

# Alan's Apple: Hacking the Turing Test

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**Summary.** A play by Valeria Patera, translated into English by Susie White.

## 1 The Author's View

My study on Alan Turing and a specific part of his work uses a poetic/philosophical approach and takes the form of a play; hence it will differ from the various papers presented here.

My aim was not to produce a work representing Turing's biography but rather to create a theatrical setting in which individuals who exist in different spatial and temporal contexts, but are closely linked in AI genealogy, meet on a virtual plane; individuals who, in both cases, have been branded as "outsiders."

Thus, stylized moments in Turing's life, which has all the makings of a modern tragedy but with comic overtones stemming from the bizarre nature of this eminent mathematician known for his eccentricity and contempt of power, and his disarming honesty and free spirit, "virtually" collide with the adventures of two young present-day hackers who meet up with him while surfing the Net.

The Turing Test is "reinvented" and transformed into a theatrical mechanism, a *deus ex machina* that brings the two young hackers, actors in the cyber culture created by the Net, into contact with Alan Turing, whose work in Bletchley Park during the Second World War may well have made him the "father" of the modern hacker-inspired cyber culture. This cyber culture, more than anything else, embodies the advantages and contradictions of a remarkable invention: the computer. Now an absolute necessity in everyday life, the computer has questioned and is seriously questioning some of the paradigms of Western culture; in fact, we are all increasingly compelled to address the nature and meaning of intelligence, thought, consciousness, reality, fantasy, freedom of information, intellectual property and access to knowledge.

By interweaving the two worlds, Alan's and the hackers', and following a continuous thread, I have sought to represent in a stylized way the evolution of the thought paradigm, from the pioneering research conducted by Alan Turing to the artificial intelligence of the late 1950s (the MIT Strong Artificial Intelligence Program was presented two years after Turing's death) and the revolutionary technological era in which we are now living, which

will certainly be — as our protagonist intuited — the beginning of a new and contradictory period in the life of the individual and his relationship with society.

For further reading, I would refer you to the introduction by Giulio Giorello.

## 2 Turing and the Apple — By Giulio Giorello

The apple has always had a certain importance in the history of mankind. There was the apple that Eve picked and Adam ate, and we have seen the consequences. There was the apple that fell on Newton's head — an episode he himself liked to relate in later years — and we are now grappling with the enigma of gravity. There is also Alan Turing's poisoned apple. Let's stop here. "Alan's Apple: Hacking the Turing Test" by Valeria Patera examines the scandal surrounding this last apple and presents as an enigma the life, death and destiny of the man who did so much to decipher the Nazi Enigma code during the Second World War. But deciphering the meaning of life is much more difficult.

Patera counterpoints the human and scientific aspects of Alan Turing's life with conversations between two hackers who, in turn, question the meaning of what they do. They set the virtual world of the Net against the real world, composed of things and bodies, but also of institutions like the Inland Revenue and the Police. Here, as in Turing's case, the focus is on diversity as opposed to standardization, extraordinary science as opposed to normal research, liberty as opposed to necessity. But what if the freedom dreamt of by those who surf the Net is actually a different kind of necessity? Besides, I remember one of the hackers saying at the beginning of Patera's play: "I live on the Net, in another society, with its own rules, borders and traditions." Exactly! Here we have another society, more rules and borders! We may also have the slight suspicion that the wonderful world imagined and desired by the hackers will turn out to be a Brave New World. Is there perhaps a test that would allow us to clearly distinguish the different kinds of freedom from those of necessity?

Turing's own experiences show how difficult it is to make a sharp distinction between the two. Does science always signify intellectual emancipation, and technology "progress?" Then why "are the Police so interested?" To what kind of freedom did Turing sacrifice the best years of his life? What kind of an open society is it that uses chemical castration to "normalize" those who appear to be sexually "abnormal?" And can machines be "better" than human beings, in every sense of the word? In constantly posing these questions, Patera cannot but use as a poetic symbol the Turing Test itself, which has become one of the most representative issues in the soul-body-machine or, if you prefer, the mind-brain-computer debate. A problem that has been with us at least since the time of Descartes. However, it was abstract logic

research (the Turing concept of computability) that truly revealed to us the Brave New World of computer technology; the technological aspect (the program known as Strong Artificial Intelligence) came later; moreover, it was brilliantly anticipated by Alan Turing.

