THE DAILY TAR HEEL

September 17, 1966

## \$250,000 Gadget

## Coming: One New **Planet** Projector

From the Raleigh Times CHAPEL HILL - It's like since the model was finalized," buying a car with all the ex- he noted. . tras: power brakes, power ground music.

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That was the way Donald the Morehead Planetarium de- much more brilliant stars, of a quarter of a million dol- old one were large and yellow- to show seven different kinds lars worth of instruments.

The planetarium has placed an order with the firm of Carl Zeiss, West Germany, for the first in a new Model VI series of a highly improved Planetarium Instrument. Funds for the purchase have been granted by the Morehead Foundation trustees.

"We're getting the standard Nearly \$20 thousand of modern accessory instruments will be installed simultaneously.

According to Hall, several factors entered into the decilist.

BUILT IN 1930

built in 1930. It had three other homes, all in Stockholm, before being purchased by Mr. Morehead, Planetarium benfactor, and moved to Chapel Hill.

old instrument was wearing than us and all had replaced confine oursleves in time to projector, a solar system

change the company has made the new Zeiss product is a

Hall reported one of the most steering, sterophonid back- exciting changes for them will be those pertaining to the stars. The new instrument will A. Hall, assistant manager of project small, blue-white and scribed their recent purchase while stars projected by the

PROJECTION "Almost all of the stars in the new machine will be projected from the star sphere.

Only those that change in brightness, I believe there are 10 of them, will be projected from the ruff (collar at base of the star ball). Formerly,

we projected all 42 of the model - plus," Hall 'said. bright stars from the ruff. "Also, the new projector will have a tremendous new birght arc light source which accounts for the new blue - white realistic look of the stars. The sion to purchase the instru- company, to compenstate for ment with age heading the the tremndous brightness, re-

duced the size of the holes, thus rducing the size of the The present instrument was stars projected on the dome,"

he said. With the new instrument, according to Hall, they will be able to demonstrate the proper motion of six stars for

the first time - something no "We can't really say the Zeiss has ever done before. "We're so far away from the out as the company will sim- stars that standing in our backply take it back, rework it yard we wouldn't notice any Hall. and resell it. All other big motion, unless we stood there United States planetariums, for 50,000 years. We now with though, had newer instruments out present equipment have to instrument include a comet

zoom ratio on Jupiter and Saturn. When discussing Saturn, for example, demonstrators will be able to project the planet and then enlarge it nine times to show such surfac

features as the ring structure. Hall reports that also they will be able for the first time of lunar eclipses and 10 different kinds of solar eclipses, both automatically. Now eclipses are done by special effects proectors and the planetarium instrument is shut off. The new planetarium, in addition, will show the change of brightness in planets that occur in nature.

VARIABLE SPEED MOTORS The astronauts will also derive some benfits from the new instrument. According to Hall, the new instrument will use just three variable speed motors, rather than the seven fixed speed elctric motors now used.

"This variable speed will be a big help to us when we are simiulating orbital runs for the astronauts. For example, now when we want to simulate a day we can do it in either 10 minutes and 30 seconds or in three minutes. With the new instrument, we will be abl to do anything between 36 minutes and say a minute," said

Extras that the planetarium have ordered also with the new

SOUTHERN SURFING - Now that winter is coming on, the scene above serves only to bring back happy memories of summer sun and water. Actress Joi Lansing takes a break from her night club act in Columbia, S.C.,

to enjoy the beach at Fripp Island, S. C. The blonde bikinied beauty says she enjoys the South Carolina beach much more than those on the west coast near her native California.

"Size, color and position are

"Commercials help educate

actual teachers," she said.

"Madison Avenue has known

**KEY WORDS** 

could play, she said. The card

game, casino, constitutes a

learning experience for the se-

ven - year - old but not the

14 - year - old - for him it is

this a long time."

(television)."

Grow A New Arm **Research In Genetics** 

May Make 'Supermen'

By RALPH DIGHTON AP Science Writer

Would you like to be able-To grow a new heart, brain, kidney, arm or leg whenever you need it?

To grow gills and live in the ocean or wings and fly with the birds?

To explore other planets in a strange new body adapted and made impervious to the most hostile environment?

Those are some of the more exciting possibilities scientists believe have been opened for the human race through recent advances in genetics.

