## 5.4 The Eurasian Land-Bridge: Echo of Friedrich List

The infamous Code of Diocletian established zero-technological growth as a general rule. This Code ruled and ruined Byzantium, and was a hegemonic, self-corrosive, and bestializing feature of western European feudalism. In direct opposition to that imperial Code of Diocletian, and to efforts by the Duke of Edinburgh's British monarchy to reestablish the world rule by that Code, modern civilization's continued existence is implicitly premised upon opposition to Al Gore, on global, continued, axiomatic adherence to a policy of increase of the productive powers of labor. This can be accomplished only by means which are typified by, and which include fostering of investment in scientific and technological progress.

Notably, at the beginning of modern European civilization, Cardinal Nicholas of Cusa emphasized the right of all peoples to access to all discoveries of knowledge, including useful inventions. Indeed, the most characteristic marker of injustice practiced under modern European civilization, is a widespread imperialistic practice contrary to Cusa's principle: the denial of free access to that benefit, to all, or some nations and peoples, on one pretext or another.

Since the partial triumph of the world-government faction, in the wake of the Kennedy assassination and related ousters of Macmillan, Adenauer, Erhard, and de Gaulle in Europe, there has been a relatively consistent reversal of economic progress in regions such as Central and South America, a genocidal catastrophe spreading throughout sub-Saharan Africa, and, more recently, a willful destruction of the economy of Southeast Asia as a whole. Since the assassination of Prime Minister Indira Gandhi, in 1984, there has been a worsening of the relative condition of the entire population of the Subcontinent of Asia, despite limited gains within parts of the urban population. Although the Soviet Union commanded a major, high-performance component of the world's scientific-industrial potential, the Soviet economy failed for reason of its failure to place sufficient and effective emphasis upon spillover of technological change into its non-military sectors.

Politically, despite the catastrophically accelerating rate of economic collapse in the Americas, Africa, western Europe, and elsewhere, there have been some relatively localized changes in policy for the better. The successes of the recent developments of approximately two decades within China, and the recent months' reversal of the catastrophic liberalization policy imposed upon post-Soviet Russia, have produced a globally crucial shift in orientation of economic polices. This shift could now become the take-off point for a general recovery of the economy of the planet as a whole. That shift could succeed world-wide, if certain forces in the U.S.A. and western Europe would focus upon a new kind of orientation toward the development potential in those regions of Eurasia which I have identified as the region of "the survivors' club."

Obviously, the area of the world associated with China, Russia, and India, is not small in scale or population. Even what might appear to be a relatively modest annual rate of physical-economic advances in productivity and in absolute rates of per-capita growth, translates into an enormous market for technology imports from those regions of the world which have been the leading exporters of machine-tool-design technology. Russia and Ukraine are important large areas of this technological potential for supplying both such internal needs of a revival of their economies and for the enormous needs of other parts of Eurasia. If we adopt a global economic reorientation which defines the world's economy as driven by intense concentration on development and maintenance of basic economic infrastructure, and upon accelerating growth in rates of per-capita investment in physical-economic expressions of technological progress, we have certain strategic-economic effects of outstanding, overriding significance.

