

Ozone. The presence of ozone in the atmosphere may be detected by ozone paper, as in Art. 61. The general facts regarding ozone may be stated as follows:—

(1) More ozone is present during the night than during the day, and most of all is found at daybreak.

(2) More is found on the sea coast, and specially when the wind is blowing from the sea.

(3) More is found in the country than in towns. In country air it does not amount to more than to one volume in 700,000 volumes of air.

(4) It is invariably formed when water evaporates, and this is probably the main source of atmospheric ozone; atmospheric electricity and the action of aromatic plants and flowers may be reckoned as minor sources.

Aqueous Vapor.

Exp. 6.—Bring a tumbler of cold water into a warm room, or put a few pieces of ice into a test-tube; moisture is soon deposited on the outside of the glass. A given volume of air cannot take up more than a certain quantity of aqueous vapor, and then it is said to be *saturated*. The quantity taken up depends entirely on the temperature. At the temperature of 60° F. there are about 6 grains of aqueous vapor in each cubic foot of air, or one grain to the gallon. Taking a fair-sized room, 25 feet long and 17 broad, containing about 6,000 cubic feet, it would take about half a gallon, or five pounds, of water, to make the aqueous vapor in this room at 60° F. If the temperature were only 40° F., the aqueous vapor would only be half a grain to the gallon of air,—just half what it is at 60° F. Hence the necessity of supplying moisture to the atmosphere when it is raised in temperature.

General Facts Respecting Moisture.

(1) Air rarely contains its full saturated amount of moisture except in very cold weather, or in very hot tropical seas.

(2) The most comfortable degrees of saturation is from 66 to 70 per cent. More than this checks evaporation from the body, whilst less causes too great evaporation, thereby parching the mouth and drying the skin.

(3) It has been noted that in certain places remarkable as health resorts the degree of saturation is remarkably uniform.

HIGH SCHOOL LITERATURE.

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ELEVENTH PAPER.

"THE ANCIENT MARINER"—PART I.

1. "I fear thee." Why is the wedding guest afraid?
2. To whom is the poet indebted for vv. 3-4? On what coast was "the ribbed sea-sand" that suggested the comparison? Explain in detail how the mariner resembled the sea-sand.
3. What caused the brightness of the mariner's eye? What the brown color of his hand?

4. What is the emphatic word of v. 8? How does this verse tend to reassure the wedding guest?

5. What effect is produced by the rhetorical artifices employed in vv. 9-10.

6. Point out the antitheses of vv. 13-16 and show how to give them oral expression.

7. "And so did I" (v. 16.) Point the application of these words.

8. "The rotting sea." Why are the sea and the deck described as "rotting"?

9. "There the dead men lay." Show that this is a statement of cause for effect.

10. "Had gusht." What metaphor underlies "gusht?" (Cf. v. 61.)

11. "Gusht—dust." What requisite of perfect rhyme is absent?

12. "For the sky, etc." (v. 27.) What is the effect of the anapaestic rhythm and the antistrophic repetition in this verse?

13. "The dead were at my feet." Compare with v. 20. Why the repetition?

14. "Nor rot nor reel did they." How does this accord with v. 19?

15. "Reek." One editor says "to give off vapor," another says "to smell." Which is right?

16. "The moving moon." Interpret this stanza in the light of the gloss: "In his loneliness and fixedness he yearneth toward the journeying moon and the stars, etc."

17. Why is the commentary here longer than the text. What literary merits has this gloss?

18. "Her beams bemocked, etc." How did the moonbeams mock the sea?

19. "Huge shadow." Why is the shadow huge?

20. "The charmed water." Why is the water thus characterized?

21. Is there in nature any basis for the fancy contained in vv. 47-48?

22. "They moved in tracks of shining white." Was the sheen emitted or reflected?

23. "A flash of golden fire." How was it that every track within the shadow was "a flash of golden fire?"

24. What leads to the mariner's conversion? Show that there is poetic fitness therein.

25. "The albatross fell off." What is typified by this?

26. "Like lead." Why is this comparison employed?

27. The first edition contained the following:—

- (a) "And Christ would take no pity on."
- (b) "And a million million slimy things."
- (c) "Lived on—and so did I."
- (d) "I looked upon the eldritch deck."
- (e) "Till the balls like pulses beat."
- (f) "Ne rot ne reek did they."
- (g) "Like morning frosts yspread."

Remark on the changes made in subsequent editions. What signs do you notice of growth in poetic taste?

28. "A high development of the sense of color is a distinguishing characteristic of recent poets." Illustrate from Part IV. this remark of Ruskin's.

29. Compare "Blue, glossy green, and velvet black," with v. 48 of Part II.—"Burnt green and blue and white." Is the poet painting the same scene in both passages?

30. Quote the description of "the horrible penance," (vv. 9-39).

31. Quote the description of "the tropical calm by moonlight," (vv. 40-58).

32. Quote "the conversion," (vv. 59-68).