

**LIGHTNING DATA CENTER
MINUTES
NOVEMBER 12, 2004
ST. ANTHONY HOSPITAL, DENVER**
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Quote of the Month:

“His main preoccupation is with the weather.”

Winston Churchill referring to Dwight Eisenhower on the eve of D-Day.
Jon Meacham in Franklin and Winston 2003, p 280

1. Meeting began at 11:30 am and adjourned at 1:15 pm.
2. Members present: Benson, Burrows, Cherington, Clark, Collier, Flanders, Foley, Gift, Glancy, Holle, Keen, Kithil, McDonough, Mosier, Nibbe, Nitka, Paton, Stewart, Wachtel, Wallace, Wells, Yarnell.
3. I brought the following article (abstracted in part here):
 - a. Cherington M. James Parkinson – Links to Charcot, Lichtenbergh, and Lightning. Arch Neurol 2004;61:977.

“James Parkinson is famous for describing a disease that now bears his name. He also wrote an important but less well-known article on lightning injuries. James Parkinson must be credited with an accurate and early description of the distinctive signs of lightning injuries.”
4. Professor M. Shmatov of St. Petersburg, Russia was kind to send the following article (abstracted in part here):
 - a. Dmitriev MT, Bakhtin BI, Marynov VI. Thermal effects of ball lightning. Sov Phys Tech Phys 1981;26:1518-1520.

“In this work we introduce in the model the processes which account for the thermal effects of ball lightning, particularly the mechanism by which energy is transferred from the ball lightning to the ground. We have investigated the soil material ‘slag’ formed on the top layer of soil hit by a flash of ball lightning.”

5. Bruce Paton brought to our attention the following 2 articles appearing in the September 2004 issue of Bulletin American Meteorological Society:
 - a. Solomon S, Daniel JS. Lewis and Clark: Pioneering meteorological observers in the American West.
 - b. Knapp PA. Window of opportunity: the climatic conditions of the Lewis and Clark expeditions of 1804.

6. Phil Yarnell told us about his patient, a construction worker, who touched an energized wire said to have the following features: 110 volts and 3 amps. Since then the patient has had neuropsychiatric symptoms. Phil asked what could be said about amps. Mike Foley and Howard Wachtel pointed out that the number of amps traveling in the patient depends on several factors including the resistance of the tissues and voltage. Howard mentioned that as little as 10 milliamps could have physiologic effects. They also discussed the dangers of low voltage (below 1000 volts) contact.

7. Our first featured speaker was Ken Langford. Ken gave a fascinating presentation entitled: "Fields of Arcs." His discussion dealt with a videotape of lightning provided by Jim Bowles. The lightning flash, accompanied by a series of parallel "beads" was taken in the summer of 1998 at 5 pm near Grass Lake, Michigan. Ken and Jim defined "fields of arcs" as 100 square foot areas of "nitrogen enriched fields of grass." They raised the question: could these be the result of the "beads" touching the grass? Ken said that these areas, called "fairy rings" are well known and are not the result of lightning. The name comes from an old folk-tale regarding mushrooms growing in a circle. They are the result of fungi colonizing the grass. Robert Gift and Rich Burrows have seen mushrooms grow in the fairy ring areas of grass. They warned us that some of these wild mushrooms might be poisonous. Greg Stewart and Howard Wachtel suggested the "beads" seen parallel to the lightning flash might be luminous points of stepped leaders. Others wondered about the "beads" being artifacts of droplets on the window.

Ken, thanks for sharing this videotape and your presentation of a curious lightning phenomenon. The discussion was animated and would have continued but for our schedule.

8. Our second speaker was Rich Kithil. Rich began with a quote from Aristotle: "Order is defined as chaos yet to be deciphered." Rich introduced a patient whose symptoms precede meteorological phenomena including lightning and other weather changes. Her medical problems began with a serious automobile accident in 2000. She had fractures of cervical vertebrae. Both Rich and the patient know that members present are not providing medical advice in this setting, but can discuss the possible relation between meteorological conditions and medical conditions.

Gil McDonough spoke about changes in barometric pressure having effects on musculoskeletal disorders. Bruce Paton wondered if such symptoms might be affected by hyperbaric chambers. Howard Wachtel spoke about "electrical hypersensitivity." He said that this is a known phenomenon where some individuals experience physiologic changes when they enter regions of high EMF, such as fields of power lines. Howard provided us with the following reference about patients with perceived electrical hypersensitivity: KH Mild and colleagues at University of Umea in Sweden.

Gil and Phil Yarnell spoke about "regional complex pain syndrome," a painful condition that follows trauma. We thanked the patient for sharing her history. I indicated that if she, and her physician prefer, she could make an appointment to see physicians on our panel.

Rich, thanks again for your continuing contributions to LDC.

9. Two of our members are authors of important books just published. These books are:
 - a. Skywatch West: The Complete Weather Guide, Revised Edition by Richard A. Keen.
 - b. Lightning Protection for Engineers by National Lightning Safety Institute.
10. These minutes do not represent official positions of LDC or its members. The minutes simply reflect comments made at the meeting.

Next meeting:

December 10, 2004 at 11:30 am in the Main Auditorium of St. Anthony Central Hospital.

Scheduled speaker: Stephan Hodanish, Senior Meteorologist,
Thunderstorm/Electrification Program
Leader, NOAA, NWS, Pueblo, CO

Respectfully submitted,

Michael Cherington, MD