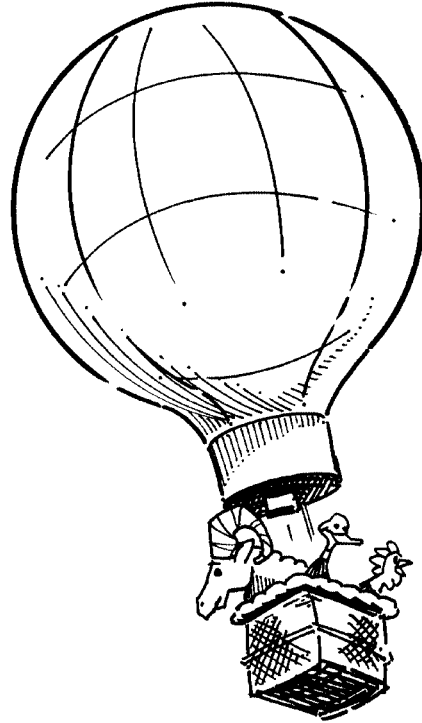


### The Misadventures of Professor DuBois

By Wally Whatsup  
Boulder Gazette

UNIVERSITY OF COLORADO – Tomorrow morning’s long-awaited hot air balloon flight to commemorate the June 5, 1783 event that carried the first live passengers – a duck, a sheep and a rooster – aloft has been scheduled for Saturday, April 23<sup>rd</sup> at 6:00 a.m. Professor DuBois is busily gathering specimens to participate in this reenactment. The National Center for Atmospheric Research has volunteered to provide continuous atmospheric data during this commemorative flight and has designated its grounds as the official launch site.



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1. \_\_\_\_\_ In which sector of the Eldorado Springs Quadrangle is the National Center for Atmospheric [NCAR] located?
2. \_\_\_\_\_ At what azimuth is the summit of Bear Peak as viewed from NCAR?
3. \_\_\_\_\_ State the values of the contour lines between which the NCAR facility  
\_\_\_\_\_ has been constructed.

Be aware that Professor DuBois has a reputation for being rather eccentric. For example, he doesn’t want just any old duck riding in the gondola of his balloon; he wants a mallard duck! After several inquiries that led nowhere, he decided to contact the U.S. Department of Fish and Game. The receptionist suggested he travel to Gross Reservoir [Eldorado Springs Quad, W Sector 4] where he would be certain to find a mallard to his liking.

4. \_\_\_\_\_ If the streambed of South Creek lies at an elevation of 6940 feet at the base of the Gross Reservoir spillway, what is the height of the dam?
5. \_\_\_\_\_ In what quadrangle do the western portions of Gross Reservoir lie?
6. \_\_\_\_\_ In what county is the Gross Reservoir spillway located?

Although Professor DuBois’s fondest desire was to send a domestic sheep aloft, he could find no one willing to lend him one for fear something dreadful might happen to it. So strong was his determination that the second animal be a sheep that he decided to trap a Rocky Mountain bighorn. By chance, a government

trapper learned of the professor's dilemma while listening to an early morning talk show. He immediately contacted the professor to offer his professional services.

Hoping aboard a helicopter that very morning, this unusual twosome headed directly for Coffintop Mountain [Lyons Quad, W Sector 4] where the U.S. Department of Fish and Game had been supplementing the sheep's scant food supply during the long winter now behind them.

7. \_\_\_\_\_ What type of control marker is located at the summit of this peak?
8. \_\_\_\_\_ The helicopter set down in the flattened area between the summit of Coffintop Mountain and the three-knolled peak to the northwest. What term is used to describe such feature?

The unusual sight of a rapidly descending helicopter accompanied by strong winds stirred by its whirling blades set two bighorn rams to flight. In its panicky efforts to escape, one ram became entangled within a dense thicket. It took only moments for the trapper to disembark and hurriedly shackle the ram's legs. A short while later, the professor, the trapper, and the bighorn sheep were aboard the helicopter on their way to the National Center for Atmospheric Research.



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9. \_\_\_\_\_ The second ram was last spotted heading in a northeasterly direction toward Deadman Gulch. How far, in kilometers, would this ram have to travel before arriving at the point where Antelope Park Road [Lyons Quad, W Sector 4] crosses the stream flowing through Deadman Gulch
10. \_\_\_\_\_ Is the stream that flows through Deadman Gulch classified as **intermittent** or **perennial**?