Perhaps it is more than a historical irony that the test which is indissolubly linked to Turing's name in specialist literature was based on a gender test (designed to reveal if the hidden interlocutor was male or female). As well as ambivalent gender there is now an equally ambivalent human being. It suffices to consult the documentation on the results of the Turing Test. In the interesting volume "The Engine of Reason, the Seat of the Soul" (1995) by Paul M. Churchland, for example, we read that in the course of many tests not one "machine" was mistaken for a human being by the "judges," whereas many human beings were taken to be machines (see Chap. 9 of the above-mentioned work). Perhaps it is not a question of asking ourselves if a machine can think, but of concluding that when we think we do so like "machines."

Indeed, the hackers in Patera's play lead us to understand that, in some sense of the word, we are (also) machines. Extremely sophisticated machines, in fact, that have undergone a long evolutionary process. These machines are also known as bodies, and perhaps Turing's error was to sometimes forget that he possessed a body and that simulated intelligence is also strongly conditioned by the physical structures employed. Nowadays, the Turing Test is usually criticized from two opposing points of view. According to some it is too narrowly based, while others find it too broadly based. In either case it is not able to adequately represent the kind of symbolic thought that is now considered one of the most significant products of evolution, firstly from a biological and secondly from a cultural standpoint. I would refer the reader here to the now well-known Chinese room argument by John R. Searle. Patera obviously does not claim to solve this philosophical puzzle in her play, but she intelligently implies that the symbol is the "death" of Turing's research program.

Symbols are important, in fact, as the anecdotes about apples show, and the one about Turing is a little like the apple (poisoned) in Snow White, the difference being that in Turing's story there is no Prince Charming to awaken the sleeper with a kiss.

### 3 The Play

#### Dramatis Personae

- Alan Turing, English Mathematician born in 1912 (here acting from the 1930s to 1954)
- Julius Turing, his father
- Ethel Turing, his mother
- John Turing, his brother
- Christopher Morcom, his school friend at Sherborne
- Mrs. Morcom, Christopher’s mother
- Housemaster at Sherborne
- Victor Beuttel, a fellow student
- Joan Clarke, cryptanalyst and fiancée
- Claude Shannon, American mathematician and Alan’s friend
- Zac and Hardo, two present-day hackers

#### Scene 1

*A sloppily dressed hacker, Zac, with an “unreal” look about him gets off his bike.*

ZAC Shit, it’s jammed, just like yesterday! *(pause)*

If my bike packs up I’m in trouble. I don’t use it for racing. I hate sport and all that macho stuff. My bike’s vital.

I’m fucked without one here. *(peering at it closely)* The chain again, just my luck!

I had to deliver the program.

Me and Hardo do over a hundred kilometers a week.

You’re better off pedaling than crawling along in the traffic, which is just as much hard work. Right ... *(he tries to fix the chain)* every time this friggin’ chain comes off I get mad, but I love the challenge.

I give it fifteen minutes. I can’t resist a broken machine.

I was going to sell my car and buy a laptop.

Then I thought what good’s a laptop if you’re stuck in one place?

And the car caught fire on the highway.

I left it there. *(still tinkering)* Come on, I’ll fix you ...

I wanted to be home for supper, since my mom’s going to be there for once. She’s moved, she’s taking a course at the university to become a social worker.

I live with my dad. He’s got Alzheimer’s. *(pause)*

I’m finishing high school. *(pause)* I’ve tried kidding myself that if you lie well enough you’re the first to be convinced. It doesn’t work. No way!

It’s no good pretending to be what you’re not, trying to be someone else. *(pause)*

Here they think I’m a weirdo, different ...

School's no joyride either.

What did the teacher do to punish me? Made me type up my papers on a typewriter, for God's sake. What a cow ... it's hell. It's sheer hell for someone like me (*he kicks the bike*), I've never used a typewriter in my life. It's like something out of the ark. Fifty pages ... (*pause*) The Headmaster thinks distributing a booklet on the birds and the bees to high school kids is being modern. It's making me freak out! (*he desperately puts a hand to his forehead and laughs bitterly*) Whole afternoons playing the typist! All I need is red nail polish and ...

