



DEPARTMENT OF THE ARMY  
OFFICE OF THE ADJUTANT GENERAL AND THE ADJUTANT GENERAL CENTER  
WASHINGTON, D.C. 20314

REPLY TO  
ATTENTION OF:

DAAG-PLT-T

15 August 1979

*PA 34*  
Director  
Office of Administration,  
Nuclear Regulatory Commission  
1717 H Street, NW  
Washington, DC 20555

Dear Sir:

The attached correspondence from Mrs. Ilse Ahlers, 21 Crestview Hill Road, Livingston, NJ 07039, is forwarded as a matter pertaining to your office.

Sincerely,

*J. Sloane, Mr.*

Inclosure  
Letter with news clippings

*for*  
GRADY A. SMITH  
Major, GS  
Chief, Personnel and Training  
Support Division

7910240 310

Mrs. Ilse Ahlers  
21 Crestview Hill Road  
Livingston, New Jersey 07039

July 27th 1979.

Concerning: Radiation around "Nuklear Plants",

I do believe, if this Article from a German Newspaper should be printed in the Artes around any Nuklear Plant or even every were. I found it very interesting, that we are receiving from mother Nature almost more than around a nuclear Plant. A piece of the Paper, out of which I clipped these themes.

With friendly regards I am

*Ilse Ahlers*  
Mrs. Ilse AHLEHRS ,  
21 Crestview Hill Rd.  
Livingston N.J. 07039



Department of Radiation around the 2 mile Island,

Pentagon,

Washington D.C.

■ STAGE

## Pina Bausch's Wuppertal Arias not ballet maybe, but fascinating theatre

**P**ina Bausch Goes Swimming. And So Do We was the ironic title the Wuppertal ballet company suggested for Frau Bausch's latest work long before Frau Bausch, as always at the last minute, chose the simple title *Arias*.

The company's lugubrious title contains a number of allusions: to the title of Pina Bausch's Macbeth paraphrase *He Takes Her By the Hand*, premiered in Bochum last year, to the possibility of artistic failure and above all to the state of the stage in the latest production.

In *Arias* the stage is no longer a smooth, dry, dancing surface. The floor is wet, slippery and treacherous. The set designer has here radically put into practice what he merely hinted at in the Macbeth production with a kind of moat at the front of the stage.

The entire stage of the Barmen Opera House is ankle-deep in preheated water and at the back of the stage there is a depression similar to a swimming pool in which one can swim and bathe.

Near the water surface, which when not moving looks like black paint and sends flickering reflexes of light over the dark walls, are mirrors and make-up tables.

Soft and gentle jazz music by Gerry Mulligan is heard. The company, still half in (fictitious) private attitudes, is getting ready for the performance.

The private poses and movements imperceptibly and without transition become part of the performance. Here someone comes out of her hair, which is perfectly in place as it is, singing at the same time more loudly than beautifully.

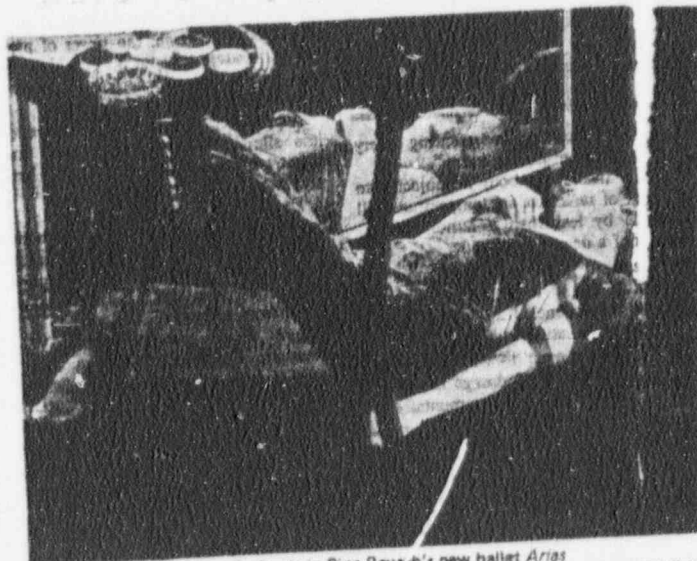
There someone practises punches. In front, someone does press-ups. At the back, someone moves like a snake-man.

