16. A.A. Bright, Jr., *The Electric Lamp Industry,* Macmillan, New York, 1949, p. 107.
17. *Ibid.,* p. 113.
18. *Ibid.,* Appendix B.
19. *Ibid.,* p. 111.
20. March 23, 1889, p. 176.
21. April 26, 1889, p. 618.
22. R.B. DuBoff, *Electric Power in American Manufacturing, 1889-1958,* Arno Press, NY, 1979, p. 35.
23. C.H. Hughes, M.D. "The Epidemic Inflammatory Neurosis: Or, Neurotic Influenza," *JAMA,* Feb. 27, 1892, pp. 245-249.

PCS Kills Ten Thousand

Preliminary statistics, obtained from the Centers for Disease Control (CDC) in Atlanta, indicate that radio waves from new digital towers are killing large numbers of people. Weekly mortality statistics were obtained for major U.S. cities for the years 1996, 1997 and 1998. They show that many large cities experienced a 10-25% increase in mortality, lasting two to three months, upon the launching of personal communications services (PCS) networks in those cities.

An impression of suddenly increased mortality in a city was visually apparent from scanning the CDC tables. Its magnitude was then roughly calculated by comparing the total number of deaths, summed over the relevant time period, with the total number of deaths in a similar time period the previous or subsequent year. Confirmation of these results will require data from a sufficient number of years to obtain a true seasonal norm; however, even these preliminary data are consistent enough to make the results probable.

For example, San Diego had an increase in total weekly deaths of 15% above normal beginning late November 1996, following the beginning of PCS service by Pacific Bell, and lasting about two months. These were non-flu deaths (but see the article about the flu in this issue), as a similar increase in mortality did not occur in nearby Los Angeles at that time. Los Angeles received its first PCS service in July 1997, and experienced an increase in mortality of 27% above normal beginning about August 1 and lasting, again, about two months. Nearby San Diego did not have an increased death rate at that time. New York City experienced a 10% increase in mortality beginning late November 1996 following the onset of PCS service there by Omnipoint Communications, and lasting approximately eleven weeks. Chicago experienced an 11% increase in mortality beginning Christmas 1996, following the onset of PCS service by Primeco Personal Communications Corp., and lasting about ten weeks. Boston received limited "Ambassador Service" by Sprint PCS in the fall of 1997, and full service January 1, 1998. Boston experienced a 5% increase in deaths beginning the end of October 1997, and a 20% rise in deaths in the beginning of January, and lasting another nine weeks. Portland, Oregon, which received Sprint PCS service in late December 1996, experienced a 3-month rise in mortality of about 16% above normal beginning the first week of January 1997; nearby Seattle, Washington, which did not receive PCS service at that time, showed no such increase in deaths.

The number of excess deaths in New York, Chicago, and Los Angeles alone amounted to over 3,000.

In Texas, the buildout of commercial service by Primeco PCS began in mid-November 1996, and a two-month increase in mortality set in as follows:

Fort Worth	beginning of January
Houston	mid-January
Austin	mid-January
San Antonio	end of January

Dallas, which is the only city that had pre-existing PCS service, is also the only city in Texas that showed no increase in deaths at that time. Seattle and San Francisco, which got PCS service during 1997, also did not show a spike in deaths. Nor did Denver, which got PCS at the end of March 1997, or Honolulu, which received it in late 1996. These cities are all distinguished by having had high levels of radiofrequency radiation prior to PCS service. Both Seattle and Denver have high radiation levels from military installations. Seattle also had digital internet service from lamppost antennas for some time previously, as did San Francisco. (Seattle, San Francisco, Eugene, and Washington are the only U.S. cities that had such service prior to 1997.) Honolulu has been known for years as having the highest levels of radiofrequency radiation of any city in the United States.

