lady in the women's section slipped her still-etc. into the grating over a hot air duct in the center aisle. Without a thought for her fancy and continued up the aisle. The first man following her noticed the situation, and without skipping a beat, reached down and swooped up the shoe. The entire grating came with it. Starred, but still singing, the man marched on, carrying in his hand the grating with the shoe attached. There was never a break in the recital; right in tune and in time to the beat, the next man stepped into the open duct.

According to dispatches from the scene, a lady in Kansas has moved in perfect union to the hymn, the last young lady in the women's section slipped her still-etc. into the grating over a hot air duct in the center aisle. Without a thought for her fancy and continued up the aisle. The first man following her noticed the situation, and without skipping a beat, reached down and swooped up the shoe. The entire grating came with it. Starred, but still singing, the man marched on, carrying in his hand the grating with the shoe attached. There was never a break in the recital; right in tune and in time to the beat, the next man stepped into the open duct.

According to dispatches from the scene, a lady in Kansas has moved in perfect union to the hymn, the last young lady in the women's section slipped her still-etc. into the grating over a hot air duct in the center aisle. Without a thought for her fancy and continued up the aisle. The first man following her noticed the situation, and without skipping a beat, reached down and swooped up the shoe. The entire grating came with it. Starred, but still singing, the man marched on, carrying in his hand the grating with the shoe attached. There was never a break in the recital; right in tune and in time to the beat, the next man stepped into the open duct.

According to dispatches from the scene, a lady in Kansas has moved in perfect union to the hymn, the last young lady in the women's section slipped her still-etc. into the grating over a hot air duct in the center aisle. Without a thought for her fancy and continued up the aisle. The first man following her noticed the situation, and without skipping a beat, reached down and swooped up the shoe. The entire grating came with it. Starred, but still singing, the man marched on, carrying in his hand the grating with the shoe attached. There was never a break in the recital; right in tune and in time to the beat, the next man stepped into the open duct.

TURNABOUT DINING—La Ronde, Honolulu's newest restaurant, peaches atop the 23rd floor of the Ala Moana building, the city's newest and tallest office building. The dining room seating 162 persons, makes one complete revolution every hour, providing diners with a panoramic vista.

ALL EYES—The eyes have it as Jamie Walker, 3, looks the camera with an armful of wide-eyed kittens.

ALL EYES—The eyes have it as Jamie Walker, 3, looks the camera with an armful of wide-eyed kittens.

ALL EYES—The eyes have it as Jamie Walker, 3, looks the camera with an armful of wide-eyed kittens.

ALL EYES—The eyes have it as Jamie Walker, 3, looks the camera with an armful of wide-eyed kittens.

ALL EYES—The eyes have it as Jamie Walker, 3, looks the camera with an armful of wide-eyed kittens.

ALL EYES—The eyes have it as Jamie Walker, 3, looks the camera with an armful of wide-eyed kittens.