

science on television

Human face of Watson and Crick

by Peter Newmark

Back in the balmy days of the early 1950s, before the national press was heavy with doom and the scientific press with molecular biology, small groups of scientists in London, Cambridge and California were working away on the academic problem of the structure of DNA. And then it happened. The day after Mr Churchill became Sir Winston, Francis Crick and James Watson published their proposed structure for DNA in these pages and "The Race for the Double Helix" was over. The Horizon programme of that title dealt with the last few months leading up to this discovery.

Treading much the same ground as, and in a similar vein to, Watson's book *The Double Helix*, the programme dealt with the people involved much more than with the science. Indeed the only real bit of experimentation shown, R. G. Gosling trying to stretch a DNA fibre, failed (intentionally?) in front of the camera. What was shown, and very successfully, was the way in which the course of the race was affected by the personalities involved.

The story was narrated by Sir Michael Swann and divided into segments each introduced, silent movie style, with a still caption—such as "The Race Is On". But anyone expecting matching melodrama, villains and chivalrous heroes would have been disappointed. The characters were no larger or better behaved than life. There were Maurice Wilkins and his group studiously improving their X-ray data and moving towards the answer, Linus Pauling applying his expertise to other X-ray photographs and Watson and Crick building models *ad infinitum*.

All these people and more appeared to tell their tale. Of the main characters only Rosalind Franklin is no longer alive. It was her involvement that provided the most human touch to the whole story. Employed by Wilkins for her knowledge of crystallography, it soon became evident that the two were incompatible. This, or so it was related in the programme, resulted in a degree of isolation for Franklin that probably cost her the first place in the race. Nor were relations between her and Watson much better. He needed her data but

could offer little in return. Meetings were tense and even degenerated to fisticuffs on one occasion. Pauling was equally human. Although expecting to discover a double helix, he made a crucial misinterpretation of some data and opted for a triple helix. His son passed a pre-publication copy of the paper describing this to Watson and Crick. Their disbelief in the proposed structure acted as a spur for their own activities.

From their own account, surely a bit exaggerated by the passing of years, theirs was casual labour. Between coffee and tennis, Watson would play with bits of cardboard whilst Crick, trying to complete a mature doctoral thesis, would occasionally add a word of advice. Whatever the truth, and Watson did at one stage admit to working hard, the base pairing was realised and the full structure immediately followed.

Crick has recently written that in their classic paper "the structure is produced like a rabbit out of a hat, with no indication as to how we arrived at it." The nice thing about the programme was that it did show how, and in human, rather than scientific, terms. It was an excellent exercise in demonstrating the foibles and failings of scientists and acted as a splendid counterbalance to the reverent attitudes to which even Horizon is often prone. Nevertheless it was made quite clear that some three months before Mount Everest was first climbed, a scientific discovery of equal magnitude had been achieved.

The Valley of Paradise

by Allan Piper

LIKE Liverpool versus Leeds, and Royal Weddings, Vilcabamba—the "Valley of Paradise"—and its extraordinary inhabitants might have been made for television. In a beautiful, sun-filled bowl, 6,000 feet up in the Ecuadorian Andes, a community of gentle peasants farm the fertile land. Amazingly, in spite of a daily consumption of 40 cigarettes, four cups of locally distilled, 110° proof rum, and the occasional guinea pig, many of these strange people live to ages of more than 120 yr. And as if that were not enough to ensure a captive audience, there is a hint that it could be attributable to a healthy

sex life. But disappointingly, and uncharacteristically, Granada's "World in Action" team never quite made the best of what was bound to be a good documentary.

Arriving just ahead of the new road through the mountains, and the inevitable tourists, the camera crews have been beaten to Vilcabamba only by the scientists.

Many of their theories are predictable: "The air is so pure" and so on. Other theories are more unorthodox and intriguing. It has been suggested that centuries of close inbreeding have isolated a genetic abnormality, or more remarkable, that after a lifetime of climbing steep slopes and working the land, the calf muscles of these people have become so powerful that they operate as a secondary heart. But the inhabitants of Vilcabamba pay a price for their longevity: half of the children of the valley die before they are 10.

In spite of its unusual content, however, the documentary, (screened on July 8) lacked a sense of coherence. It was never cogent or compelling. Perhaps that was because "World in Action" tried to do too much in too little time. As a result, the programme was often vague and contradictory. We were told that, for example, all the peasants are vegetarian, and also that some eat donkey meat.

We were also presented with various nuggets of hollow information: There are two rivers flowing through Vilcabamba. One is warm, the other is cold. Ho hum. And we were treated on the basis of slender evidence to the thesis that an old woman might be so old because of her healthy attitude towards sex. "Did you have many lovers?" she was asked. Well, she was married once but her husband died a long time ago; just as well really, he used to be a devil—always beating her. Nearly killed her once. Eeee.

Miguel Carpio, 132 years old, tall and bronzed with long black hair and a snow white beard, retired from a life of farming at 125. Healthy and in command of all his mental faculties, he sits upright and impassive as the young intruders from the outside world try to come to terms with his only obvious handicap. "Do you", bawls the reporter, an impolite six inches from Miguel's left ear, "still like women?" Obviously, Miguel is going deaf. Probably, it doesn't bother him very much: at his age he's undoubtedly heard it all before.