Sitting in the water, a girl recites part of the Gretchen monologue from Goethe's *Faust*: "My peace is gone, my heart is heavy."

On the ramp, Silvia Kesselheim tells a Berlin joke. Jo Ann Endicott and Jan Minarik read to one another the description of the reproduction of insects from a biology book.

A tall man tenderly carries a small woman across the stage. The two are kissing. But her feet reach only as far as his knees.

A hit by the Comedian Harmonists bursts in and sends the company moving off into formations. They run diagonally, so that the water splashes



Jo Ann Endicott in Pina Bausch's new ballet *Arias* (Photo: Ullrich Weis)

The scene darkens, acoustically and optically. The music which throughout the evening has been constantly interrupted by laughter and cries, conversations between the actors and the recounting of jokes and fairy tales, changes.

We now hear the elegiac voice of Italian contemporaries of Handel: a lesson for Benjamin

This games the dancers now play are all related to the fact that one participant after another leaves the stage. The dance formations in cancan style, with one or two arbitrary and impromptu dances thrown in, have a terrifying effect.

The company, swinging their legs, frighten the others of the stage. Most of the exaltations some of the dancers work themselves up into end with them falling in the water. The fairy tales are all about hunting and dying.

Pina Bausch, who has always considered living and living together hard, is thinking of death in *Arias*.

But she wants to distract us from its desolation. At the same time she hopes, with and by her art to conquer death and achieve a little bit of immortality. Beneath her tears she is trying to laugh.

This is why *Arias* is darker but less despondent than her previous work. The

dancer who flees into the theatre threatens to jump from the balcony talked to until he voluntarily decided to come down.

The darkness of the middle section gradually lightens but is to begin with replaced by garish, hectic colours. The Comedian Harmonists' words that a little frivolity can do no harm sound like mockery.

The small love stories do not work yet, nor does the main one between Jo Ann Endicott and a real hippopotamus.

The hippo was not available for the premiere but the one made by Hans-Dieter Knebel was so brilliantly marked that a real hippopotamus could only be a disappointment after this.

Jo Ann gets into the pool with the hippo, serves him a salad from a huge party tray and pours water from her high-heeled shoe over him. But the salad remains untouched and the hippopotamus returns to his loneliness.

Finally, they do manage the return to life, quite compulsively and without a false note. After exhaustion from the tiring running backwards and forwards through the splashing water, after sadness at the death of Elvis Presley, the company seek words for things that make them happy: rain, clouds, the gurgling of a stream.

They start dancing rock and roll and finally we find them lying on the floor asleep, some even in pairs, wet through as so many times before.

This is of course not dancing or ballet; indeed it can hardly even be categorised as dance theatre. But as theatre of pictures it is more fascinating than just about anything to be seen in the theatre.

It has often been said that Bausch is influenced by Robert Wilson, but here she outclasses him. Compared with Bausch's *Arias*, Wilson's *Death, Destruction and Detroit*, now showing at the Berlin Schaubühne, is not only inhuman but also unimaginative, mechanical theatre.

Jochen Schmidt

(Frankfurter Allgemeine Zeitung für Deutschland, 15 May 1979)

## West Berlin theatre festival plays to full houses, regains position as hub of artistic interest

**T**he tenth Berlin Theatre Festival is under way and has overcome the obstacles put in its way by an incisive and a number of companies invited.

The ten Theatre Festival, held in May every year, is an opportunity for leading man theatres to present their

It was good to see the theatres sold out right to the very last seat, that visiting companies gave extra ad hoc performances whenever possible and that in the nights of this exploding early summer the visitors spent hours sitting around on the Kurfürstendamm discussing the plays.

This is theatre at its best.

In the Bremen version by Ernst Wendt Creon is a bald, whining, grinning cynic, almost the classical equivalent of village judge Adam in Kleist's *Lebendiges Leinwand*.