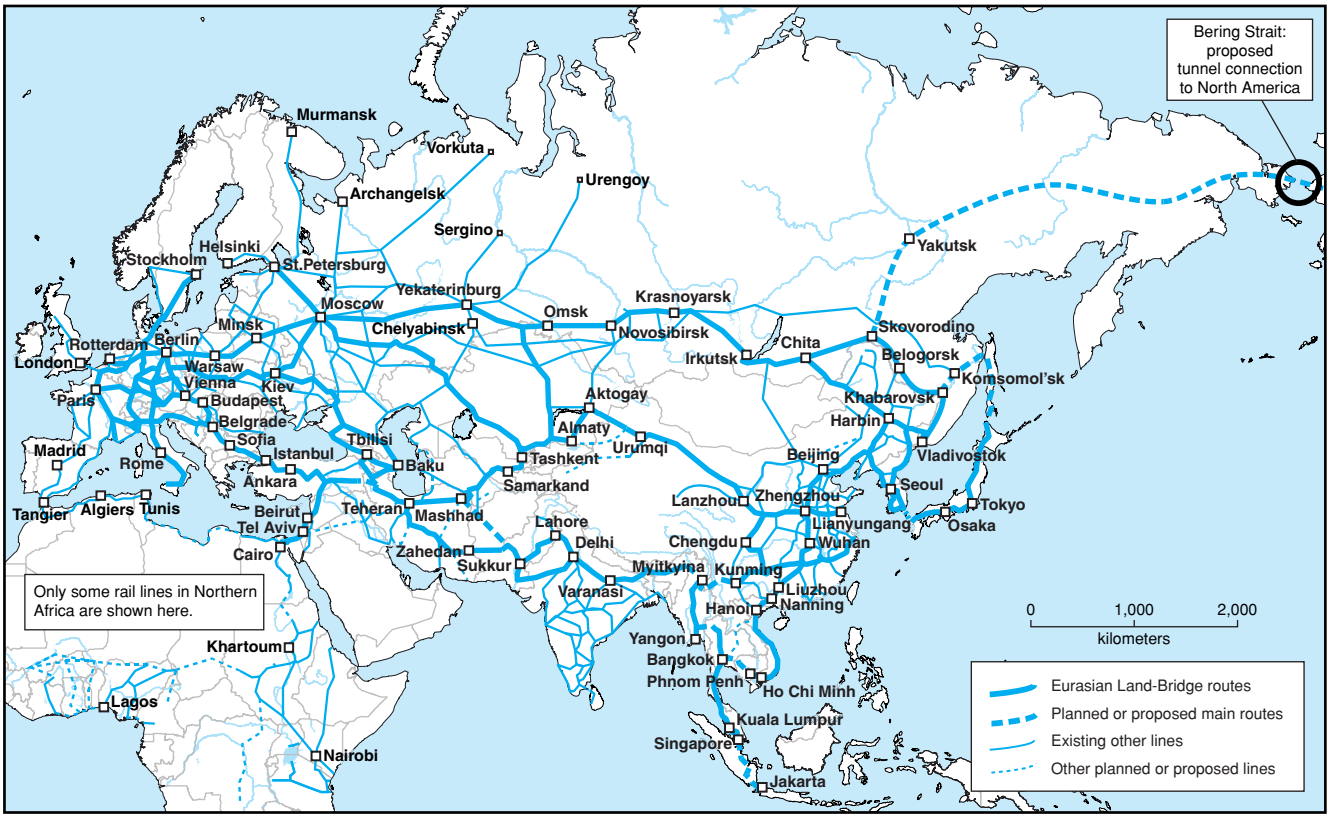
For one thing, the combined sea-lanes of the Pacific and Indian Oceans will quickly, and vastly outclass those of the Atlantic Ocean, in defining the center of gravity of turnover in world trade. The Americas will then resume that post-1865 trans-Pacific orientation, which had been clearly defined as the economic orientation of the U.S. prior to the assassination of President McKinley.

Especially with radically improved maritime technologies, water is still the cheapest highway for freight. A broad, high-capacity "sea-level" canal-system through the Isthmus of Panama, and/or Colombia, defines the principal trade-routes of countries such as Panama and Brazil to be as much Pacific-trade oriented as the Western states of the U.S.A. and western Canada. The very scale and rate of growth of Asian development per-capita make this *the Growth Market* deep into the Twenty-First Century. Meanwhile, Russia's use of its concentrations of scientific and related potentials to transform its own Arctic region into zones of development of production and transportation, will become one of the great frontiers of economic growth during that Century.

In movement of transport of produced goods across vast land-areas, the logistical principles are different from those of sea-borne transport. Sea-borne transport is cheaper in cost per ton-mile, but it is passive transport. For Eurasia, the preferred trade-routes toward the Indian Ocean and Pacific will become chiefly land-based, not sea-based. A well-conceived land-transport route is a more costly form of movement per ton-mile than ocean transport, but do not allow that factor to deceive you. Just as the opening up of the United States' west for agriculture and mining, through development of transcontinental rail lines, made those railways effective, properly designed right-of-ways of land-based transport, such methods generate cost-offsetting, by-product income from the impact of transportation of every ton-mile moved.

