KAREL HUJER / Commentary

Fruits of a Year in Prague

The many memorial symposia in this centenary year of his birth rarely mention the interesting chapter of Albert Einstein's days in the romantic city of Prague. During his Prague year 1911-12, two outstanding ideas came to light which prepared the ground that opened a new view on the nature and structure of the universe. They were destined to transform the mighty Newtonian classical world picture into only a provincial view.

We know the idyllic scene of Einstein's monument in front of Washington's seat of the National Academy of Science. In his sandals and without socks, as this Socratic philosopher unconventionally walked along the streets of Princeton, holding the famous iconoclastic formula, the monument properly depicts the pioneering aspect of this exile. Such was the appearance as he received me at the door of his modest frame house on Mercer Street in Princeton. It was after my return from the Gandhi International Memorial Meeting in India, 1949-50, bearing a special message to Einstein from Nehru.

I had met Einstein at previous occasions but this stands out as a beautiful memory. I discerned that I was fortunate to confront a universal Ahasuerus who will radiate through the ages alongside Pythagoras. I suddenly realized that those of lesser rank were always pleased with this man's personality.

It was not only the Prague year and cosmology but our mutual friendship with an equally unconventional Hindu, Mahatma Gandhi, that brought us together. Einstein reminisced about Prague with his customary anecdotes and pleasantries. He had taught at Prague German University which, since 1880, was separated from the Czech Charles University, founded in 1348.

During his Prague year Einstein became close acquainted with those Jewish friends who were influenced by the eminent philosopher, Martin Buber, and who refused any partisan stand in the dispute between German and Czech nationalists during the Austrian monarchy. Thus Einstein met frequently, among others, with the writer, Max Brod, who in his novel "The Redemption of Tycho Brahe" personalized Einstein in Kepler. Einstein came to know the Prague resident, Franz Kafka, who in his novels in a Dostoevskian slant so remarkably foresaw the present gloomy communist trials and tyranny.

As in the time of Kepler, 1600-1612, when the art loving sovereign Rudolf made Prague his residential imperial city, so in the time of Einstein's Prague year this city enjoyed an incomparable freedom unknown after the perfidious communist putsch in 1948 and especially after the brutal Soviet invasion in 1968, with subsequent "normalization" leading to the recent trials of dissidents in the Stalinist style of the thirties. Under the communist regime science, while imposingly glorified as a new religion, was actually under siege as Einstein was to find later in Germany where the Nazis dictated the cultivation of "Aryan physics" while Einsteinian physics obtained an ephithet "Bolshevik" physics. That was when Einstein was in exile after the fourth change of citizenship before becoming an American.

In Prague Einstein worked on the generalization of the special principle of relativity for any accelerated motion of material body or physical particle. It was just at this time, as Philipp Frank states, that Einstein exposed "The Principle of Equality of Gravitational and Inertial Forces." In popular language this actually created artificial or "Ersatz" weight without the presence of mass. Our weight on earth is due to gravity proportional to the mass of our earth but inside an accelerated "Einstein box," we would have weight proportional to its acceleration.

Following the chain of ideas, this guided Einstein to another revolutionary publication, "The Influence of Gravity on the Propagation of Light" published in 1911 in the Annals of Physics. It was the consequence of previous thinking that light also has weight and in the gravitational field does not move in a straight line as Newtonian physics took for granted. This foreshadowed the existence of such objects as neutron stars and black holes, the latter with an enormous gravitational field preventing completely an escape of light.

In conclusion, I return to the inspiring dialogue in Einstein's humble home. As Gandhi's admirer, Einstein was an indisputable and fearless devotee of peace, an uncompromising defender of the unjustly oppressed man:

"Every war promises all kinds of seducing liberation and earthly paradise yet freedom dwindles with every war.

"Why, before World War I," he stated, "did I not know that there exists any passport? Only Russia demanded a document from a visitor and I was never in Russia, neither before nor after the Bolshevik revolution." He also commented on how many "Liberators" installed by revolutonaries have become even more ferocious tyrants than those whom they replaced.

This warmhearted man, obsessed through the years by the search for the "unified field of force," warned against high specialization as it obscures the vision of new unpopular ideas. The goose-stepping military parades that he observed at Unter den Linden in Berlin was a dangerous contagion that shifted to the Red Square at the wall of the Kremlin, and this universal man did not hide his great contempt for this human degradation. It is appropriate that in our time of the great divide of ages to remind ourselves that the United States was fortunate to have offered shelter to a great wandering seer who alone, above the ephemeral political scenes, remains in position to offer true guidance far beyond the illusion of mass man.

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