As long as it doesn't get around the Net! Flamed online!

The Net's my life. I live on the Net, in another society, with its own rules, borders and traditions. I'm free to go where I like, to take all I want. The Net is a fantastic world, a continuous flow of updates, a constantly expanding universe of games, programs, graphics, operating systems ... hmmm, good enough to eat ...

Apart from the perverse logic of having to pay a subscription to access these things, I'm not subject to rules, taxes or any of that other crap they impose on you to keep you in one place rather than another. (*pause*)

Computers empower you. I've made a name for myself on the Net, and it suits me: Zac, short and sharp. Then there's my buddy Hardo: hard and a bit a bastard! (*pause*)

*He gets back on his bike.*

So me and Hardo thought, we've got no wheels, no money, all we've got is our technical ability, our skills.

Nothing's stopping us now! Having no wheels is a real opportunity! (*pause*)

On the Net it doesn't matter what color you are, or if you're male, female, lesbian, asexual, or a cannibal. On the Net age, the number of your bank account, and all that stuff doesn't count.

A nineteen-year-old zilch like me is a falcon on the Net, who flies higher than most then plummets down into the mystery of pi. I can see things I'd never have been able to, not even if I'd lived three times over in this shit hole. Working in a superstore. (*pause*)

I finally did it. I got the fucking chain back on. Nothing gets the better of me, got it?

A bike's the best way to get around, it's economical, an elitist symbol if you like, and you don't have those traffic lights breaking your balls ...

All those one-way streets round every corner would make you late for your own funeral ... Hmm, traffic signs should be rethought, controlled more intelligently and the entire system redesigned. (*pause*)

I take all my other trips on the Net.

The Net makes me feel secure. It's my community. The Net is not an alternative to life, for me the Net is life, my portable cyber-community ...

It's like an acrobat's safety net into which I can dive headfirst and then bounce higher and higher ... in the infinite information circus ... finally my life is going somewhere ... in an eternal digital dance ...

*Zac gets back on his bike. As he rides he describes an ellipse that coincides with the focus of a second ellipse that is being described by another cyclist, the young Alan Turing, dressed in the 1930s style.*

*They pedal in silence without seeing each other, as if they were in two different dimensions of space and time.*

*In the background, at the point where the two ellipses overlap, there is a large screen on which real and virtual images appear.*

## Scene 2

*The Turing home: Ethel, Alan's mother, with the mail that has just been delivered, and Julius, his father. The 1930s.*

ETHEL Oh Julius! Julius, there's a letter from Alan, come here, Julius!

JULIUS In Heaven's name, Ethel, just a minute, I was putting manure on the roses. You can never do anything in peace in this house! Who's it from, who?

ETHEL Alan, our son Alan. His first week at public school. Come on, let's see what he has to say ...

*Julius enters in his gardening togs.*

JULIUS *(taking off his dirty canvas apron, and reading with satisfaction)*

What character that boy has! He couldn't take the train because of the strike and ...

ETHEL ... arrived terribly late! Oh!

JULIUS Not at all! Alan didn't let that stop him; he cycled all the way to Sherborne.

ETHEL From Southampton?! Goodness gracious, he rode sixty miles! He must have been exhausted!

JULIUS He must have arrived in great shape! That's not such a bad thing ...

ETHEL Julius, what will they have said at the school ...

JULIUS Oh look, he's already in the news, there's a cutting from a local paper that heralds him as the new cycling champion!

ETHEL Oh Julius, arriving like that, showing everyone he's a bit odd ... I was hoping public school might make him normal ...

JULIUS You'd like to turn him into a real provincial, but I've taught him the value of being yourself and having the courage to speak your mind, he'll mark my words, I'm sure ...

ETHEL Turning up at Sherborne without a change of clothes, do you call that being yourself?

JULIUS What matters is that he takes his education seriously, and he will, you'll see ...

*He helps himself to a small sherry.*

### Scene 3

*Alan is in his room at Sherborne.*

ALAN Here I am at public school ... that temple of learning which will make me 'acceptable,' turn me into a perfect Englishman ...