There is a grim side, too. The same advances conceivably could be used to turn men into a race of salves whose thoughts and emotions are predetermined through genetic tinkering.

Eminent scientists - men such as Dr. Melvin Calvin of the Lawrence Radiation Laboof California and Dr. Ray Owen, chairman of the Biology Dvision of the California Institute of Technology - already foresee a need for decisions arising from this new trend in research.

**OPPOSITION CERTAIN** 

Genetic tinkering is almost certain to generate opposition -from environmentalists who believe the way to improve man is to improve his environment, not his heredity; from religious leaders who believe the human form exists today as it was created originally by God and should not be

altered. Genetics is the science of heredity.

It deals with genes - from a Greek word meaning "to give birth" — and how they control growth, using patterns handed down from generation to generation. Although incredibly tiny every human body cell has an estimated 150,000 of them in its nucleus - genes are the most powerful living force yet found.

the promised ability to control what we are made of could lead to a race of men invulnerable to radioactive fallout. WHEN?

When will this brave new "genetic age" come to pass? Authoritative estimates vary from a generation to a century.

Elementary efforts at genetic tinkering, altering the genes of lower life forms, have already succeeded. Heat, X rays and drugs have changed the offspring of bacteria and even insects so that they are hardly recognizable.

In the past 10 years, biologists have begun to understand why they are able to cause these changes, or mutations. Ahead lies the task of understanding how to control the changes, to make sure that mutations which occur are desirable.

Tinkering with tenes can bring great peril as well as great benefit.

THOUGHT CONTROLLED Scientists are confident that not only the shape but the very thoughts of men can be controlled genetically, by predtermining the structure and function of the organs that generate emotions.

What if, in the not too distant future, some nation set out to breed a race of warmoving supermen - while the United State was breeding peaceful intellectuals?

Such a situation probably is several generations distant; and man may have improved himself enough genetically to meet it with wisdom. But there are other crises closer at hand.

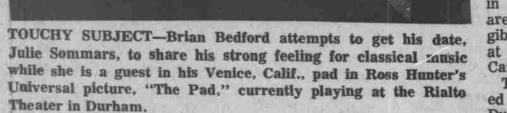


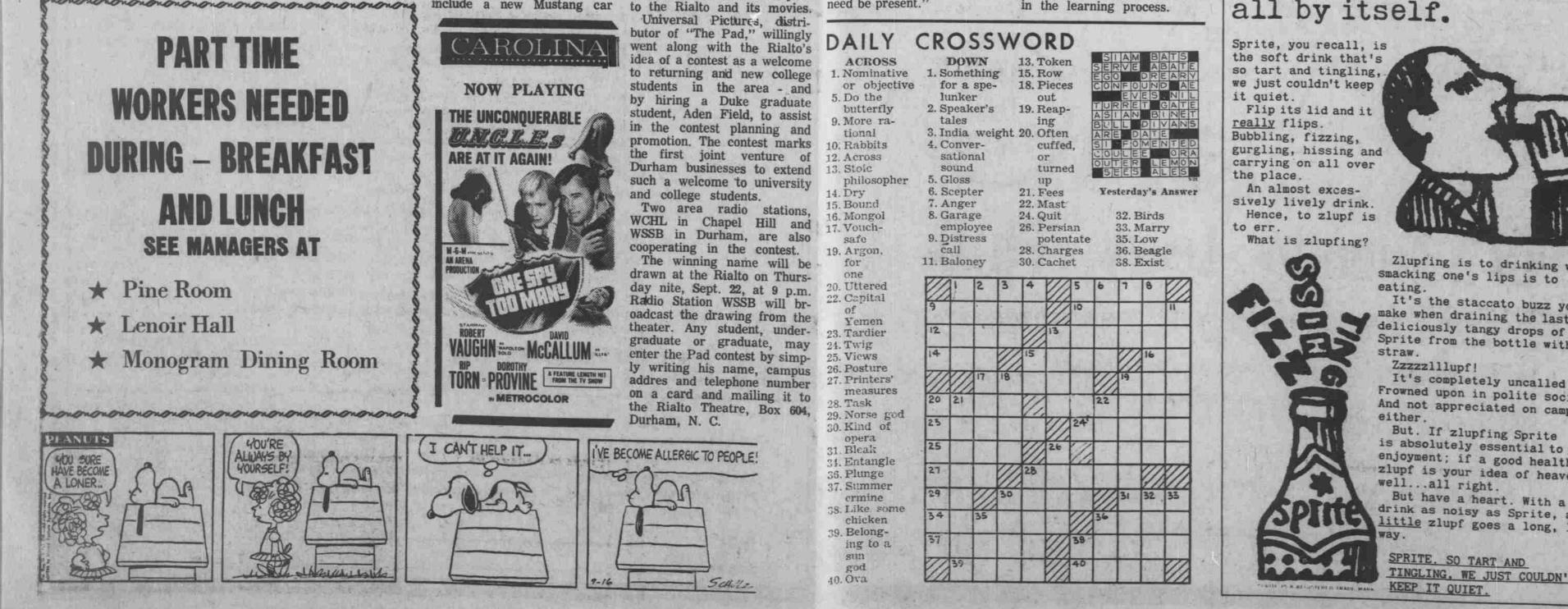
theirs," Hall pointed out.