FIGURE 6

**Eurasia: main routes and selected secondary routes of the Eurasian Land-Bridge**




Thus, the development of the in-progress Eurasian Land-Bridge along so-called "New Silk Road" routes, from China's Pacific port at Lianyungang to Rotterdam in the Netherlands [**Figure 6**], defines the new European route from the Atlantic to the Pacific and Indian Ocean: across the Eurasian landmass. Look at the various "New Silk Road" routes across Eurasia indicated in the accompanying figure. Zoom in on some extremely interesting technological details of those Eurasian Land-Bridge routes.

First, there is the question: What kind of a rail system?

A good friction-rail system might be an option at the beginning, but we must do better. The distances are vast, and speed is not an unimportant factor of inventory and other direct and contingent costs incurred by slowness of transport of goods. Here is the place where the German *Transrapid* and other magnetic-levitation (*maglev*) systems blossom in the full and triumphant economic glory they deserve![73] Usually, as in the case of the *Transrapid,* discussion tends to focus upon passenger-transport. Although magnetic levitation proper complements air-transport in passenger transport, the startling advantages, in economy and otherwise, come to bloom in the matter of freight-transport systems.[74] Gains in such respects as vertical and horizontal turning-radiuses for maglev systems, are examples of this.

Second, there is water-borne transport. Look at the water systems of Central Asia. [**Figure 7.**] In the middle of Asia, from the land-island of the Indian sub-continent, north, including China's region of Tibet, to an area marked by the Altai mountain-range, there lies the so-called "Roof of the World." Look at the water-systems of Central Asia in respect to this role of the Roof of the World. See where those waters flow, especially the flows into the Arctic, as by river-systems such as those of the Ob, Yenisey, and Lena: all that water flowing so, flanked by arid, even desert regions all around.

73. We urgently need those changes inside the U.S.A. too; but, small-minded people tend to be foolishly pennywise when it comes to travelling large distances. The U.S. was formerly developing such systems, but like the development of certain other systems, gave them up. Japan has a design. There is a realizable Ukraine design.

74. The standard of 300 miles per hour is perhaps impressive, but with sealed-train transport within subterranean evacuated tubes, really impressive equivalents of rather high Mach-number speeds are achievable, in the range of Scramjet rates. Such evacuated-tube methods of transport become mandatory for the coming century's industrialization of the Moon or colonization of Mars. More and more, space-applications technologies will be reflected into their appropriate applications to the Earth-bound environment.