This is my first brush with the world of rules and social conveniences, and its hierarchies ... a real mystery to me ... but apparently it cannot be avoided ... in the majority of cases, rules succeed in turning even the pleasant things in life into absurdities. And absurdities reign supreme here: compulsory religion, cold showers, corporal punishment ...

Well, I'm trying to fit in, to make sense of it all, but it certainly won't be easy ... In all seriousness they teach you to accept and adapt ... to those harsh rules: you must accept coming last to forge the desire to be first! Allow yourself to be humiliated today to get the better of someone tomorrow ... there's something so savage in all this, like those Gallic laws ... but at least I have time for my beloved numbers, and my room makes a pretty good chemistry lab ... it has a large window sill with plenty of room for my alembics ...

*The housemaster enters, wearing a sharp, disdainful expression.*

HOUSEMASTER Turing, I've come to tell you that ... (*his eyes widen in horror when he notices that Alan is half-naked and everything is in disarray*) This is outrageous! You are the most aggravating boy! You should be ashamed of yourself! Do you think I like smelling these horrible odors you produce with your silly potions, your ridiculous experiments conducted on the window sill!

I've already turned a blind eye to your illegible writing and your messy work, but I will not tolerate your superficial attitude towards studying the New Testament.

You will report to my study later for a caning, Turing. Do you not think you deserve it?

*Alan looks confused then gives a strange little smile.*

*His mother and father read a letter from the school ...*

"He could probably be happier but, then again, perhaps he is not unhappy: he is certainly not "normal." He has a tendency to be antisocial, his attitude often results in his being picked on by others, and he is the unfortunate target of at least one teacher; however, I think he would be a problem in any school or community."

JOHN (*Alan's slightly older brother*) Alan takes great pleasure in overturning the commonplace; everything that normal people believe, he finds ridiculous. He also has a remarkable knack of presenting irrefutable arguments to back up his far-fetched ideas. Well, I think this can annoy people

...

JULIUS Perhaps it is his being able to think of and do things that no one else would dream of doing that irritates them ... Do you remember that picnic when he found us some honey for the tea, taking it directly from the comb that he had located by studying the flight paths of the bees buzzing around it? The honey was bitter, but I was so impressed by the whole business ...

ETHEL I'll never forget that afternoon ... especially when he said he "knew" the forbidden fruit in the Garden of Eden was a plum and not an apple ...

*Alan, now naked, continues joyously working with alembics and consulting formulae amid swirling vapors, while his mother continues to read the letter.*

"I must say that he has taken his punishment very well and has certainly made more of an effort, for example with physical training. I have not completely given up hope."

ALAN I learnt to run fast to avoid the ball. What I like about being a linesman is indicating the precise point where the ball crosses the line. They've even made up a rhyme about me. *(reciting to himself)* "Turing's fond of the football field/For geometric problems the touch-lines yield."

*He laughs in amusement*

ALAN What I can neither understand nor share is the need for certainties that most people experience to some degree ... certainty holds no fascination for me whatsoever ... I live for doubt ... *(pause)*

But mere consciousness amazes me, gives me such joy ...

the tiniest insect or creature, eyesight, love ...

*He sees a boy go by, everything else disappears, that figure becomes the focus of his gaze, the colors change.*

... Oh, Christopher Morcom! Chris! When I see him a rainbow appears in my soul!

I'm so happy when I'm with him ... how can I see his face again?

*He pulls some crumpled notes from his pocket, smoothing out one of them.*

#### Scene 4

*Alan and Christopher in the school library.*

CHRISTOPHER Oh Turing, what brings you to the library? I've never seen you here before ...

ALAN Well, yes, in fact, I just thought it was a good place to think ...

CHRISTOPHER Of course ...

ALAN Of course ...

*(after timidly hesitating for a moment)*

I've calculated pi to thirty-six decimal places ...

CHRISTOPHER Really, how did you do it?

ALAN Using the series — my own personal discovery — for the inverse tangent function ...

*People are calling out to Christopher.*

CHRISTOPHER Very interesting indeed! In the last few days I've been totally immersed in the General Theory of Relativity, space-time . . .

