The middle Hercynian structural stage of the Timan-Pechora platform is subdivided into two sub-stages lower - Sargayev-Bobrikov and upper - Tula-Lower Permian. See page 9 of this issue. A system of uncompensated downwarps is present here just as on the Volga-Ural regional high. This system extends 800-900 km in a general north-south direction from the Pechora Gulf on the north to the area of junction of the Timan ridge with the Cis-Ural foredeep on the south. See figure 1. The north closure of the Pechora system has not been studied; on the south it joins the Kama-Kinel system. In this area of junction the systems do not close off but rather broaden to the west into the Vychegod downwarp.

The Pechora system is confined to the strict stratigraphic range from the Semiluka Horizon of the Frasnian Stage to the Tournaisian Stage. Whereas the Kama-Kinel system consists of narrow downwarps that bend around positive structural features, the Pechora system consists of broad basins that are superimposed on both positive and negative structures. These downwarps were filled from the west and northwest with consequent presence of carbonate and clastic clinoforms and reefs only along the west border.

The Sargayev-Tournaisian limestone-dolomite complex is a shelf type of section 800-1600 m thick; its full thickness is known only in the west. Toward the east there is a gradual decrease in thickness and stratigraphic completeness due to uncompensated sedimentation.

Reef deposits up to 2000 m thick are present on the borders of the downwarps. Seismic surveys and drilling have disclosed not less than five carbonate steps from 70 to 250 m high on these borders. They appear to have formed first along fault or flexure zones bounding graben-like downwarps. Four of these border steps are composed of Upper Devonian rocks: lower Frasnian - Semiluka-Buger; upper Frasnian - Voronezh (Sirochoy); upper Frasnian - Yevlanov- Liven (Ukhta); and upper Famennian - Dankovo- Lebedyan and one of Lower Carboniferous rocks: lower Tournaisian - Zavolzh (Etnen). There is a younging from west to east of these border steps. These border steps commonly combine to form a continuous chain along an area of downwarping.

The carbonate steps are replaced abruptly by thin, finely dispersed clayey-siliceous-carbonate depression facies. Their thickness ranges from 20-40 to 100-150 m, reaching a maximum of 200 m on some structures of the Pechora-Kolva aulacogen. Within the uncompensated downwarps are numerous solitary organic buildups: Vostochno-Visov, Isakov, Verkhnelodmin, Severo-Khosedayus, and others.

The configuration of the downwarps of the Pechora system changed repeatedly in time and space. The downwarps of Semiluka-Buger age were compensated by clastics up to 200 m thick of the Vetlasyan Formation; those of Voronezh age by clays up to 70 m thick; those of Yevlanov-Liven age by clays up to 100 m thick of the Savinobor Formation; those of Dankovo-Lebedyan age by clays of the late Famennian up to 300 m thick; and those of early Tournaisian age by sand and clay beds of the Dzhebol Formation up to 400 m thick. Complete compensation of the downwarps of the Pechora system was by the coaly sand-clay complexes of the Visean. Total thickness of the Frasnian-Tournaisian clastics is 600-700 m, and that of the lower and middle Visean is up to 370 m. It is widely held that all these clastic units thin gradually to the east and merge with bituminous clayey-siliceous-carbonate facies of the uncompensated downwarps.

The western border of the Pechora system has outer (Semiluka-Buger) and inner (Dankovo-Lebedyan) tectonic-sedimentational border steps. Distance between these is from 50-150 to 200-250 km. Between these are three carbonate steps from 10-25 to 75-100 km from one another. The position of these carbonate steps indicates a regressive-transgressive character for this uncompensated sedimentation and a gradual shift of the axis of the system toward the east.

The eastern border of the Pechora system is assumed to consist of Upper Devonian and Lower Carboniferous carbonate steps, which have been provisionally traced beneath the overthrusts of the western flank of the Urals. Here an inner Lower Carboniferous carbonate step has been followed in fragments for practically the entire length of the system. The outer Upper Devonian border step is recognized in the very south in the Vuktyl-Dzhebol downwarp. The carbonate rocks of this east border are not continuous. Distance between outer and inner steps does not exceed 20-30 km. The axial areas of the Pechora system shifted to the east in the late Famennian and in particular in the Tournaisian. It appears that the Pechora system had a direct connection with bathyal areas of the Ural paleo-ocean, and that the shelf between the two was narrow and discontinuous.

Recognized with varying degrees of detail in the Pechora system are the Vangyr, Lembin, Vuktyl-Dzhebol and Visher uncompensated downwarps. Their borders are uncertain at the present time. The Vangyr measures 350 by 150 km and extends in a