FIGURE 7

**Water systems in Central and Eastern Asia**

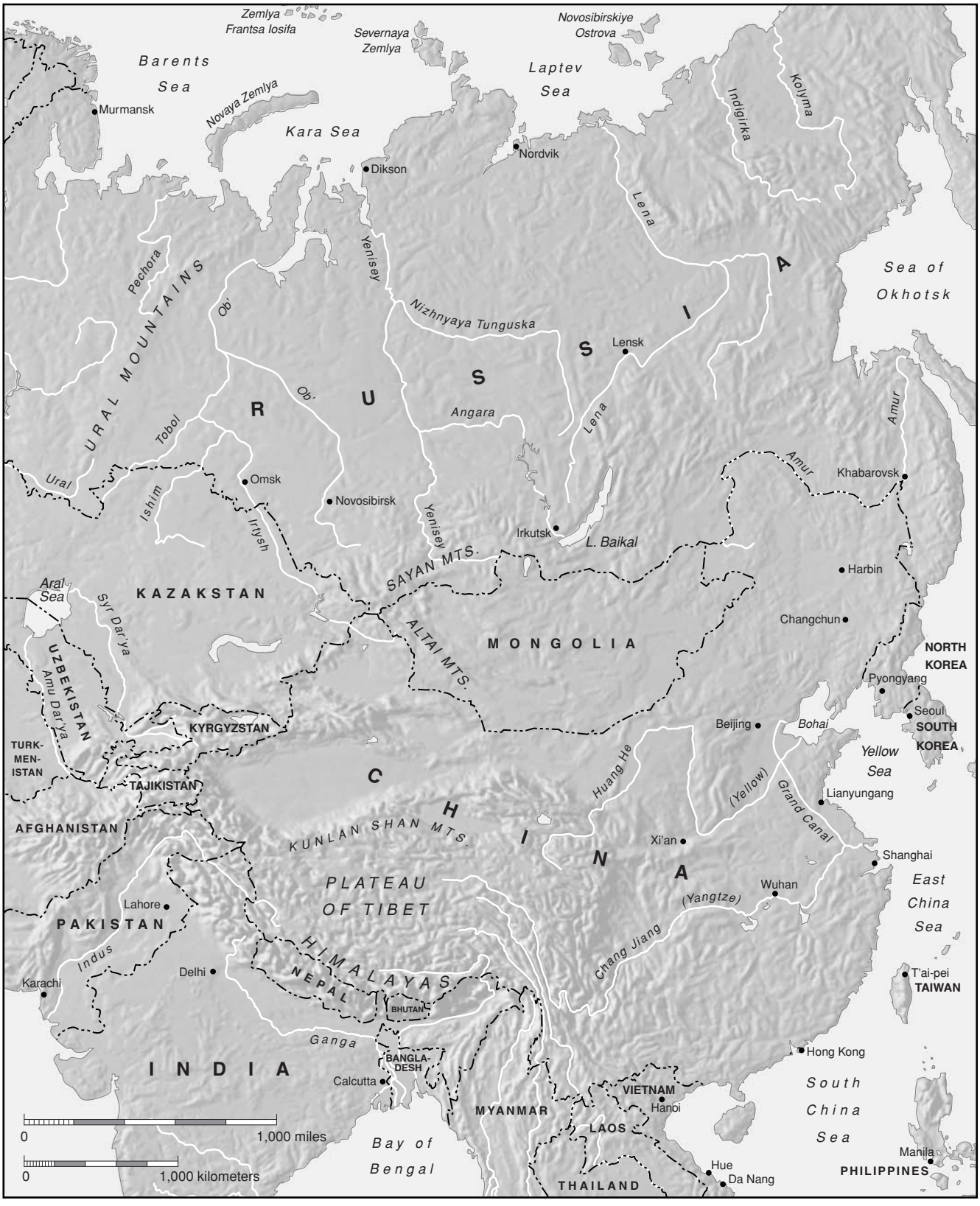
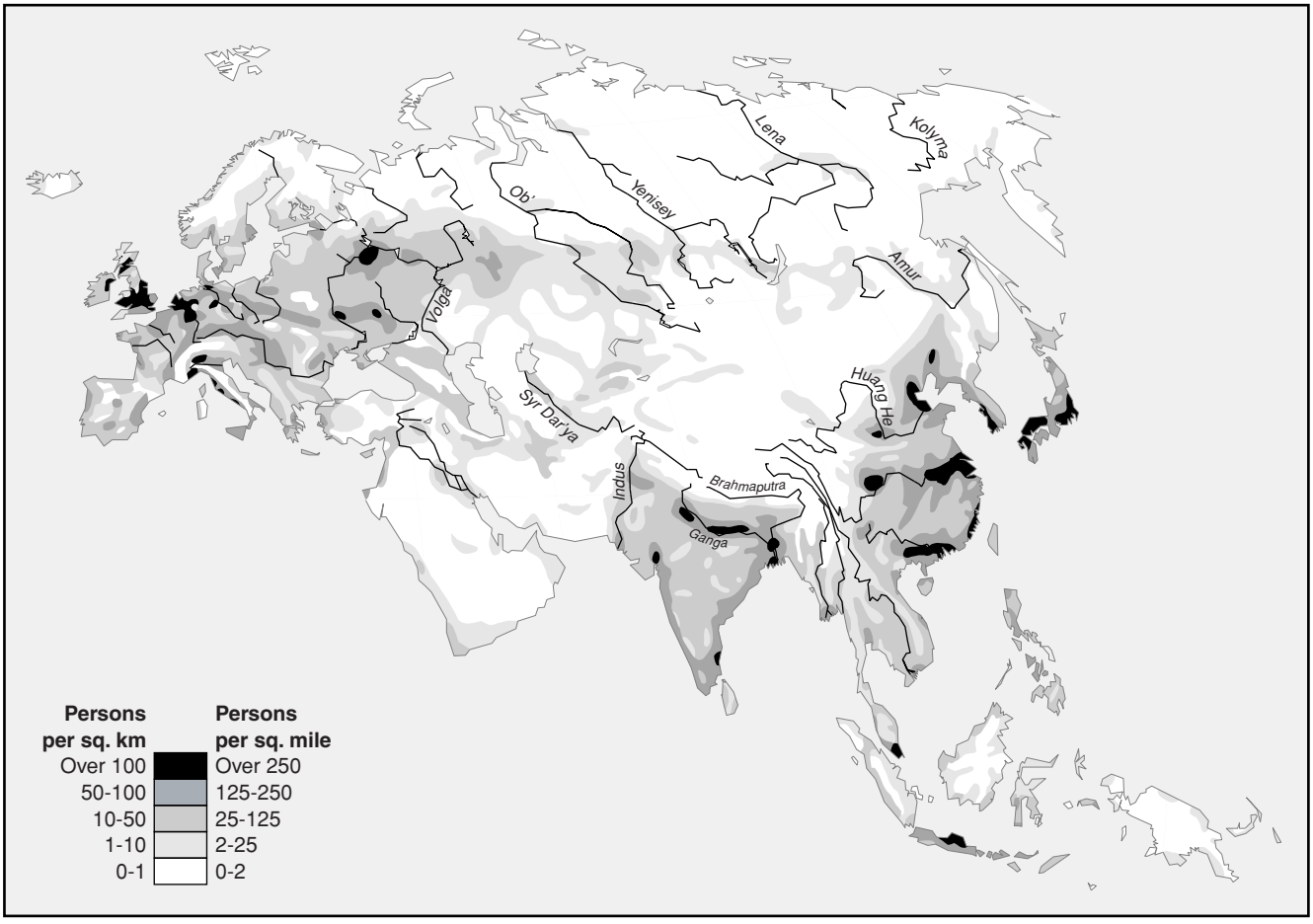