An associate professor of Domestic Husbandry at the University of Northern Colorado in Greeley offered DuBois the loan of a rooster previously used in a fowl intelligence experiment that had yielded quite dubious results. Setting out immediately, Professor DuBois headed east on Route 7 and on to I-25 north. During his journey, the professor frequently consulted the Colorado State highway map.

11. \_\_\_\_\_ After crossing the eastern neat line of the Boulder Quad [NE Sector 3], how much farther did DuBois travel before reaching the I-25 Interchange?
12. \_\_\_\_\_ What is the number of the I-25 – Route 7 Interchange onto which DuBois turned during his Northward trek to Greeley [Colorado highway map]?
13. \_\_\_\_\_ Use any available method to determine the distance, in miles, from the I-25 – Route 7 Interchange where DuBois will exit onto Route 34 to head East to Greeley [Colorado highway map].

14. \_\_\_\_\_ What letter-number coordinate would have helped Professor DuBois locate Greeley on the Colorado highway map had he not known where that city was located?

A close friend, whose home is in Lyons, promised the professor the loan of a hot air balloon should this event ever “get off the ground”. Since Lyons is located between Greeley and Boulder, the professor decided to pick up the balloon on his return trip from Greeley.

15. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ Over which three routes would the Professor travel on this journey from Greeley to Lyons if he wishes to include a brief visit with his mother whose home is in Plattville? [Be certain to include both the highway designations and numbers.]

16. \_\_\_\_\_ According to the 1990 census, what is the population of Lyons?

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 Boulder Gazette

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH – Proceedings for this morning’s hot air balloon flight to commemorate the first flight in which living creatures were sent aloft are now well underway. This unmanned flight has received unprecedented approval of the FAA only because of the safety precautions being observed and the potential historical significance of such a feat. Due to its being a pilotless flight, the balloon will remain securely tethered while its altitude is remotely controlled by radio. The National Center for Atmospheric Research has forecast perfect weather conditions for this one-of-a-kind flight. ...

Professor DuBois returned to Boulder that very day to spend a long, restless night, worrying about all those things that could possibly go wrong the following day. He rose shortly before dawn and headed directly to NCAR where the fate of his ambitious undertaking was awaiting him. Operations were proceeding so well that he stole a moment to reminisce ...

*... As the balloon of his dreams slowly ascended into the clear blue Colorado skies, DuBois reflected upon those bygone days in grammar school when he first learned of the historic flight that had carried similar creatures skyward. He remembered being told how concerned the spectators had been for the safety of the creatures and how badly he had felt when he learned that the duck’s wing had been broken when the sheep ...*

A stranger’s sudden, despairing shout interrupted his thoughts. “Oh, no! Have I forgotten? Oh, woe is me! How could I let this happen? The balloon is not tethered! There it is! Mercy, mercy! What shall I do?” murmured DuBuis.

17. \_\_\_\_\_ The balloon is drifting slowly southwestward from Table Mountain [Eldorado Quad, NE Sector 3] toward Bear Peak [Eldorado Quad, C Sector 5]. Note the graticule tic mark, a small plus-like symbol, located slightly to the southeast of Bear Peak summit. What are the coordinates at this location?

18. \_\_\_\_\_ What type of control marker is found at the summit of Bear Peak?

As the balloon steadily maintains its course toward the summit of Bear Peak, the professor suddenly realizes that, at its present altitude, it will crash! He quickly hits the remote to produce a blast of hot air that causes the balloon to safely ascend to a higher altitude. With the resulting rise in altitude, the balloon changes to an easterly course.

19. \_\_\_\_\_ Into which quad will the balloon now float?

Not wanting the balloon to travel too far eastward, DuBois again depresses the button of his remote. Luckily, at the higher elevation the balloon changes its course toward Boulder. The Professor hops into his red convertible and races away from NCAR. As he proceeds northwestward along Route 93, he hastily picks up his cell phone to call the University of Colorado Observatory [Boulder Quad, SE Sec 9] with a request that they visually follow the balloon with their telescope.

20. \_\_\_\_\_ Is the observatory one of the **newest** or **oldest** buildings on the University of Colorado campus?

As the professor crosses Boulder Creek [Boulder Quad, SE Sector 9], a fiendish gust of wind catches his wide-brimmed hat, whisks it off his head, and drops it into the murky waters below.

21. \_\_\_\_\_ If he wishes to retrieve his hat once this ordeal is over, would the professor follow the creek in an **eastward** or **westward** direction?

As the Professor crosses Canyon Boulevard, the balloon is directly above Centennial Junior High School [E Sector 6, Boulder Quad].

