on the environment. As much as we know bearing upon such matters today, there is nothing that we do know which is not classified under the heading of "very nonlinear"—in other words, "very Riemannian."

Second, the power of the mind to manipulate physical states of tissues of the body. With the development of the new branch of biophysics called "nonlinear spectroscopy," we are beginning to scratch the outer surface of such possibilities in biological knowledge.

Third, however, the essential "secret power" of the human mind is entirely that which sets man above the beasts: the power of the developed individual creative-mental processes to develop, and to assimilate efficiently valid fundamental discoveries in physical science. We know four most crucial facts which bear upon this third capability.

First, we know that the curvature of universal physical space-time is the Kepler-Gauss-Riemann curvature. Second, we know that all living processes have the identical space-time curvature. Third, it has been demonstrated recently, that subatomic microphysical space has the same space-time curvature. Fourth, the author's work has led to establishing the fact that the creative-mental processes of the individual hu-

Note on so-called 'non-Euclidean' geometries

For the convenience of the fastidious critic, and also for the convenience of those who would rather not be bothered with such details, we have relegated a pertinent observation on the modern usage of "non-Euclidean" to this appended note.

The popularity of the topic, "non-Euclidean geometries," began with the eruption of the subject of Special Relativity at the turn into the present century. Several experimental developments erupting insistently, repeatedly during the last decades of the nineteenth century, coincided with the general physics and electrodynamics of Bernhard Riemann, but this sort of vindication appeared at a time that most of the scientific community's official institutions had firmly committed themselves to discrediting Riemann's work. So, when Special Relativity erupted, those institutions were faced with the problem of adapting to this without thereby reviving the influence of Riemann's method.

This paradoxical situation led to the popularization of the so-called "non-Euclidean geometries." So, Gauss was portrayed as but one among several mathematicians, including prominently Lobachevski and Bolyai, who each had, more or less simultaneously, discovered slightly differing versions of a "non-Euclidean geometry" earlier. Since some among these had been elaborated in terms of merely alterations of the postulates of Euclidean geometry, this fact was chosen as the basis for a sophistry, arguing that Riemannian geometry was merely a different version of such an, in fact, "neo-Euclidean geometry."

The legendary "simultaneity" of the discoveries of Gauss, Lobachevski, and Bolyai, was an arbitrary concoction. Examining the papers of Gauss, we find that his relevant seminal discoveries were established rigorously early during his adult career. Related points were stated at various times of writing of Gauss's posthumously published literary output, so that it was not difficult for the sophists to choose only those references which it pleased them to imagine showed approximate simultaneity with the referenced work of Lobachevski and Bolyai.

To the degree that the work of Bolyai and Lobachevski may be placed in the same generation's time-span as some of Gauss's developments, there is nothing mysterious about this. Prior to, and even briefly following the 1815 Treaty of Vienna, the French Ecole Polytechnique, sponsored by Lazare Carnot and led by Carnot's former teacher, Gaspard Monge, had been the world's center of advanced scientific thought. Monge's program in projective geometry, and applications of this form of constructive geometry to physics, had been the leading feature of the Ecole's greatest contributions, including the famous work of Fourier, Legendre, and, notable in this matter, Poncelet.

Following the 1815 Treaty of Vienna, the appointment of Monge's adversaries, LaPlace and Cauchy, to take over French science and destroy the work and influence of Carnot and Monge, resulted in a diaspora of the leading French science throughout much of Europe, especially into Germany, and to a most significant degree into northern Italy. This diaspora of leading French science included knowledge shared with some Italian collaborators, in electrodynamics, and, more broadly, the incompleted state of major advances in constructive-geometric methods accomplished under Monge's leadership.

It was in Prussia and among Gauss's circles in Göttingen University, that the post-1818 continuation of the work of the Monge Ecole Polytechnique was most advanced. Later, during the 1850s and 1860s, the scientific circles associated with Cavour in northern Italy made direct contact with Prof. Bernhard Riemann, collaborating with Riemann to establish the great Italian school of electrodynamics and advanced hydrodynamics around such scientific leaders as Betti and Beltrami.

man mind have also the same space-time curvature, although other aspects of human mental behavior do not.

