

m/s) seems promising toward a direct test of the local universality of the velocity of light in non-inertial (rotating, artificially accelerated or gravitational) frames of reference.

Finally, if the first interpretation above turns out to be valid, we can see an interesting connection with the so-called Schiff conjecture mentioned by Will. For in this interpretation $g_{\mu\nu}$ is essentially a transformation, $dx_\mu = g_{\mu\nu}dx^\nu$, between the covariant and contravariant descriptions. As such, $g_{\mu\nu}$ does not have to satisfy the commutability of finite contributions, but metricity (the existence of a nonsingular $g_{\mu\nu}$) is needed to satisfy the requirement of objectivity (equivalence) of the two descriptions. The composition independence of free-fall would then become a corollary, because a metric theory is equivalent to a kinematics where mass does not enter into the consideration of motion. Schiff's idea of a connection with quantum mechanics is then realized in the sense that only in a metric theory will the wave equation and the geodesic equations of motion yield identical results in the limit of geometric optics (for example the bending of light or aberration). Hence the wave-particle duality seems to imply, already in its classical form, the metricity of geometry. The explicit universality of the Planck constant appears, however, not necessary for the argument, although it might be crucial for the quantizability of gravity itself.

The author wishes to thank Clifford Will for his critical reading of this letter and for his suggestions that are incorporated.

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Correction

December 1972, page 53. In the review of *Color and Symmetry* by A. L. Loeb, the reviewer's name should be spelled *Donnay*. He is affiliated with Johns Hopkins University and the Université de Montreal. In the fifth line of the center column on page 53 there should be a comma after the word "rotocenters," and the first displayed equation in that column should have a closing parenthesis after the italic *k*. □

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