The Physical Tourist

Budapest: A Random Walk in Science and Culture

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I give a tour of sites of historical significance in physics and related sciences in Budapest, noting their connections to Hungarian scientists, and placing them within the context of the cultural and institutional histories of Hungary and Budapest. I begin the tour in the inner districts of Budapest and then go to the outer districts.

Key words: Budapest University of Technical Sciences; Central Research Institute of Physics; Eötvös University; Eötvös Physical Society; Eötvös National Institute for Geophysics; Fasori Lutheran Gymnasium; Hungarian Academy of Sciences; Konkoly Observatory; National Széchenyi Library; National Gallery; National Technical Museum; Royal Palace; Technical University of Budapest; University of Budapest; Zoltán Bay; Georg von Békésy; János Bolyai; Imre Bródy; Roland von Eötvös; Dennis Gabor; Géza Györgyi; Georg von Hevesy; Lajos Jánossy; Anyos Jedlik; Kálmán Kandó; Theodor von Kármán; Miklós Konkoly-Thege; István Kovács; Nicholas Kurti; Cornelius Lanczos; George Marx; Sándor Mikola; John von Neumann; Károly Novobátky; József Öveges; Ferenc Puskás; Tivadar Puskás; László Rátz; Regiomontanus; Pál Selényi; Károly Szegő; Leo Szilard; Edward Teller; Miklós Vermes; Eugene Wigner; Győző Zemplén; Károly Zipernowsky.

Note on proper names: In Hungarian the order of the family name and the given name of a person is the reverse of that in English. I give the latter throughout except in the case of street names, some of which are named after scientists. I also give the English equivalents of the names of well-known scientists.

The history of Budapest began with Rome and up to modern times it was destroyed several times during the past 2000 years. But every time it was built up again on the same place.

I have been asked several times why Hungarians are relatively successful compared with other people, especially in science. I have the impression that this stick-

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ing to one place and to one aim is the main reason why in the long run Hungary still produces important contributions to the culture of this world. 1

Georg von Békésy (1899–1972), Hungarian-born experimental physicist, winner of the Nobel Prize in Physiology or Medicine for 1961

Budapest*

Hungary forms a linguistic island in Europe among the Germanic and Slavic nations. Both ethnically and linguistically, Hungarians are of Finno-Ugric origin. Millennia ago their ancient home was somewhere in the region of the Kama river near the Ural mountains. 2 The conquest of the region around the Danube river occurred at the end of the 9th century. Between 12 BC and 433 AD the Romans dwelled in the Carpathian basin. The capital of Provincia Pannonia was Aquincum, which is now Óbuda, a part of Budapest. Aquincum was an important fortress of the Roman legions and also had a civilian area. Many of its ruins are preserved in good condition, and the remnants of an important 3rd-century crossing point of the Danube river can be seen next to the Erzsébet bridge in Pest. The three towns, Óbuda and Buda on the hilly western side of the Danube river and Pest on the flat eastern side, were united to form Budapest in 1872. 3 There also were other important Roman towns in Pannonia such as Sopianae (Pécs), Scarbantia (Sopron), Savaria (Szombathely), and Gorsium (Tác). After the collapse of the Roman Empire in 433 AD, Attila the Hun ruled in the Carpathian basin. The Avars and Slavic tribes arrived there about 568 AD and the Francs in 803 AD. 4

Francis S. Wagner comments further:

In the time of the Magyar [Hungarian] Conquest Slavs, Germans and some other peoples already lived there. The Magyars, characteristically, did not enslave them as did earlier the Huns and the Avars to native populations. The economy of the Magyars was built on the contemporary feudal system and not on the barbarian exploitation of subjugated peoples. And, furthermore, while the Huns and the Avars occupied primarily the Great Hungarian Plains, the central base of the Magyar Conquest lay in Dunántúl (Transdanubia): that is, in the very neighborhood of [the] Western cultural sphere. These circumstances, as well as the specific concept of the nomadic nation as practiced by the Magyars, helped develop the fate of this area for centuries to come. In the formative period the old, nomadic nation concept of the Magyars embraced all separate racial (nationality) groups who lived on the territories under Magyar military and political supremacy. This fairly elastic concept of nation saved the Magyars in their long and tragic struggles against the Tatars, Turks and others as well as helping to absorb their invaders’ strengths and rejuvenate the whole nation. 5

In our tour of Budapest, we will follow the geographical layout of Budapest, not the numerical order of its districts, which spiral outward from its center. When moving around Budapest on public transportation, make certain that you have tickets or pass-

* A map of Budapest and public transportation routes and schedules in English can be found at the website <www.bkv.hu/angol/home/index.html>.