

Prison talk

A few French scientists are bringing astronomy to captive audiences, such as the terminally ill and the incarcerated. Alison Abbott joined a group of convicted murderers to learn about gravity.

There is, it must be said, a certain irony in talking to the incarcerated about the stars and the infinity of space. And a particular poignancy in telling them about black holes — from which nothing can escape. Yet 50 or so prisoners, many of them lifers, at the maximum-security Muret Prison near Toulouse, France, listened with rapt attention to astrophysicist Didier Barret's 90-minute lecture on Einstein's theories of matter, space and time.

If Barret, who works at the Laboratory of Space Astrophysics (CESR) in Toulouse, was aware of these sensitivities, he did not show it. He marched slickly but relentlessly through the theory, to observations of the birth and collapse of stars, and on to his own front-line research on the celestial explosions known as γ -ray bursts. The prisoners didn't flinch — although occasionally one would walk out, this also being the day for family visits.

This was the last in a series of lectures at Muret — France's 'four-star prison', where inmates have their own rooms, and the warders encourage educational events. Barret, who organized the talks, believes in taking public outreach one step beyond the conventional. "There are some groups of people who physically can't come to a public lecture at the local science centre or wherever — so we take our public lectures to them," he says.

To pursue this philosophy Barret established an association called *Les Étoiles Brillent pour Tous* ('The stars shine for everyone') in May last year — with the Muret lectures as one of its first ventures.

The experience at Muret turned out to be less alarming than the lecturers had anticipated. Barret is a burly amateur soccer player, but confesses to being a little nervous when he first made his way through the seven security gates that divide each ring of the prison complex to reach the highest-security core. Here is located a round concrete church, where the lectures were to take place a few weeks later. Muret is a prison for serious sexual crimes and murder. It is not an easy place for intellectual curiosity to take root.

On his first visit, Barret remembers find-



ing the stage of the church a mess of broken furniture, cigarette ends and other rubbish. "I told the prisoners who were showing me around that it would not be possible to give a serious lecture in such surroundings," he says. They promised that they would clear it up in time for the first lecture — on astronomical dimensions — in June. And they kept their word. The stage was immaculate, and there was even a bottle of water, with a glass, for the speaker, Peter von Ballmoos, one of Barret's CESR colleagues.

Didier Barret is taking science to inmates at Muret Prison (inset).

Star pupils

Von Ballmoos had been warned by warders that prisoners often shout or jeer at guest speakers. "I had thought I would feel frightened and vulnerable on stage," he recalls. But instead he found them courteous and well-behaved, apparently won round by the seriousness of the subject.

"Perhaps cosmology helps the prisoners gain a fresh perspective on their incarceration."

— Peter von Ballmoos

The other four speakers in the series had similar experiences. Even the two female lecturers found themselves at ease despite the presence, within arm's reach, of an audience convicted of heinous crimes.

Discussions after the lectures, they said, were much like those after any 'normal' public lecture, although they tended to drift towards philosophical aspects of cosmology, such as the unimaginable scale of the Universe. Perhaps cosmology helps the prisoners gain a fresh perspective on their incarceration, muses von Ballmoos. "On such an immense scale the prisoners have essentially the same level of freedom as a non-prisoner," he says.

And whatever the topic of the lecture, the prisoners were always keen to discuss extreme events, such as the Big Bang and black holes — violent cosmological phe-

nomena in which matter gets crushed to infinite density under the pull of infinite gravity, and the laws of physics break down.

There were occasionally aggressive interjections that would not be expected in other public forums — for example, when one prisoner was irritated by a question from another and stormed out, yelling offensively; or when a technical problem with the microphone precipitated ill-tempered (and nerve-racking) heckling.

But the regular attendees tended to be well-behaved and deeply engaged. Talking after Barret's lecture, one prisoner, a former trade-union employee who had already served seven years, explained how physics became an immediate passion when he heard about CERN, the European particle-physics laboratory in Geneva, through his job. The prison lectures are magnificent, he says, and help him continue his self-education. A bit of a Renaissance man, he spends some of his prison time writing poetry, and the cosmos provides him with a rich source of metaphors.

Not all of the prisoners share this romantic outlook, but the lectures have been deemed such a success that the prison authorities are keen for a second series this year. And another prison in the area, the Maison d'Arrêde Seysses, has persuaded Barret to arrange a lecture series for it as well.

Les Étoiles Brillent pour Tous is there for the innocent as well as the guilty. Barret and his colleagues have given up their time to teach lower-level astronomy to terminally ill children who will never again see the outside of a hospital. "We feel an academic duty to bring our subject to every human being, whatever their disadvantages," says Barret. The stars, after all, shine for everyone. ■

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