The new instrument is be- in public programs that we go ing built now at the Zeiss fac- back even that far, but we do tory in Oberkochen and will be delivered to Chapel Hill in the summer of 1968. Planetar- & ium Director A. F. Jenzano was in Germany in June to look over the Mark VI proto-

"Ours will be the first of the production model," said Hall, "and hopefully bugfree. "The new instrument s i mply will do everything better than the present one ... plus. The basic design for our instrument was finalized in the 1920s. In fact all Zeiss instruments through the Mark V relied on the same basic design. The Mark VI is the first basic







20-26,000 years. It's not often projector and a special proin our classes," he pointed out. Another deluxe feature of

Slight Goof

ST. LOUIS (UPI) - The St. Louis Jewis Light, published every two weeks, used a one paragraph correction on the making of sour cream coffee cake. The corrected version said "it should have included one cup of sour cream instead of one cup of chop-

jector mounted on the console. "With the console projector, the narrator will be able to do a variety of things. If he is talking about a constellation for instance he will be able to put on the dome an outline of it. A seris of 300 slides go

with the projector and can be used to demonstrate all kinds dified versions of pinball maof astronomical principles," chines could be a strong force said Hall, who teaches a pubin teaching the five and sixlic astronomy course. With the solar systems promathematics.

jector, they will be able to show planets as they are seen from the earth. The comet projector will allow them to show a comet moving against a star background - changing its size, shape and brightness as it moves.

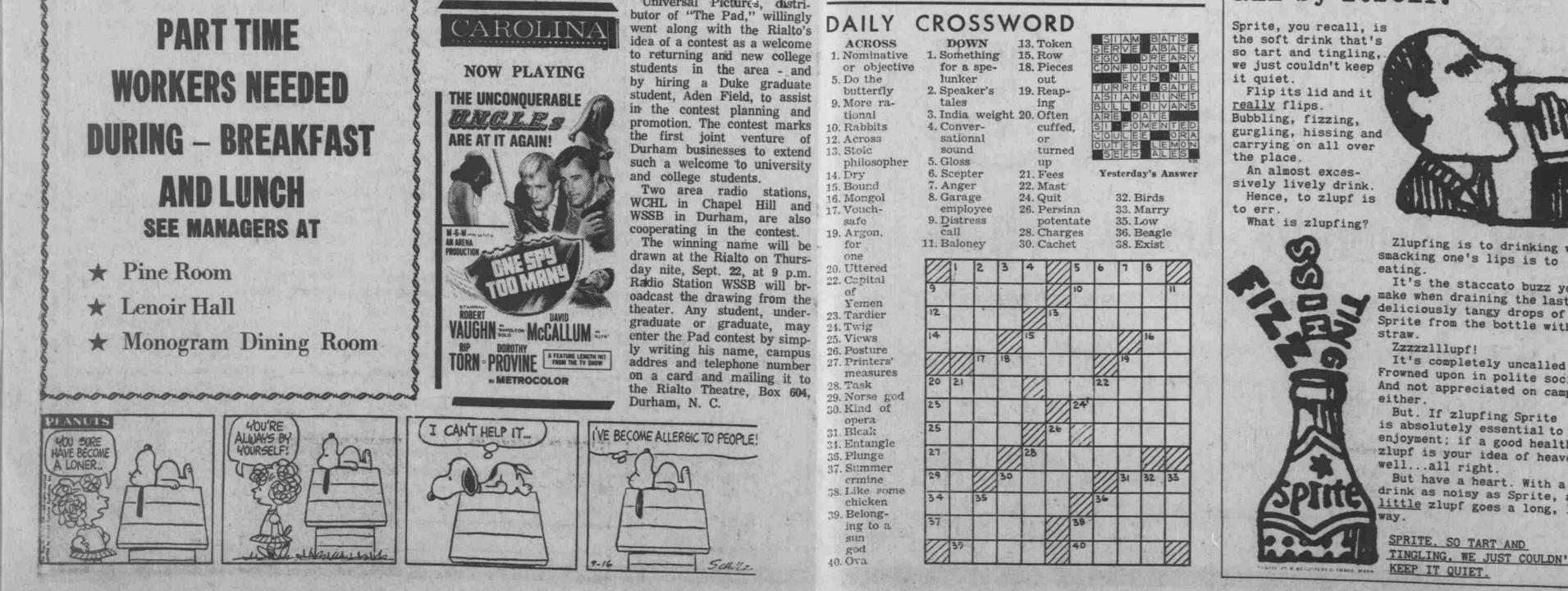
Grounded by the recent air-During the three months in lines strike and misplaced baggage, she watched chilwhich the planetarium is closed, slated for 1968, the old indren in the station playing strument will be kept in place, pinball machines and a machine with a puppet which, for a dime, will let children according to Hall, as long as possible - just in case any astronauts want to come. try to coordinate the legs of