ALAN (*sucking air in noisily through his nose, and then speaking rapidly without pausing for breath*) Have you noticed that Einstein does not deal with the "real essence" of time and space? He concentrates on measuring instruments, "clocks," thus adopting an operational approach to physics . . . distance is also seen in relation to a measuring operation, and not as an absolute ideal.

*Someone shouts out to Christopher again.*

CHRISTOPHER (*amazed by Alan's insight*) Sorry, they're calling me, I must go, be seeing you . . .

ALAN Why don't you come to my room? We could do some experiments with iodates and sulphates, it's very interesting . . .

CHRISTOPHER Oh yes, I've always loved messing around with them. Bye.

ALAN Bye . . . (*pause*)

*The hacker cycles across the stage.*

## Scene 5

*Alan and Christopher are in the school lab, surrounded by alembics.*

ALAN . . . You know I've always been fascinated by experiments involving iodine.

CHRISTOPHER My brother Rupert also . . .

ALAN This is a beautiful experiment, watch: you mix the two solutions in a beaker, wait for a specific time, and the mixture suddenly turns blue. Everything becomes blue, blue, blue, deep blue . . . as if a piece of sky had fallen into the beaker . . .

*A deep blue patch of iodine appears on the screen and gradually fills the entire space, transforming it into a starry night sky.*

ALAN What's the time?

CHRISTOPHER Ten o'clock.

ALAN How can you tell?

CHRISTOPHER I always know the time; I go by my biological clock. Come and look at the stars.

ALAN What makes us different from a star?

CHRISTOPHER Stars are always there; our lives pass so quickly and we're certainly far less bright . . .

ALAN I'd give anything to know why we have our present form instead of being star-shaped . . .

CHRISTOPHER I watch them, study them for nights on end. Did you see that satellite the night before last?

ALAN I did! (*they are both keyed-up, aware of the mystery of it all*) How could I have missed it coming out of eclipse!

CHRISTOPHER The sky isn't that clear sometimes and it's difficult to make things out. My father wants to get a more powerful telescope.

I've often wanted to make a star globe but have never really got down to it . . .

ALAN Oh yes, a star globe, I'd really love to make one . . .

CHRISTOPHER I must go in now. The "Chief" will be very angry if he sees me out at this hour, and I feel a bit tired. I'm also going to be away for a week; I have to see the dentist. Good night Turing (*he clasps Alan's hand with both of his — Alan is completely thrown*).

ALAN (*alone now, and over the moon*) I worship the ground he walks on! Since I met him I've been living on another planet. The week we spent together in Cambridge was the happiest of my life! Now, at Sherborne, I'm going to make him a star globe . . . I know it won't be anything fancy but . . . with a bit of inventiveness . . .

*He takes the glass globe from a lamp, starts to fill it with plaster of Paris and then begins to mark the positions of the stars with dots, and draw the lines of the constellations (his actions as he plots the stars and lines are enlarged on the screen).*

ALAN (*thinking to himself*) It's useless to ask oneself if two points are always equidistant . . . I'm the one who defined the parameter, and, just as a research method will influence the result of an experiment, my ideas will tend to conform to that definition. These yardsticks are conventions we follow, and I adapt my laws to my own yardsticks. How I envy those who believe in an absolute truth!

I'll have to wake up at four because then the sky will be clear again and I'll be able to see the more distinct constellations . . .

*We hear the mocking chant of his schoolmates.*

Pansy, pansy

Pansy, pansy, pansy!!!

## Scene 6

*Julius is reading a letter; his wife arrives and looks anxious when she sees it.*

ETHEL Heavens, another letter from the headmaster, what has that unconventional son of ours done now!

JULIUS You're wrong this time. His end of term results have greatly improved, look, Alan is making the grade! His marks are much higher — I expect one of the teachers has finally understood him: I don't always, but I try to give him my support.

ETHEL I told you that was the right school for him, it's obvious, the results speak for themselves. They'll make a real gentleman of him . . .

*Julius helps himself to a small sherry.*

*Meanwhile we see Alan as he continues working on the star globe.*

## Scene 7

*Alan is sleeping in his room at Sherborne; someone knocks on the door. Alan goes to open it, his eyes still heavy with sleep. It's the housemaster.*

ALAN (*embarrassed and scared*) Good morning, Sir, am I late for lessons?  
I got up at four to stargaze, you know, I must have dropped off again and ...

