

of our own universe might be ordered on different principles. If so, the laws of physics are not truly universal.

All of this is purely speculative, Green-

stein cautions. But even if Guth is wrong he has moved us forward to "a great juncture in the evolution of our ideas about the cosmos."

## *A New Andromeda Strain?*

"The VIRAL Advantage" by Rick Weiss, in *Science News* (Sept. 23, 1989), 1719 N St. N.W., Washington, D.C. 20036.

What if the AIDS virus could spread as easily as the common cold?

That horrifying possibility is not ruled out by medical researchers, reports Weiss, a *Science News* correspondent. Viruses have recently been found to possess an alarmingly high propensity to mutation—once in every 10,000 replications. In 1983,

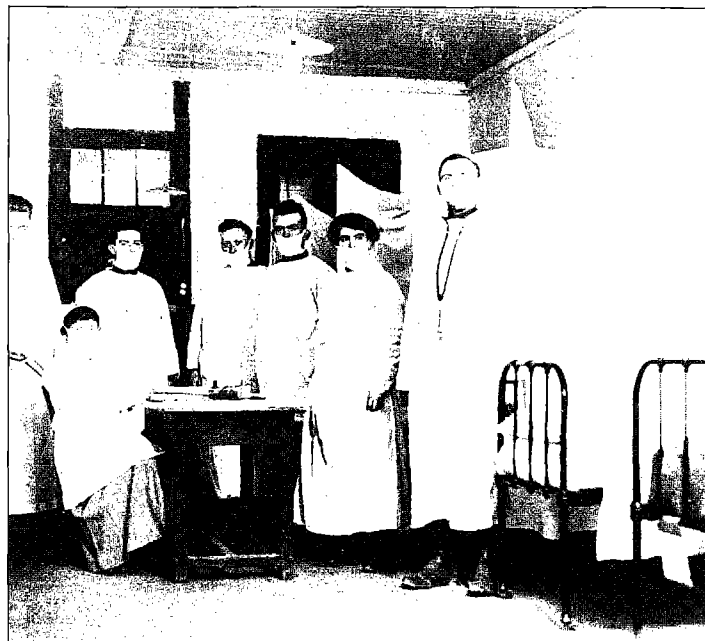
Tenn. "There are millions of us 'chickens' just waiting to be infected." (The AIDS virus, which has infected five to 10 million people worldwide, was apparently once carried only by African monkeys.)

Far more common than mutation, but every bit as threatening, is the spread of existing viruses from hitherto isolated lo-

cales. Recently, for example, Lassa fever erupted in Nigeria after a "diamond rush" in the interior put humans in contact with a virus-carrying mouse. During the 1960s, several West German polio researchers died from a mysterious disease that caused bleeding and blood clots. The reason: They had been working with Ugandan monkey cells infected with a previously unknown organism now called Marburg virus. In 1977, Rift Valley virus jumped from South African sheep and cattle, its usual hosts, to humans. Making its way to Egypt, it infected millions of people and killed thousands.

Bearing everything from new strains of the flu to AIDS, viruses continue to

confound scientists. They are not at all certain that they can contain new viruses in the future. They do agree on one thing: More research laboratories are needed in the tropical countries where new outbreaks most frequently occur. With these "listening posts" and proper planning, Weiss says, medical researchers might be able "to nip the next Big One in the bud."



*The great "Spanish flu" influenza epidemic of 1918-19 claimed 20 million lives worldwide, including 500,000 in the United States.*

a benign virus present in chickens mutated into a deadly avian influenza in a Pennsylvania poultry farm. Before the epidemic ended six months later, 17 million chickens were dead. "The [1983] chicken population in Pennsylvania is like the world as it is in this moment," warns Robert G. Webster, a virologist at St. Jude Children's Research Hospital in Memphis,