Some Lucky Stud Will Win A 'Pad'

in a bus station here.

In conjunction with the area for use over the weekend, opening of Ross Hunter's new flowers, dinners at local rescomedy, "The Pad and How To Use It," the Rialto Theatre and contributing businesses in Chapel Hill and Durham are conducting a contest eligible only to enrolled students scription to the New Durham at Duke, UNC and North Coffee House, cases of Coke and Falstaff, a subscription Carolina College. Top prize will be a furnishto the New York Times,

ed "Pad" for one week, at a Durham herald and Sun and Durham hotel. Other prizes Time and a three months pass include a new Mustang car



## **Math Easier For Kids Thanks To Pinball**

PITTSBURGH (UPI) - Mo- the puppet with the music.

PAY TO LEARN "They were paying for the year - olds the beginnings of privilege of learning coordination," Mrs. Switzen said.

A pinball machine, modified The idea for such came to Mrs. Rosalyn Switzen, a New so that the score is not total-York educator and director of ed so rapidly a child cannot see the process, will help a an educaional research organization, National Communicachild learn that one plus one tions Laboratories, as she sat equals two or 1,000 plus 1,000 equals 2,000, she said.

"If the fact that one and one equals two is not used, it is lost," Mrs. Switzen said. The machine, which for an adult is only recreation, is a teacher for the child although he may not know it. He is having fun.

Other ideas advanced by Mrs. Switzen:

-Giving all children from the age of two an allowance to guarantee "that by the age of five they will have no trouble with addition and subtraction."

Labeling playground equip-ment with the names of the pieces so children can add such words as swing, slide and sandbox to their vocabu-

NO TEACHER This labeling is actually ap-

Genes control the manufacture of protein molecules, the building blocks of life. And now science has learned that genes themselves can be .controlled.

the illiterate, adults and chil-Thus man eventually may dren. Nobody asked them (adbe faced with deciding whethvertisers) to become teachers. er he wants to go on looking They are and they cannot help and thinking like his ancestors - or whether he wants to "Children are reading 'king

be something completely difsize cigarette' before they read 'Dick and Jane.' There is no **BIG BREAKTHROUGH** reason to teach children to Th first big breakthrough read before the age of seven in genetics - discovery that ... no reason in the world .... heredity and growth are inbut it is part of the culture . . . fluenced by a chemical sub-stance called DNA — came in you cannot turn off the box the 1940s, almost simultaneously with another great sci-Key words in Mrs. Switzen's

entific discovery: The unleashlectures on education are moting of the forces of the atom. ivation and re - enforcement. "Atomic" has become a Playing store with a penny household word. "Genetic" is allowance motivates a child to destined to become one. count as would a game of There are many scientists jacks if it could be modified so who belive that cracking the a two - year - old with less than perfect coordination

genetic code, learning the language of life, is at least as vital to mankind as cracking the atom; perhaps more so-

The recently learned skill of transplanting kidneys and implanting artificial hearts has created a small furor over the question. Should ability to pay be the primary factory in determining who gets this chance

at extended life? Geneticists believe they some day will be able to relieve the current shortage of human "spare parts." They would take a bit of healthy tissue from a failing heart, for instance, and direct its genes to grow a whole new heart easily transplantable back into the patient because the patient's body would not reject its own flesh and blood.

