Competition 2. Limericks to illustrate scientific principles. An enormous crop; we haven't verified that the selection that we print are original, and in at least one case the science is wrong (no prizes for pointing out errors). £10 to G. J. S. Ross of Harpenden, Hertfordshire; a clear winner with black holes, and also runner up with plate tectonics.

A pedantic astonomer said—gravity
Is causing semantic depravity.
These stars may be black
As light outflow they lack,
But holes? there's no room for a cavity.
G. EDWARDS

There once were two frogs of Gondwana
Who vowed ne'er to part till Nirvana,
But each met its fate
On a separate plate:
He lies in Brazil, she in Ghana.
G. J. S. Ross

"Apollo to Mission Control—
We are almost in reach of our goal,
But our readings of G
Seem excessive to me,
So we may be inside a black ho . . .
G. J. S. Ross

Poor John could not savor a rose
Despite hard proboscal blows
"My genes", explained he,
"Have an A for a G
So I suffer a code in the nose."
A. MEHLER

A plumber by name of Fred Slaughter,
With a wife and extravagant daughter,
Shouted, "Praise and acclaim
For whatever's to blame
For the anomalous expansion of water."
I. P. FREEMAN

A Greek once, in Physics a seeker,
Exultantly shouted "Eureka!"
He leapt from his bath
And rushed down the path—
Archimedes, the prototype streaker.
J. N. F. JURITZ

Though *coli* may bother and vex us,
It's hard to believe they outsex us.
They accomplish seduction
By viral transduction,
Foregoing the joys of amplexus.
S. GILBERT

While searching Mt. Aetna for data,
Old Pliny once tripped on a crater.
His feet couldn't hold.
Down the mountain he rolled
At a speed nearly (g) (sine of theta).
S. GILBERT

Competition No 3

Archimedes is said to have discovered his most cherished principle in the course of messing up the bathroom floor, Newton upon being disturbed by a passing apple. Fleming left the window open and came home to penicillin. Readers are asked to provide a fictitious account (short) of similar momentous discoveries which were happened upon by chance. If stuck for topics, they might try their teeth on pulsars, double helices or good old continental drift. Closes (Dec. 5). □

Science and Technology to Development (CASTARAB) in 1976, to be organised with the cooperation of ALECSO and the Economic Commission for West Asia (ECWA).

As a first step in preparation for the conference, a preparatory meeting of experts was held in Kuwait to advise the Director General of UNESCO on the preparation of the agenda and the documents for the CASTARAB conference.

It finally recommended three main themes for the conference: trends in the national science and technology policies of Arab states; regional cooperative research projects relating to natural resources, energy, food resources and environmental quality; and integration mechanisms for science and technology in the Arab states.

● Saudi Arabia has invited Egypt to make use of the Centre for Applied Geology (CAG) which had been established in Jeddah, close to the Arabian shield (which is rich in ores and minerals). The CAG is at present offering courses in mineral exploration, hydrogeology and engineering geology. It offers the degree of Master of Science and has a two-year geology technician training programme leading to a technical diploma.

The centre also offers an opportunity for geologists from Saudi Arabia and neighbouring countries to be trained, and students obtaining their master's degree with outstanding grades may be granted a government scholarship for completing their studies for a PhD abroad.

● A study on the brain drain of physicians in Egypt shows that the main concentration in the Egyptian population is in the Nile Valley and its Delta, where the limited amount of land space means that about 99% of the total manpower is crowded into about 3.5% of the total surface area of the country. Consequently there is a regular redistribution of manpower and Egyptian physicians tend to migrate (both internationally and intranationally) with the UK and the USA proving the most attractive destinations.

Apparently, African countries prefer Egyptian physicians, with the result that there is a migration of medical students from Arab and African countries to the Faculty of Medicine at Cairo University. This year the main exporting countries for medical students were Saudi Arabia (297), Libya (181), Palestine (134), Jordan (121), Sudan (114), Kuwait (102), Lebanon (88) and other Arab countries (278)—a total of 1,315 from Arab countries; they also came from South Africa (59), Malaysia (48), Nigeria (26), other African countries (41), from Pakistan (25), and other countries (54) (making a grand total of 1,568 foreign students).

Statistics show that physicians left jobs in the rural areas at the following rates: 1972 (5%), 1973 (4.2%), 1974 (5.8%); and the number of Egyptian physicians working abroad were spread in the following way: in Arab and African countries in 1965, 269 (76.3%); in African countries 23 (6.4%); and in other countries 61 (17.3%). □

Carcinogenic agent?

A SOLVENT used extensively in academic and industrial laboratories may be a potent carcinogen when its vapours are inhaled, according to tests carried out by scientists at the DuPont corporation in Wilmington, Delaware.

Known as hexamethylphosphoramide (HMPA), the solvent has long been recognised as acutely toxic and as a skin irritant, but there had been no previous indication that it is carcinogenic. The DuPont study found, however, that rats developed a rare nasal cancer when they inhaled small amounts of HMPA for 6 to 8 months. Although the study has not yet been completed, Dr J. A. Zapp, Jr, Director of DuPont's Haskell Laboratory for Toxicology and Industrial Medicine, wrote a letter to *Nature* to "urge everyone using HMPA to handle it with the precautions appropriate to a potential carcinogen".

The experiment, which was started in December last year, involved exposing rats to amounts of HMPA ranging from 0 to 4,000 parts per 10^9 for 6 hours a day, 6 days a week—in other words for periods of time corresponding to occupational exposure. After 8 months, some of the rats developed enlarged noses and had difficulty in breathing, and it turned out that they were suffering from a form of nasal carcinoma. "There appears to be no doubt", Zapp said, "that this rare form of cancer has been produced . . . by inhalation exposure to HMPA in a concentration as low as 400 p.p.b.". □