died of hypotension during the procedure. The phasic wave forms of carotid artery blood pressure recorded in this study were similar but not identical to those recorded by Goetz, *et al.* with a catheter tip manometer (*2*). They also recorded an initial spike which was less marked in the central aorta, but became more prominent as the sampling catheter was moved peripherally. However, their most peripheral sampling point was barely above heart level, whereas in the present experiments the transducer was located at least 180 cm above heart level. Although wave forms which we recorded were probably greatly damped during transmission through this great length of the artery, no definite statement can be made about the role of reflected waves.

When the animal's neck and head were upright, blood pressure at the base of the skull was approximately 45 cm-H_2O (or 35 mm-Hg) less than that measured by the gage, owing to the effect of the hydrostatic column of blood above the gage. However, when the animal's head was on the ground, intravascular pressure at the gage site was essentially the same as at the base of the brain. Thus, while the animal was upright, the actual perfusion pressure at the base of the skull averaged about 125/75 mm-Hg, which compares favorably with known values for many other species, including man.

Excellent collateral circulation between major vessels supplying the giraffe's rete mirabile was observed directly. Functionally, this was demonstrated by lack of evidence of neurological deficit in both animals, despite the 10-minute continuous occlusion of the right carotid artery during gage installation. Further, blood pressure above a carotid occlusion was identical to that below it.

Both the present study and that of Goetz have shown that the change in cerebral perfusion pressure which occurs with postural variation does not correspond exactly to the measured change in effective height of the fluid columns between heart and head. This suggests that a means for blood pressure regulation may exist in which posture is involved. Additional evidence for such a mechanism is the transient bradycardia observed during head raising. Interrelationships between blood pressure and heart rate are characteristic of carotid sinus baroreceptor mechanisms. Although previous anatomical studies have indicated that the carotid sinus is absent in the giraffe (*2*) it seems likely that its function in regulating the cardiovascular system is served by other similar but as yet undetermined compensatory mechanisms.

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14 January 1966

Lake Lundy Time

Within the Erie Basin, between the highest level of Lake Maumee (800 feet) and that of Lake Erie (573 feet) the ice-dammed Lake Lundy has been assigned an elevation of 620 feet (190 m). Wood from a forest bed above the highest and most recent clay deposited by the falling lake waters, reported to Libby as taken at the 620-foot contour, was dated by him (sample C-526) at 8513 ± 500 years ago (*1*). This has led to acceptance of that figure as the date for Lake Lundy.

Hough (*2*) has since rejected this date, along with that of Lake Warren at 9640 years ago, as too recent, citing evidence that the Niagara outlet was cleared of ice necessary to maintain these lake levels before the Two Creeks interval (11,800 years ago). Falconer, Andrews, and Ives have also shown that the southern ice border 8000 to 9000 years ago lay far north of the Niagara outlet (*3*).

Actually the wood collected lay at least 6 feet below the surface at point of collection (*4*); it was covered with marl deposited by calcareous springs after recession of the lake. Hence the forest bed was not higher than 614 feet, where forest could not have grown until after the water fell below the assigned level (620 feet) of Lake Lundy.

However, the collection site described by R. J. Bernhagen, when located on the 1959 7½-minute Bellevue, Ohio, quadrangle (contour interval 5 feet), appears to lie below the 615-foot contour, rather than at the 620-foot contour, where it lay on the older (1901) 15-minute quadrangle (contour interval 10 feet). If this is the case the forest bed lies not higher than 609 feet. Since the forest bed and the marl above it are terrestrial deposits, the 609-foot elevation of the dated wood indicates a still greater interval between the presence of Lake Lundy at this point and the development of the forest bed.

Meanwhile Forsyth (*5*) includes Grassmere at 640 feet, Dana at 620 feet, and Elkton at 615 feet as three "Lundy" phases following erosion of the outlet of Lundy proper. This interpretation, rejecting the conventional 620-foot elevation used in the literature, also supports the view that the date of 8513 ± 500 years ago is much too recent for the last ice-front lake in the Erie basin.

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6. Thanks are due the Ohio Geological Survey and the National Science Foundation, and to Professors Forsyth, Ogden, and Crowl for accompanying me on a recent trip to the site.

7 March 1966