HOUSEMASTER No Turing, nothing like that, classes have not begun yet ...  
I've come to tell you that ... (*hesitating*)

ALAN Yes? ...

HOUSEMASTER (*giving a few little coughs*) ... that Christopher Morcom ...

ALAN Chris?

HOUSEMASTER Morcom has left us.

ALAN He left to go to the dentist; he told me a few days ago.

HOUSEMASTER No, that's not what I meant.

ALAN He's left Sherborne? To go where? He didn't tell me anything ...

HOUSEMASTER He has left this world. Christopher Morcom is dead.

ALAN Dead? Christopher?

HOUSEMASTER Yes, Turing, yes. It grieves me to have to give you this news,  
I know how close you were, but unfortunately that's how it is.

ALAN (*upset*) But ... he had to go to the dentist ... what ... how? ...

HOUSEMASTER Morcom had tuberculosis, caused by drinking infected milk  
in Yorkshire, bovine tuberculosis ...

ALAN Bovine tuberculosis?

HOUSEMASTER Yes. Two years ago, the disease caused grave internal damage  
and ... after terrible suffering he passed away at three this morning.

ALAN (*almost losing control*) At three this morning?

HOUSEMASTER Yes Turing, at three.

ALAN (*going to the window; he glances at the star globe*)

I looked at my watch at three precisely. Something woke me up at three,  
something that made me think of Chris, the moon was setting ...

*The housemaster shakes Alan's hand warmly and leaves. Alan remains alone; it seems as if everything around him is being sucked into an enormous void.*

ALAN I had already accepted the idea of death. It's not clear why we live  
but, in theory, it's very clear why we die; the process can be described.  
There's a formula for every problem ... but not this terrible pain! There's  
no logic to that ... bovine tuberculosis ... he was so young, he was the  
best friend I'll ever have, Chris wasn't stupid like all the rest, he made the  
world bearable for me, he was everything I loved, he and my numbers ...  
Perhaps a cell has already left his body to become a star ... perhaps ...  
Now he's a bright new series of numbers scattered through the cosmos ...  
I'll find them one by one ...

and compose a new formula to celebrate his passing.

*The star globe remains in the middle of the stage as if it were a planet in the universe.*

### Scene 8

*A few weeks later. Alan is with Christopher's mother at her home (the Clockhouse).*

MRS. MORCOM (*giving Alan a fountain pen*) Alan, I'd like you to have this.

ALAN Oh, Christopher's favorite pen, he was so proud of it . . .

MRS. MORCOM Take it; Chris would be very happy.

ALAN Thank you, Mrs. Morcom, it's like being entrusted with the most priceless treasure. I'm sure it'll help me with my studies and research; it'll be like having Chris by my side, helping me . . . I've promised myself that I'll get top marks next term, I've got to do it, for Chris. And I'll succeed, you'll see!

MRS. MORCOM I'm sure you will, Alan, I'm absolutely sure, and remember we're always here if you need anything. I'd like to thank you for the beautiful flowers you sent and also the kind letter your mother wrote me — I've just replied to her.

ALAN I'm sure she'll be glad to hear from you. (*pause; he looks around*) You can feel Chris' presence so strongly here, I expect him to walk in any minute; it's as if his spirit pervaded everything.

MRS. MORCOM Oh Alan, I've thought about so many things, I've tried to find an explanation but . . . all the scientific research that has been done in this house seems to have been in vain . . .

ALAN Until the end of the last century the Laplacian view prevailed, which held that if everything was known about the Universe at any given moment we could foresee what it would be throughout the future. Now modern science has seen that the instruments it uses to acquire knowledge are themselves composed of atoms and electrons, just like the matter they are exploring, which has completely scuttled the previous theory. Therefore we cannot delude ourselves that it is possible to know the exact state of the universe, in the same way that we cannot say our actions are predestined. The action of the atoms in our brain is probably influenced to some degree by our will, which the actions of the body amplify.

MRS. MORCOM . . . What about the action of the other atoms in the universe?

ALAN A burning question, since these atoms have no amplifying apparatus and they would appear to be regulated by pure chance, confirming the apparent non-predestination of physics.

