

and the science of humanity. Through his writings there rose two distinct views both fruitful for thought, the philosophico-historical and the strictly scientific. His immediate successors, or rather those who unconsciously imbibed the spirit of his writings, took up the former line. The great development of classical philology in the school of Wolf, the discovery of Sanskrit and the new field of oriental philology, for a time threw the purely scientific aspect into the background. Yet at the same time with Wilhelm von Humboldt and his philosophical interests in comparative philology, we find his brother Alexander giving a large share of his attention to the unknown languages of the New World, of which he has been called "the scientific discoverer."

46.
Its exact
treatment.

But the real beginnings of an exact treatment of the problem of speech were laid by one who did not come under the conscious influence of Herder, though he came under that of Goethe. By Johannes Müller it was carried further, and it was completed by some of his most illustrious pupils and followers—Donders, Brücke, Helmholtz, and Czermak of Vienna. Through the anatomical and physiological labours of these and other naturalists, joined to the physical analysis of musical notes and sounds contained in the great work of Helmholtz on Acoustics, aided by such instruments as the laryngoscope or throat-mirror, and the wonderful inventions of the phonograph and phonautograph, the organ of speech is now known to be a complicated wind instrument by which pure notes and an almost infinite variety of nasal, labial, dental, palatal, guttural, and other sounds can be produced which form the phonetic ele-