In Christof Nel's Frankfurt version, on the other hand, Creon is a noble rankster, half mercenary or West-

## SCIENCE

# Man-made radiation a mere fraction of natural level



erg is a physical unit representing a very small amount of energy indeed. If, for instance, a body is subjected to one rad of radiation, its temperature will increase by less than a hundred thousandths of a degree centigrade. This is no guide to the damage a rad can cause in the living organism, mind you. Its effectiveness varies according to the kind of radiation involved. The actual danger to the organism is measured in terms of dosage multiplied by an efficacy factor experimentally ascertained for each kind of radiation.

Three kinds of radiation are caused by radioactive nuclear decay. They are alpha, beta and gamma rays.

Alpha radiation is a stream of positively charged helium nuclei, particles of which are warded off by layers of material even a few millimetres thick, such as the skin.

So sources of alpha radiation, such as plutonium, are only dangerous when they gain access to the organism (via the air we breathe, for instance) and can wreak havoc to cells in situ.

The same goes for beta rays, which consist of negatively charged electrons. They too can be warded off by thin layers of material.

But not so gamma rays. They resemble electromagnetic light waves and are thus not particle radiation.

Gamma rays penetrate as irresistibly as X-rays and are even more energy-packed. Only really dense material, such as concrete, steel or lead, can keep them at bay.

Last but not least there are neutron rays. They are not emitted in the course of radioactive nuclear decay; they are a by-product of nuclear fission.

As the name implies, they are a current of uncharged particles. Their electric neutrality enables them to penetrate dense materials virtually undisturbed.

Their progress is only impeded by collisions with relatively low-mass atoms of, say, water or graphite. Then, but only then, they are relatively well absorbed by energy absorbed per gram of matter. The dense layers of material.

while in monacite areas of Brazil radiation ranges from 500 to 12,000 millirem. You need only move from the coast and set up home in the uplands at an altitude of 2,500ft to be automatically subject to 30 millirem a year in extra natural radiation.

This is the maximum level permitted for nuclear power stations, which emit radiation in the air pumped from their chimneys.

But a modern nuclear power station functioning normally will generate so little radiation released into the atmosphere that people who live nearby are exposed to less than one millirem in extra radiation per year.

So a nuclear power station that suddenly exposes local residents to 100 times the normal level of radiation as a result of an accident is most unlikely to cause an overall radiation level that is more than a fraction of those naturally occurring in many parts of the world.

Critical situations only occur when radiation reaches short-term levels of 50,000 millirem and more, as Hiroshima, Nagasaki and a number of serious accidents have shown.

This is the level at which initial minor changes in the blood are observed. Not until higher levels are reached do symptoms of radiation sickness, such as nausea and tiredness, occur.

From 180,000 millirem upwards radiation can be expected to lead to occasional fatalities. Between 400,000 and 500,000 millirem about fifty per cent of people exposed will die.

From about 750,000 millirem upwards there are unlikely to be more than a handful of survivors. (Klaus Thewissen, 12 May 1979)

## Blowing in the wind?

should be sufficient to offset plasma energy loss. No further outside heat is then needed to sustain the process.

Fusion research has made such strides in recent years that the Garching project is unlikely to clash with Jet, the Joint European Torus, at Culham, Berkshire.

Professor Rudolf Wienecke, scientific director at Garching, has this to say:

"In no sector of scientific and technological research is there such intensive worldwide cooperation above and beyond (social) systems as in nuclear fusion."

(Nordwest Zeitung, 17 May 1979)

Yet oddly enough, the power of penetration enjoyed by the various kinds of radiation has next to nothing to do with the biological havoc they can wreak.

Alpha and neutron rays are more or less similar in biological efficacy and about ten times more effective than beta rays in a similar dosage.

To simplify matters the average is multiplied by a biological efficacy factor based on empirical findings. The result is the rem, a measure of radiation damage potential that can be applied to all kinds of radiation.

Rem is an acronym standing for Roentgen Equivalent Man and is the most widespread measure of nuclear radiation risk.

The average person is exposed to 120 millirem of natural radiation per year, natural radiation being radiation from the soil, from the atmosphere, from food, from the walls of houses.