SPARE PARTS But even if enough spare parts were available for all who needed them, the trans-

planting would require considerable skill and effort. Serious questions of ethics

arise. Whot kinds of people will be

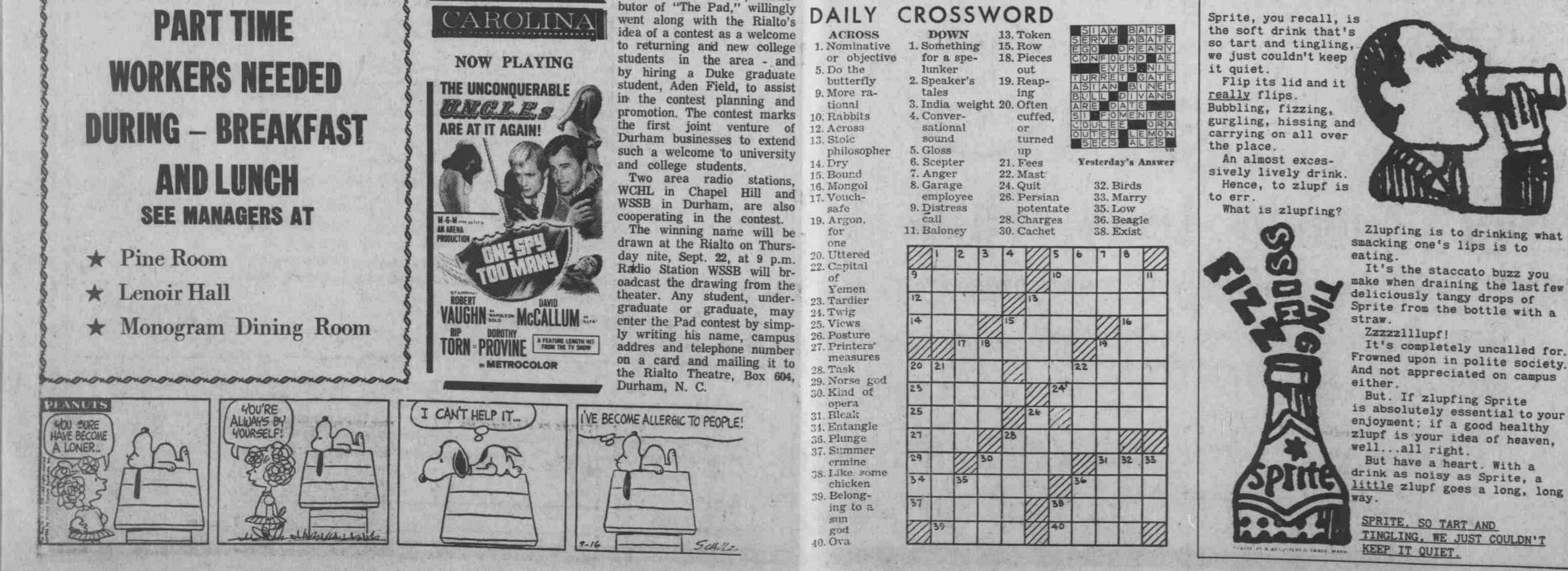
worth this trouble? Scientists? Politicians? Clergymen? Phy-sicians? White collar workers? Laborers?

Who shall decide which are worthy?

And who shall pick those who decide?

Loaded with questions like these, the coming genetic explosion could rip society wider apart than a hydrogen bomb

## Please don't zlupf Sprite. It makes plenty of noise all by itself.



taurants, gifts, books, records, party food, gasoline, car wash, Barn Theatre dinner and play, books from the Intimate Book shop, a sub-

last year.

pal on the playground," Mrs. Switzen said. "No teacher need be present."

only recreation. tion at P. S. 176 in Harlem Mrs. Switzen, a 52 - year where Mrs. Switzen taught old grandmother with almost boundless energy, calls such games "automated play - learning" and it is part of the "toplying an "automated princital systems approach" in which the playground and classroom both have vital roles

laries. This plan is in opera-