

Guy's—2092

Medical science friction

Medical science had come a long way by the year 2092—and had stopped, at least in human terms. Diagnostic supercomputers had long exceeded the comprehension of most physicians, particularly after generations of 'machine-built machines', and inevitably a dependency on these machines had developed. Computers were, after all, more efficient, cost-effective and consistent than their human counterparts, with a massively greater capacity for knowledge, and 100% instantaneous recall. How could their judgement be challenged?

It was in this climate that a young, adult, white male was admitted unconscious to Guy's Hospital Casualty Department early one Saturday evening. Casualty Officer Jerry Miles and 1st year clinical student Mike Ross were the first to attend to the patient. After a standard clinical examination, Jerry entered his findings into the bedside terminal, and pressed a small red button. The bed immediately moulded itself around the patient, and various probes sensed in towards their respective locations. The diagnostic computer did its work.

'EMG shows reduced muscular activity. What do you make of that, Mike?'

'Um, possible stroke, maybe just unconscious.'

'Little unfair of me to ask. Too early to say. Iridological readout predicts high probability of epilepsy, occipital lobe. But look at this.' Jerry fingered the EEG report.

'EEG hologram shows high fronto-occipital amplitude gradient. Strange.'

'Jerry, uh, could the computer be w-wrong?'

'Can't be, of course. Ha, do you know how many beds this modern supports?'

'But surely an error like this could be made without a total loss of consistency rating? We're dealing with probabilities and not certainties, after all.'

'Yeah, but the Neuro sector should automatically mesh with the overview. I don't recall anything like this happening before.'

'So, which report should we trust, Jerry?'

'Don't know. I'd better call the Neuro Registrar.'

Some minutes later, Dr Judith Sreem entered casually.

'Jerry, I trust this is important. You've just interrupted some crucial simulations I was going over. I won't get Cray time again for a month.'

It's pretty important. What do you make of these printouts? I've asked the computer for ratification, and its output remains constant.'

'Jerry, you know I'm not a high-flying programmer, but it looks like we may need to do some more tests. I'll call Rajiv in Neuro Comp.'

'Rajiv Jarna, assistant update programmer to the large BRAX 900N main-frame (affectionately nick-named BRAIN) in the Tower Computer Centre's Neurology Section, arrived perturbed at the news.'

'Hi Judith, Jerry. Have you double-checked the readout?'

'Yeah, but still no sense. What do you think?'

'I've brought down a BRAX Portscan from the Tower. Maybe it'll help. I can't stress how serious it would be if the Neuro section of the General Clinical program became, uh, error-prone. The program's basically a compendium of our BRAX upstairs, so the implications could be huge. Do you know we even export that program?'

'What can we do?' asked Jerry.

'Nothing, but the Portscan can.'

The compact apparatus was placed over the patient's head, and small hydraulic fingers automatically moved it into position. No-one present quite knew how it worked, except how to connect it up and collect its report. But that was enough, wasn't it? Five minutes later, scans and reports were being displayed and printed out. After studying these and the suggested courses of action, Rajiv muttered to himself.

'Remarkable, remarkable. F-DOG indicates massive frontal lobe glucose utilization. The NMR Neutrone Spread indicates considerable neuronal enlargement and dendritic proliferation. Conclusion: BRAX believes the patient to be a child of up to six years of age currently in REM sleep, showing high levels of neuronal lability.'

'But that's ridiculous, Raj,' said Judith. 'Either BRAX is wrong, or this is some kind of miracle.'

'But Judith, Factor Analysis confirms high growth factor D&E levels in the CSF. There's no doubt about it, something fantastic is happening inside this man's brain.'

'Where was he picked up?' Judith asked Jerry.

'Other side of London Bridge station by the Dungeon, lying in a gutter. A passer-by reported him. Ambulance-men found no identification, and dental ID and retscan were negative. He is something of a mystery.'

Finally, Rajiv spoke. 'We'd better air-call Prof Duncan, Head of Intelligence Surgery. This sounds like something he would be interested in.'

The patient was left to be nursed by a Drake Care Unit, while Rajiv went to search for bugs in the huge BRAX program. Judith and Jerry went to meet

Christopher Duncan in his office on the 42nd floor of Guy's Tower.

'So,' concluded Jerry, 'the computer can't make sense of the patient's current status.'

'But what do you think, Dr Miles?'

'I've long since deferred to computer reports, Prof, because I've been caught out too many times! I see my job as using the diagnostic programs properly, not interpreting them. What's the point when we can deduce only a handful of hundreds of possible diagnoses?'

'Dr Miles, I remember when the first multipurpose diagnostic programs were introduced from Japan, and we all know their benefits in terms of cost, accuracy and so forth, but what about their drawbacks? We seem to have become little more than technicians, delegating our responsibility to their 'superior' intellect. Has it gone so far that you can't even offer me an opinion about one of your patients?'

'But surely, Professor, medicine has benefited from their use? And why does one case of possible mis-diagnosis cause you such dismay?' interrupted Jerry.

'Jerry, you fail to see the fundamental point. An unusual case arises, one which your computers fail to make sense of, and you simply fail to cope. You run to others with supposedly more skill, and they do the same. What has happened to human ingenuity and flexibility? In my day, if a doctor had an unusual case, he would study it, get advice from others, certainly, but would write a paper or give a lecture to describe the new phenomenon, and in this way come to terms with it.'

'I see your point, Professor,' Judith interspersed, 'but no new cases have arisen for years. Since the human genome was mapped over 50 years ago, all possible genotypic variations have been predicted and explored. Humans are no longer qualified to pursue research without computer guidance.'

'In that case, Judith, your current patient has rather put a spanner in the works.'

Professor Duncan could have made a fortune if he had opted for childhood intelligence induction in the private sector, but he chose to remain in what was left of the National Health Service, doing neurone manipulations in mentally handicapped patients, and element replacement in head and spine injury victims. He was sure the patient showing frontal lobe development was a unique example of neuronal lability in an adult, which had some exciting implications, but, more importantly, he hoped to use this case to highlight the inadequacies of a purely automated hospital, and halt this so-called progress before it was too late. Would there be anything left for us to do, he thought. We don't even build the machines anymore. And at the back of his mind, he

feared where the evolution of artificial intelligence would end. When would computers develop a... a consciousness. And what would they do then, given that they already had almost complete control over humanity. Yes, things had to change, and soon.

On the third day of the patient's stay, Professor Duncan completed his daily business round by examining 'the patient'. Before a huddle of medical students, he described with the aid of the bedside holographic monitor the patient's prodigious history. As he spoke, however, all eyes turned away from him as something quite unexpected happened. The patient opened his eyes, smiled, and sat up. This should not have occurred if the bedside modern's indications of EMG status were to be believed, but it had. Christopher Duncan stood, mouth agape, as if in a dream, as the patient slowly turned towards him, and spoke.

'I have risen again. Something wonderful is going to happen.'

But at Guy's Hospital, which had always been a trend-setter, it already had. One of the most important symbolic figures of humanity had returned.

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GUY'S HOSPITAL GAZETTE

March 1992



- The Living Image Appeal—PET centre
- Mr O'Flynn—an appreciation
- Guy's of the future—*Gazette* fiction