ASTRONOMY

Dietrick E. Thomsen reports from Albuquerque at the meeting of the American Astronomical Society

Binary asteroids hit twice

The impact craters visible on the surfaces of planets and planetary bodies are generally attributed to hits by small objects coming from interplanetary space, in many cases asteroids. There is now evidence that asteroids occasionally come as binaries, pairs bound together gravitationally and orbiting about each other as they orbit the sun. Can binary asteroids be responsible for binary craters?

P. D. Noerdlinger of Michigan State University suggests that they can. That is, if there really are doublet craters — those that are formed in the same event. Noerdlinger cites the Clearwater Lakes in Canada as a prime example. They are geographically close, datable to the same time and give geological and morphological indications of the necessary dynamics. Other possibilities are the Barringer and Odessa craters in the southwestern United States and the Steinheim craters in Germany. On Mars and the moon, Noerdlinger admits the evidence is less clear, but he suggests that may be because we lack good methods of dating craters on those bodies.

There are other theories for the production of such doublet craters. They could be caused by the break-up and crash of an orbiting body or the break-up of a single asteroid just before impact. A study of the apparent dynamics of the events (distance between craters, apparent angles and speeds of descent) convinces him that a hit by a binary asteroid is best.

A possible companion for SS433

SS433 is that strange star — if it is a star — that has been causing a great hullaballoo in the last year or so (SN: 3/1/80, p. 140). Unlike ordinary stars, SS433 seems to possess jets or beams of light-emitting matter that precess around in a fairly precise and complicated way. It also sits in the middle of a nebula of radio-emitting gas that may be a supernova remnant and within which are some smaller brighter radio sources. All these things line up in a way that suggests dynamical connections.

Any unique-seeming astronomical discovery is potentially the forerunner of a class, and so it seems to be happening to SS433. P. C. Gregory and G. G. Fahlman of the University of British Columbia and R. A. Downes of UCLA suggest that the object G109.1-1.0, recently found by the Einstein X-Ray satellite, is the same sort of thing as SS433. It has features that, translated to the X-ray range, parallel those of SS433. The observers are attempting to fit G109.1-1.0 to the most common model of SS433.

A possible cluster for 3C345

One of the long outstanding questions about quasars or quasistellar objects is their relation, if any, to galaxies. One way to begin to prove a developmental relation is to show spatial relations. Galaxies tend to associate in groups and clusters. If quasars can be shown to club with them, that increases the possibility of evolutionary relations.

Bruce Margon of the University of Washington, G. A. Chanan of Columbia University and R. A. Downes of UCLA have discovered, as they report, a 19th magnitude quasar lying only 8 minutes of arc from the famous quasar 3C345. The two have identical redshifts and therefore distances from earth to a part in 1,000. Given this closeness, the probability of chance association rather than a real relationship is one percent, the observers say.

If the relation between the two quasars is real, dynamics implies a rich cluster of galaxies to sustain it. (Galaxies are more likely than other quasars because of the comparative rarity of quasars.) These galaxies ought be about 22nd or 23rd magnitude, Margon, Chanan and Downes suggest. It would be the first rich cluster found with quasars in it.

BIOMEDICINE

Red eye — New Wave next-day nemesis

First it was disco felon, now it's punk eye.

Those of you who followed last year's fashions may remember disco felon, an infection on the tip of the finger caused by the repeated finger-snapping of disco dancing. The current New Wave fashion has its own medical hazard — punk eye.

The problem, as described by Massachusetts physician Thomas Caspari in a letter published in the Dec. 11 NEW ENGLAND JOURNAL OF MEDICINE, is subconjunctival hemorrhage — "extremely reddened very blood-shot eyes," Caspari explains. He diagnosed the condition in a healthy 20-year-old man who admitted to vigorous pogoing a few days before seeking help. Pogoing, a New Wave phenomenon, is a strenuous dance in which the reveler repeatedly jumps up and down.

"The condition took about a week to clear up," says Caspari. There is no treatment, just rest. "It looks frightening," he says, but it does not do permanent damage. When asked if other punk-related activities such as drug use or wearing ultra-tight leopard skin tights could have caused the condition, Caspari maintained that pogoing is "the most likely possibility." Subconjunctival hemorrhage, he notes, is associated with long periods of heavy exercise. Pogoers can avoid unsightly punk eye by dancing "in moderation," Caspari says.

A nose by any other name

Ear, nose and throat doctors have always had it rough. Their name, they say, fails to reflect the more comprehensive care they give. Few people can recall the cumbersome medical name for the specialty — otolaryngology. And some specialists complain about being known by the body parts they treat. "Ob-gyn specialists, for example, are not called Ovary, Uterus, and Vagina men, nor is the specialty known as OUV," notes ENT man Jack R. Anderson in last August's SOUTHERN MEDICAL JOURNAL. "Urologists are not known as Kidney, Ureter, and Bladder men."

So the two largest organizations have taken a step toward clarification. They have kept their medical name, but added to it to reflect their entire area of expertise. Thus, the American Academy of Otolaryngology becomes the American Academy of Otolaryngology — Head and Neck Surgery, and likewise for the American Council of Otolaryngology.

Hot tub use during pregnancy

Pregnant women who want to soothe their aches in a hot tub should limit their stay. Prolonged hot tub use can send a prospective mother's core temperature into the danger zone, says University of Washington School of Medicine researcher Mary Ann Sedgwick Harvey.

Harvey monitored the vaginal temperatures of 20 women of child-bearing age and found that after as little as 15 minutes in a 102°F (39°C) tub or 10 minutes at 106°F (41.1°C), internal temperatures reached 102°F, a temperature that can be a hazard to the central nervous system of the developing fetus. 102°F water is "social hot tubbing" temperature, says Harvey, while the 106°F temperature is in the hot range.

In a retrospective study of unexplained birth defects, Harvey found a few instances of malformation in the children of women who had remained in hot tubs for 45 minutes to an hour. "We don't know how big a hazard it is," says Harvey. "Our guidelines are very conservative."

Pregnant women can still enjoy hot tubbing, she says, but they should be cautious not to stay in too long. They should also not hop in and out of the tub, because although they may feel cool after coming out of the tub, their core temperature may still be elevated.