

cients arose might well lead to a quite different solution.

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THE HISTORY OF BAER'S LAW

IN his article, "Significance of Baer's Law,"¹ R. J. Russell mentioned that the so-called Baer's Law "was apparently first advanced by Babinet,² though it is customarily called Baer's Law because of its formulation by Karl von Baer in 1866."³ However, both Babinet and Baer had their predecessor in P. A. Slovssov, author of the Russian book, "Historical Review of Siberia." This book, the result of a life-work, was practically a summary of everything that Slovssov knew or learned about Siberia. Speaking of the Yenissei River, Slovssov says: "The right shore is always (everywhere) high, as it is in all Siberian rivers running in the direction of meridians; since long we considered this condition as the result of daily rotation of the Earth globe."⁴

Slovssov's book was known to Baer, although apparently he worked out his theory quite independently of the former. Slovssov was given due credit by Baer, who expressed his surprise that Slovssov's ideas had remained quite unnoticed in Europe, and were not mentioned even in fundamental works on hydrography of Russia. Ideas of Babinet and other French scientific men, interested in this question, were known also to Baer, but the latter treated the problem in its physico-geographical application, while French scientific men approached it chiefly from a mathematical point of view.

Baer arrived at the discovery of his law in 1853, when he traveled down the Volga River to Astrakhan. On this occasion he was much impressed by the very pronounced difference between both shores of the river, the right one of which was unusually high, while the left one—low. Such an unsymmetry of valleys is very well expressed on many rivers in Russia running more or less in the direction of meridians, and was noticed by many scientific travelers of the last two centuries. Some of them tried to explain it by local geological structure, or dislocations; even the activity of the wind was taken into consideration, but no explanation was, as it should be, sufficiently universal to cover all observed cases. As was emphatically stated, in 1847, by a geologist, Major Wangenheim von Qualen, such a common phenomenon should depend in all cases on the same general cause.

While at Astrakhan, in 1853, Baer reported his ob-

servations and conclusions to a few friends in that town. The next winter, 1853-1854, he repeated his report before a larger audience in St. Petersburg. In 1854 he published in a Russian magazine (*Journal of the Ministry of State Domain*) a report on his travel, into which he included his explanation of the unsymmetry of the Volga valley. Later he published several Russian articles in different magazines on the same question. He did this not only to attract more attention to the problem but also to provoke its discussion. It is possible that at that time Baer learned of Slovssov's ideas about the same subject. In 1860 Baer published his article, "Ueber ein allgemeines Gesetz in der Gestaltung der Flusssbetten,"⁵ in which he considered the matter in all its detail and in reference to rivers of the whole surface of the earth so far as they were known at that time. He was surprised to find that no scientific man, among those who had observed and described unsymmetrical valleys, had come to this conclusion. He attributed his discovery of the law to the fact that he had worked on such problems as rotation of winds and of sea currents and was accustomed to pay attention to the influence of the diurnal rotation of the earth on its surface.

Baer, a member of the Academy of Sciences, was a first-class scientific man. His authority was greater than the modest reputation of a Siberian worker. Slovssov, who published only in Russian, was considered more of a historian than a naturalist. Therefore, it is no wonder that Slovssov's share in this question has been forgotten completely, even in Russia. A better name for Baer's Law would be Slovssov's Law, or at least Baer-Slovssov's Law. I. P. TOLMACHOFF

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GLACIAL STAGNATION IN OHIO

WITHIN recent years several papers have appeared on glacial stagnation, and there has been a revival of interest in the problem. There is promise of much good work to come out of investigations now in progress. Among the workers who are studying this problem is George W. White, professor of geology of the University of New Hampshire. He has spent several summers in field work in Holmes and adjacent counties in Ohio, and two papers have been published as a result of his endeavors.¹ The present writer had an opportunity to examine at first hand the area studied by Professor White. A careful inspection of

⁵ Bull. Acad. Imp. d. Sc. de St. Petersburg, Tome II, pp. 1-49, 218-250, 353-382.

¹ George W. White, "An Area of Glacier Stagnation in Ohio," *Ohio Journal of Geology*, Vol. xl, No. 3, April-May, 1932, pp. 238-258; "Glaciation of Northwestern Holmes County, Ohio," *Ohio Journal of Science*, Vol. xxxi, No. 6, pp. 429-453.