The crucial practical importance of these four facts taken together, is that human knowledge of the universe around us would not be possible unless the human creative-mental processes had the same space-time curvature as the universe in general. It is the fact that the creative-mental processes are in projective congruence with the physical space-time curvature, which enables man to achieve successive improvements in scientific knowledge. This brings us back to the comparison of a hypothetical "primitive hunting-and-gathering society" with the results of scientific and technological progress. The fact that mankind has demonstrated scientific progress in this way, is sufficient proof that the space-time curvature of the creative-mental processes is congruent with that of the universe generally.

Of the three listed powers of the mind, it is the third which is of overpowering importance, whereas the other possibilities are relatively weak and presently speculative in nature.

This third power of the mind is available only as creative-mental activity, and not in the kind of thinking associated

This post-1815 diaspora of leading French science unleashed a great scientific ferment throughout Europe, and led to the establishment of German science as hegemonic in the United States until the close of the nineteenth century. To the degree that there was even a generation's span in the argued "simultaneity" of the work of Gauss, Lobachevski, and Bolyai, this concurrence reflected the varied impact of the work of Monge's circles, especially Legendre and Poncelet, on advances in constructive geometry.

More important than the alleged "simultaneity" were the fundamental differences in the product. Gauss, Dirichlet, Weierstrass, and Riemann represent an approach from the standpoint of a true "non-Euclidean" geometry, whereas the arguments of Lobachevski and Bolyai are presented in a "neo-Euclidean" form.

The public-relations treatment of Gauss and Riemann in this way had a well-established precedent in the work of James C. Maxwell. Many of the crucial features of Maxwell's own work in electrodynamics have been found to be parodies of the earlier discoveries of Gauss, Weber, and Riemann, contrary to the advertised view of reliance upon such sources as Faraday.

In a rather famous letter, Maxwell commented upon his debt to Riemann. He explained that what he had rejected in Riemann's work on electrodynamics reflected Maxwell's hostility to a method situated within a truly non-Euclidean geometry. In that same location, Maxwell summed up the point, that he had reworked various such sources to the purpose of excluding the award of credit to "any geometries but our own." In short, Maxwell situated the parodied materials in the deductive, Cartesian framework of Newton et al.

That is the way in which the authors of Special Relativity treated their unavoidable debt to Riemann.

Perhaps the single proponent of Special Relativity singly most responsible for establishing the myth that Riemann's geometry is "neo-Euclidean," was the enormously gifted Prof. Hermann Minkowski. He paid the strictest attention to this issue, and the leading accomplishments of Einstein and other celebrated proponents of Special and General Relativity owed a great scientific debt to him.

On the one side, Minkowski seemed to adopt the constructive standpoint of Riemann in insisting that, "henceforth," the separate ontological categories of "matter, space, and time" as previously entertained, must be discarded, and the notion of "physical space-time" must take their place. Yet, then, when we turn to Minkowski's mathematical exposition, even in that same published lecture, he employs as a starting-point the old Cartesian deductive, discrete manifold.

Later, the fact that Special Relativity defined from the starting-point of a deductive discrete manifold is filled with devastating physical paradoxes of the most elementary nature, led to proposing a theory of General Relativity. That notion of General Relativity is as flawed in the most elementary terms as Special Relativity, and is in fact worse than superfluous if we had but corrected the elementary ontological flaws in Special Relativity instead.

Today, there are ideological busybodies, such as the high priests of the Harvard and Johns Hopkins-based project in the history of the exact sciences, who effuse copiously the most awful factional rubbish, all in a manner resembling the way in which Moscow's high priests of "Marxist-Leninist orthodoxy" produce ritual ideological rubbish for the edification of the presumably erring faithful. Like Maxwell, the central commitment of those "science ideologues" is to outlaw by ukases "any geometries but our own."

This circle, such as Harvard's Cohen, produces the wildest outright frauds on the content of Kepler's writings, and on such other cases as the work of Dirichlet, Weierstrass, Riemann, and Cantor, creating an entirely fraudulent history of science, all to the included purpose of imposing their radical-empiricist dogmas, and defending that bureaucratic dictatorship over university science education which they serve as high priests.

The fraud, of attributing the name "non-Euclidean" to what are simply "neo-Euclidean" formalisms, has that same explicitly *political* character.