22. \_\_\_\_\_ What is the **azimuth** of the balloon as viewed from Professor DuBois's present location?

23. \_\_\_\_\_ What is the **bearing** of the balloon as viewed from Professor DuBois's present location?

24. \_\_\_\_\_ How many kilometers, to the nearest tenth, is the balloon now ahead of the Professor?

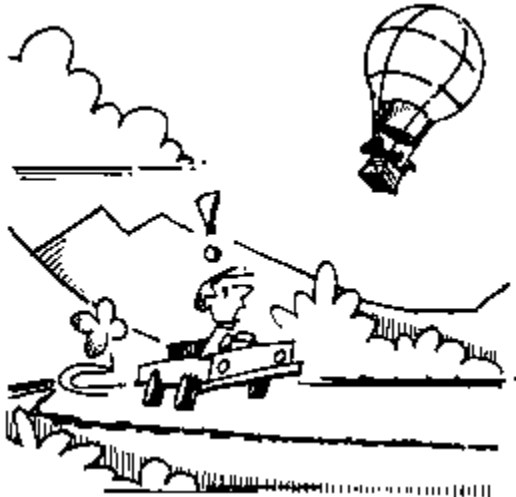
Professor DuBois soon discovers that maneuvering his convertible while attempting to orient his large 7.5-minute quadrangle is becoming quite challenging.

25. \_\_\_\_\_ To what scale has the 7.5-minute Boulder Quad been drawn?

26. \_\_\_\_\_ Are the chances of the magnetic declination given on this quad being exactly  $13^\circ$  during the current year **extremely good** or **quite poor**?

Fearing that the balloon was drifting too rapidly and that it might become entangled within power lines or set down on a busy street, DuBois again depresses the remote until the balloon rises high enough to catch a calmer with current. The balloon, fortunately, continues to drift in a northerly direction paralleling US Route 36, but at a much too rapid speed.

27. \_\_\_\_\_ How distant is the town of Lyons, by road, from the balloon's position as it drifts across the northern neat line of the Boulder Quad?



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Just as Professor DuBois's car comes to a complete stop at the intersection of Nelson Road and U.S. Route 36 [Lyons Quad, SE Sector 9], he observes the balloon come to rest on the very crest of the hill to the west, labeled with an elevation of 6288 feet.

28. \_\_\_\_\_ Calculate the rise in elevation from the intersection where the professor stopped to the top of the hill.
29. \_\_\_\_\_ What is the distance, in feet, between those locations?
30. \_\_\_\_\_ feet/hundred feet Calculate the slope gradient, in feet per hundred feet, over which the professor must hike to rescue his ill-fated balloon and its bewildered passengers.

Now that the flight is over and the animals are safely recovered, Professor DuBois reflects upon the distant future. Will he once again attempt to reenact his dream? Will NCAR, the University of Northern Colorado, and the U.S. Department of Fish and Game cooperate in any future attempt to fulfill his dream? Will his friend once again lend him his hot air balloon? These are but a few questions that Dr. DuBois must ponder.

Let it be known to all that no animals were injured during this reenactment. The mallard duck is now the proud father of six little ducklings; the rooster is the subject of yet another intelligence experiment; and the bighorn sheep, although a little more wary of noises overhead, is once again roaming the craggy mountain-tops of Colorado.

**1994 Colorado State Road Scholar Exam: The Misadventures of Professor DuBois**

Answer Key

Maps used in this unit: Boulder, Colorado, USGS Quad  
Eldorado Springs, Colorado, USGS Quad  
Lyons, Colorado, USGS Quad  
Colorado highway map, Rand-McNally.

1. NE [or 3]
2. Range: 217° to 227°
3. 6080' and 6120'
4. 347'
5. Tungsten
6. Boulder
7. Spot elevation
8. Saddle
9. Range: 1.7 to 1.9 km
10. Intermittent
11. 16 miles
12. 229
13. Range: 27 to 28 miles
14. B-9
15. U.S. 85; State Route 66; U.S. 36
16. 1227
17. 39° 57' 30" N; 105° 17' 30" W
18. Horizontal
19. Louisville
20. Newer
21. Eastward
22. Range: 015° to 021°
23. N 15° E to N 21° E
24. 3.3 to 3.4 km
25. 1:24,000
26. Quite poor
27. 8 miles
28. 639'
29. Range: 3000' to 3400'
30. Range: 18.8' to 21.3' per 100'

**To purchase the three USGS Quadrangle  
and highway maps to accompany “The  
Misadventures of Professor DuBois,”  
visit <http://www.otherworlds-edu.com>**