¹ SCIENCE, vol. 75 (1932), No. 1953, p. 584.

² In 1849.

³ Correct year of the publication of Baer's article is 1860.

⁴ P. A. Slovssov, "Historical Review of Siberia," Vol. II, p. 196, 1844.

the region was carried on independently and in the company of Professor White. There appears to be abundant evidence to show that during the last ice invasion, in a hilly portion of Holmes, Ashland and Richland counties in Ohio, the ice-sheet did not melt back with a definite front, but stagnated in the valleys. The ice-sheet advanced from the Lake Erie region southward over the Allegheny escarpment, upon the Appalachian Plateau, which rises gradually to an elevation of about 1,300 feet above sea-level in Holmes County, where a major divide extends in an east-west direction. The ice, loaded with debris and comparatively thin, pushed slightly over the divide and stagnated in the valleys. The glacier near the ice-front melted away in ragged fashion, and it is believed that the ice first melted from the uplands, exposing the hills and ridges. Across this area there was no definite ice-front at any time during the melting of the glacier. The deposits in the valleys and bordering them are kames, kame terraces and a few eskers, and are such as would be deposited from and around detached blocks of stagnant ice. The best development of these deposits is present in the broad valley extending from Mansfield to Shreve and in some of the tributary valleys. Several lakes, such as Odell Lake, Long Lake and Round Lake, represent a series of kettle-holes once occupied by blocks of ice. Ice-contact slopes appear at places around them. Kames and occasional kame terraces appear to be numerous in a zone along the sides of the valleys. The belt in which stagnation occurred is ten or more miles wide and extends from a point beyond Millersburg on the east to Mansfield on the west, a distance of possibly thirty-five miles as the crow flies. Further investigation may disclose similar evidence of stagnation in other portions of Ohio.

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THE ALLEGED TRANSFORMATION OF SERUM ALBUMIN INTO SERUM GLOBULINS

THE old claim that serum albumin may be transformed into serum globulins has recently been revived,

this time with heparin as the transmuting agent.¹ The criteria of identity given by Fischer are all physical characteristics, and it seemed of interest to apply also the more delicate and specific methods of immunology.

We have found that the addition of heparin to crude horse-serum albumin at pH 5 did cause the precipitation of a substance soluble in salt solution and precipitable by half saturation with ammonium sulphate, but that the addition of heparin to carefully purified crystalline serum albumin did not cause any flocculation. In both cases we found that the albumin-heparin mixture or compound still reacted to the same degree as albumin with an anti-albumin serum, and did not react with anti-globulin serums prepared either by injecting isolated globulin or by adsorbing an anti-horse-serum antiserum with albumin. The latter reacted readily with globulin.

It would seem inexact, then, to say that albumin-heparin compounds are identical with serum globulins. Details will be published elsewhere.

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TRIPLETS

ALTHOUGH there have been many investigations of the resemblances between siblings, identical twins and fraternal twins, no extensive study of triplets has been made. Because of the possibility of one, two or three egg fertilizations, the study of triplets offers a unique opportunity to secure information on the influence of heredity and on the differential effects of environment. A study of triplets is now under way at the Institute of Child Welfare of the University of Minnesota. Since triplets are difficult to locate, the institute requests that any one knowing triplets send their names and addresses to the Institute of Child Welfare, University of Minnesota, Minneapolis, Minn.

JOHN E. ANDERSON,
Director

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

MATHEMATICS, PHYSICS AND ASTRONOMY AT ATLANTIC CITY

FORTY-ONE scientific societies will meet with the association at Atlantic City, from Tuesday, December 27, to Saturday, December 31, 1932 (see SCIENCE, for October 28, for list of societies and hotel head-

quarters). Many of these are planning important sessions for the reading of papers on timely topics (see SCIENCE, for November 11).

The first session of the thirty-ninth annual meeting

¹ A. Fischer, *Naturwissenschaften*, 19: 965 (1931); 20: 471 (1932). C. r. Soc. Biol., 108: 882 (1931). SCIENCE, 75: 443 (1932). *Klin. Wchnschr.*, 11: 936 (1932).