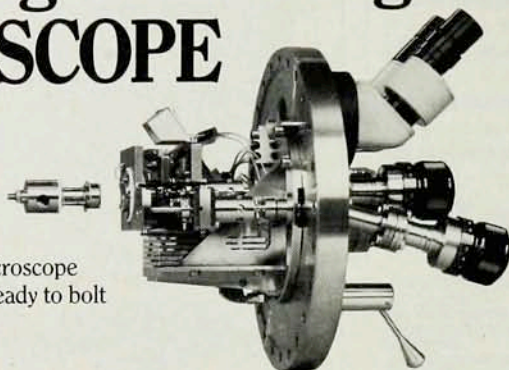


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letters

One can understand Aspect's experiment as "nonlocality without nonlocality" in which quantum action at a distance is not real but illusory. On the other hand, if action at a distance is real, it is the future "delayed choice" of one of the detector linear polarizer orientations that retroactively reaches backward through time to the source pair emission event to nonlocally prepare the initial pair state in its basis. The other detector then passively analyzes what the first detector actively prepared. We can, in principle, decide experimentally between the illusory action at a distance of "nonlocality without nonlocality," which would exclude superluminal communication, and the real action at a distance that would permit superluminal communication and Hoyle's loops in time.

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JACK SARFATTI

2/87

San Francisco, California

Uni verse

String me along

*Some say they wish they had been
there
When Columbus spied land
Or Christ preached on the mount.
Others, when the first wheel rolled
Or spark of fire first struck.
Others, who enjoy showers, opt for the
time
When the Earth cooled, and it rained
For hundreds of years and filled the
oceans.*

*Not me.
I hold out for the day
(Or should I say the femtosecond)
When six of space-time's ten
dimensions
Curled up and left us
Only four.
I'd see that, even though
Immediately, I'd hear some old-timer
say,
"Things sure aren't what they used to
be."*

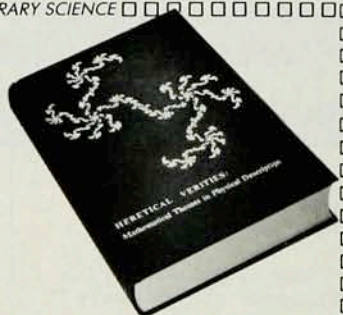
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(from Chapter 10)

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