An additional 30 millirem per annum from artificial sources, 150 millirem in all, is the maximum allowed by law.

In many parts of the world natural radiation by far exceeds this limit. Between 300 and 400 millirem are registered in areas of neighbouring France where granite is the natural rock formation.

In monacite areas of India levels of 1,300 to 4,000 millirem are registered.

The Max Planck Plasma Physics Institute in Garching, near Munich, is to launch a major research project into nuclear fusion that will go by the code name Zephyr.

An estimated cost of DM280m, fusion heat is to undergo tests in a research unit that could be operational in seven years' time: to for design and five for construction.

Zephyr is an acronym standing for Zündexperiment für die Phk im Reaktor (of which the first syllable means ignition or detonation).

It will be a unit in which levels of temperature and density attach plasma can be ignited will be able, burning plasma being an essential factor in generating energy by means of nuclear fusion.

When plasma, or superheated gas, reaches temperatures of billion degrees or so, the thermic heat

Wilm Conrad Röntgen discovered a kind of radiation "that is of material, including any kind of light ray". For the discovery of which he was showered with the scientific honours. In 1900 he was awarded the first Nobel Prize for physics.

Radiation is no longer such a well-known concept. The atomic energy debate has led the general public to imagine radiation is exclusively the result of foolhardy, no-holds-barred technological development.

Nuclear fission and radioactivity are felt to be a violation of nature. They are, rumour even has it, tempting providence.

Yet radiation, even ionising rays (the kind that can prove dangerous to living matter), is the most natural thing in the world.

Man has lived with ionising radiation since the beginning of time, with radiation affecting him from inside and out.

The air we breathe, the water we drink and the food we eat all contain natural radioactivity that affects the body from within.

From without, a never-ending stream of cosmic rays and cosmic radiation bombards mankind.

Natural radiation on average accounts for several hundred times higher a level of bombardment than contamination from a normally functioning nuclear power station.

In some parts of the world, such as areas of India and Brazil, natural radiation is ten to 100 times above average. Yet scientific surveys have failed to reveal any damage to residents arising from this phenomenon.

There is, of course, no proof that a high level of natural radiation is harmless. Living conditions and malnutrition may well disguise the repercussions of excess radiation.

Ionising radiation in an overdose can cause sickness and death, but a serious overdose is about 500 times higher than average natural radiation and several thousand times higher than the level to which man is exposed by a normally functioning nuclear power station.

The seriousness of radiation damage, however, always depends on the amount of radiation energy absorbed, the kind of radiation and that of the affected tissue or organ.

Experience shows that each and every case has its own special features from the medical viewpoint.

Take radiation dosage, the unit of which is the rad, or 100 ergs of radiation energy absorbed per gram of matter. The dense layers of material.

## STEVE DUNLEAVY



### We're being sold down the river by very nations we've helped

IT COMES as no surprise — at a time when this country is staggering under the worst energy, fiscal and emotional crisis since the depression — that the people who brought us Pearl Harbor have suddenly forgot who helped them rebuild their country from ashes.

Contributing to our frightening gas crisis is a financial crisis which threatens to make the U.S. dollar equal in value to a week-old piece of pumpnickel.

This country last year bought \$27.5 billion more in goods from foreign countries than we sold them, giving us a serious trade imbalance.

Of that figure \$12.5 billion went into the pockets of the Japanese.

Many friends of my father's age who were in places like Saipan, Guam, Borneo and New Guinea could never quite grasp

why the U.S. seemed so hell-bent to build Japanese industry to a point where, though it lost a war it started, Japan certainly won the peace.

Even given the notion we should not dwell on Pearl Harbor, and heaven knows, Jimmy Carter certainly didn't when he warmly shook the hand of Emperor Hirohito last month, one would think that in matters of trade, the Japanese would think twice about financially stabbing this country in the back.

One person, in particular, who feels strange about letting Japanese goods flood this country, undercutting our own goods and services, adding to our unemployment lines and ruining our own industry's viability is Republican presidential candidate John Connally.

Big John is hopping mad that the Japanese are getting rich from American consumers at the same time as they torpedo our own industrial growth.