FIGURE 8

**Population density in Eurasia in 1990, and major northern Asia river systems**




Look then, at the population-density distribution over the span of the central Eurasian Land-Bridge routes. [**Figure 8.**] Clearly, the large-scale redistribution of water is crucial.

There are three most typical "renewable sources" of the water required for the Central Asia region: conservation; redistribution of water; and the large-scale use of fission for desalination of sea-water. The current-state-of-the-art mode is the type of high-temperature reactor, in the 100-200 MW range, developed in Jülich, Germany, or similar types, some of larger capacity, developed in China and elsewhere. Traditionally, in Europe, the redistribution of water has been associated with multiple-water-use functions of reservoirs, riverways and canals. Water is not only transported; its transport in relatively large quantities, is a means of transport of freight, especially bulk barge-freight, such as grains. Look at a few indicative features of the central Silk-Road route, from the Pacific to Rotterdam.

Focus on the vicinity of the mouth of the relatively watershy Yellow River system, a river which empties into the great Bohai Bay, one of the principal industrial regions of China. This involves an area, of which part, to the South and East is bordered on its inland side by the old imperial Grand Canal which crosses the Yellow River, an area crossed, westward, from the port of Lianyungang, along the route of the Lianyungang-Xian-Rotterdam Silk-Road transport.

Here is a natural area of concentration of urban-industrial fission-energy production, and the implied accompanying benefit of use of surplus heat for desalination of sea-water and related sanitary-conservation measures. If we adopt the view, as expressed by the government of China, that the population of China must be shifted inward, westward, then the movement of relative primary sources of water must be shifted westward, to match the shift in geographic concentration of population. In this view, lessening the downstream demand upon upstream sources of water, by methods such as nuclear desalination, has implications which radiate all the way back into Central Asia.

Thus, the Eurasian Land-Bridge's infrastructure is defined by a grid composed of three leading elements, along and athwart the routes traversed: water, energy, transport. These