If these results withstand scrutiny, they are strong evidence that radio waves, and especially digital signals, cause substantial illness and large numbers of deaths when a population is first exposed to them. They are also evidence that most people adjust to the new electrical environment after two to three months, and will tolerate subsequent increases in radiation. This is small comfort, however, to those people whom this radiation has killed, and to those of us who never adjust, who are called electrically sensitive. Those who do adjust should also not be too complacent. The descriptions of radio wave sickness in the Eastern European literature frequently refer to an initial symptomatic period that is followed by about five years of apparent adjustment. Those five years are usually followed by much more serious disease. Those epidemiological studies were all done in the 1980s or earlier, at a time when exposure was confined to certain occupations and nobody was exposed for more than eight hours a day. 24-hour-a-day exposure to pulsed radio waves is a phenomenon which is

little more than a year and a half old in the U.S., and slightly longer in some other parts of the world.

The reason digital signals are more injurious than continuous waves is not known for certain, but probably has to do with the higher frequencies used; the staccato nature of the signal; the increased bandwidth; the increased number of channels; the necessity for direct line of sight; and modulation at biologically important frequencies.

No Place To Fly

In 1973 J. Bigu Del Blanco and co-workers proved that bird feathers make fine receiving aerials for microwaves (*1973 IEEE International Electromagnetic Compatibility Symposium Record*, New York, June 20-22, 1973, pp. 54-59). This explains the commonly-observed phenomenon of birds evacuating the area around every cellular tower. The future of bird life on this planet is imperiled by the proliferation of these towers. The following article is reprinted from page 2 of *The Kingfisher*, March 1998:

Communications Towers—A Bird Protection Issue

by Andy Mason

There has been a good deal of discussion in the press in recent months over cellular telephone companies and other communications firms attempting to site new towers to expand and improve coverage.

Most of the concerns expressed by localities have been over the esthetics of the towers—generally placed on mountain tops or other high and quite visible locations. Each company wants its own tower, and lots of them, to gain an edge over the competition.

However, there is evidence that another issue needs to be raised with these structures—bird mortality. It is well documented that towers are a threat to birds, particularly migrants. This January, a massive kill estimated at 5,000-10,000 birds, mostly Lapland Longspurs, occurred at a 420 ft. tower in Kansas. The birds were evidently disoriented by fog and strobe lights on the tower. A number were impaled on wheat stubble, indicating that they were so confused they flew full force into the ground.

The construction of towers is increasing rapidly. Since 1989, the number of towers in New York State has doubled and is accelerating. Although most are under 500 ft., a new generation of 1000 ft. and higher towers is anticipated for the coming digital television broadcast system. These taller towers pose the greatest danger to birds.

Digital TV towers may not be the only towers that will be so tall. The Federal Communications Commission's rules on Broadband PCS specify permitted power levels for towers up to a mile and a quarter tall! (Section 24.232 of the Code of Federal Regulations.)

And other consequences

Increased Radioactivity

A study published by the Track Analysis Research Group in 1996 reports on the attraction of radon daughter nuclei to everyday sources of power frequency electric fields.* Its principal author, Professor Denis L. Henshaw, is head of the Human Radiation Effects Group at the University of Bristol in England.

These researchers measured up to an 18-fold increase in deposition of radon daughter nuclei along the wires of domestic appliances, provided only that the appliances were plugged in (not turned on). "Wires carrying mains frequency potential attracted radon daughter nuclei in a manner visually similar to the attraction of iron filings to a magnet," they wrote. They theorized that the presence of electric fields indoors or outdoors (such as near powerlines) would enhance the diffusion of radon daughter aerosols and therefore increase the radioactivity in indoor or outdoor air.

Because water molecules instantaneously polarize in the direction of an electric field, water-containing aerosols always move up the field gradient toward the source of the field. It does not matter whether the field is direct or alternating: the molecules flip instantaneously with the alternation of the current and still move up the field gradient toward the source. It is therefore likely that the electric field component of microwave radiation would do the same thing.

In this regard, Rita Holzer reports that she has been monitoring radioactivity for many years, and that in many places in California, Arizona and Illinois, the background radioactivity increased about 60% in 1997, and that these higher readings are steady and do not vary with wind conditions.

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Severer Weather

by Arthur Firstenberg

On page 53 of *Microwaving Our Planet* I reported that in 1978, power lines and radio towers were already broadcasting enough energy into space to interact with the Van Allen radiation belts and cause an increase in the fallout of charged particles over the earth. This was theorized to enhance cloud formation and increase thunderstorm activity.[1] I predicted that the orbiting of huge fleets of mobile