"They refuse to buy our beef, they refuse to buy our grain, they refuse to buy our citrus," he points out. "I'm for free marketing, but also fair trading."

And I think someone should be telling them unless they are prepared to buy American goods in exchange, they can sit in their Toyotas on the docks of Yokohama watching their own television sets.

Thank God someone has emerged with enough old-fashioned horse sense to get to the heart of why our dollars is shrinking to the size of a Japanese doll.

Perhaps if some of our lily-livered leaders adopted the same attitude, we would not be groveling on our knees at the mercy of a bunch of gas-happy gangsters in the Middle East, Mexico and Venezuela.

Someone should be grabbing

the OPEC nations by the throat and giving them a good shaking, reminding them we have expended billions of dollars, countless lives and man-hours in trying to avert a series of bloodbaths in that region.

It seems to matter little to oil-rich Mexico that we have propped its economy like a rickety fence.

We have allowed millions of its citizens, strangling in poverty in their own country, to come across the border to earn a better living.

The first chance they get to pay us back, they throw in their lot with the Middle East potentates and put the gas gun to our heads.

It seems of little significance to Venezuelans that American technology cut their cities out of the jungle and launched the entire sugar and oil industry. They too seem to get a greasy satisfaction out of throwing their lot in with the OPEC countries in trying to bring us to our knees.

Well, perhaps it's about time someone started to take a long, hard look at this situation, someone like John Connally. All these stab-in-the-back nations should read, mark and inwardly digest a single fact.

The U.S. can be totally self-sufficient. If pushed to the extreme, we could seal our shores and exist independent of any banana republic or any sand dune of a country that threatens us with airmighty black gold.

We have enough food, for instance, to feed three times the population of the U.S. That is something the Middle East, Mexico and even Venezuela do not have and the same goes for the Soviet Union, Europe and Japan.

And then, if they forget that, someone should whisper gently in their ears that we have still got a heck of a lot of tough Marines left to tweak their noses if they all get a little too unbearable.



## America's fastest sisters smash a mile relay record



**MEET** America's fastest family — pictured from left, the teenag-  
Artra, 18, Tina, 16, and Sherri, 17. They have just clocked the mi-  
slating an incredible five seconds off the nation's high school

The budding athletic superstars of San Bernardino, Calif., and their  
are certain that no other family in the U.S. could beat them. "We've ne-  
— making up a successful relay team before," said Artra.

The astonishing talents of the girls, who ran the relay together for  
breaking the record, have landed their high school, San Geronimo, se-  
Their story began when Los Angeles coach Fred Jones was trainin  
her sister, and Jones realized that she also had great potential.

"At that point we decided to get all four girls together, and see how  
together they went like a rocket.

However, the Howard family  
agree that Sherri will be the first  
to taste individual stardom.

She is tipped as a likely pros-  
pect for next year's Moscow Olymp-  
pics. She already has a gold medal  
in the 400 meters from an indoor  
event in Texas, where she repre-  
sented the U.S. against the Soviet  
Union.

And Sherri's 52.6 time for the  
400 makes her the fifth fastest  
woman in the country this year at  
that distance.

She said: "I feel confident I  
shall make the Olympics. And I  
aim to be the first American wom-  
an to win a gold medal for this  
event." At just 14, Denean is al-  
ready talking about representing  
the U.S. in the 1984 Olympics —  
again in the 400.

The girls have been helped by  
their parents' athletic back-  
grounds. Father Eugene held all-  
star and all-state basketball team



**W**

I'm H.B. Kerner. I'm an INVENTOR  
and my patented VAPO-JETS increase  
gas mileage up to 40% and I'VE GOT  
THE RESEARCH TO PROVE IT.

Sounds too good to be true? According  
to the EPA, California Air Resources  
Board, Iowa State Highway Commission,  
and thousands of satisfied Vapo-Jet  
owners, "by simply utilizing a set of  
VAPO-JETS you'll dramatically increase  
your gas mileage."

Owners of large American cars even tell  
me that they get better than a 40% in-  
crease in their mileage and that now  
with Vapo-Jets they don't have to make  
down to a small car (and lose thousands  
of dollars) to get small car mileage.