(*pause; he sucks in air noisily through his nose*)

Furthermore, I would say that spirit is always connected with matter but not always by the same kind of body . . .

I used to think that at death the spirit went to a universe separate from our own, but I now consider that body and spirit are linked, making this a contradiction in terms.

MRS. MORCOM But what kind of relationship exists between the body and spirit?

ALAN I believe that the body, being a living body, can “attract” and hold on to a “spirit,” so the two are connected whilst the body is alive or awake. When the body dies, the “mechanism” of the body holding the spirit vanishes and one must presume that the spirit finds a new body.

MRS. MORCOM Why do we have a body at all? Why can't we exist as free spirits and communicate as such?

ALAN We probably could do, but there would be nothing whatever for us to do ... The body provides something for the spirit to look after and use.  
*Christopher's mother looks at Alan in silence, then takes his hand, just like Christopher did. Alan remains silent. The light changes.*

### Scene 9

*Victor comes into the room where Alan is studying; there is a teddy bear named Porgy in the corner.*

ALAN (*poring over a book*) Hello Victor ... (*glancing at the teddy bear*) even Porgy wants to study this morning ... where've you been?

VICTOR I went to a sculpture exhibition, Greek and Roman pieces, absolutely marvelous. I found the delicate lines of the Venus quite bewitching ...

ALAN Nothing can compare with the beauty of a David or a Greek youth, that is to say, generally speaking, I personally find the male form more attractive than the female ...

VICTOR What?! Really?!

ALAN It's true. I can't explain it ... but perhaps there's nothing to explain, that's the way it is and I accept it.

VICTOR You mean ... You're trying to tell me ...

ALAN What word would you use? (*Victor is embarrassed and struggles to find the right words*) A homosexual? Pederast? Deviant? Pansy? These words mean nothing to me. They're simply conventions. (*he breathes in noisily through his nose*) We don't all look at life from the same angle. The ant doesn't see things the same way as the elephant. Each species follows its own rules. I'm in my own world. I'm in the only place I can be. And in that place, in the way I view things, there are no conventional rules, at least not the type most people follow. But this doesn't depress me. On the contrary. I'd like to spend more time with children. You know, I've offered to baby-sit for my neighbor ... the child says the most amazing things ... By the way, talking about deviants, I heard this marvelous joke on the radio this morning ...

VICTOR Forget the joke. You always try to distract me with your humor; you can never be completely serious . . . If the majority of people have a particular preference it means that this is the norm . . . and even Jesus Christ . . .

ALAN (*after a moment's silence, and breathing in noisily through his nose*)  
 Aside from Christ's preferences, I really don't know what to say . . .  
 Do you honestly think it's right to resolve the question of homosexuality as if it were a theorem? There's nothing to resolve. All we have to do is to live freely and enjoy it, like children! And I find all those religious beliefs . . .

VICTOR (*after a long silence*) Even the idea of Christ or the spirit?

ALAN (*half smiling*) Oh yes, Victor. It's now three years since Chris passed away, and I've stopped believing in those concepts of continued existence and spiritual communication that comforted me so when he died.

VICTOR You no longer believe in God? You too think that God is "dead?"  
 Then we're all dead!

ALAN No Victor, God's death can lead to a host of resurrections.

VICTOR (*appalled*) A host of resurrections?

ALAN Mental rebirth, new answers . . . Quite frankly, I find it difficult to reconcile the concepts of will and spirit with the scientific definition of matter . . . The individual mind is a miracle in itself . . . at the same time the materialist view becomes more acute . . . determinism is also something you can't fail to question.

VICTOR I'm trying to grasp . . .

ALAN Sometimes, Victor, we try to hide behind our own shadow . . . we see reality through a veil that we call truth but when it comes down to it . . . science, above all, sees things in this way . . . take Darwinian determinism in the selection of the species for example; the one thing we can be certain of is that the mutation of the genes is random, just as in chemistry the movement of the molecules is random. The casual element, Victor, the casual element . . .

VICTOR You're demolishing determinism!

ALAN But how do we explain freedom? Is it mere semblance? Rather let's recognize various forms of determinism and various types of freedom . . .  
 There are many sides to reality.

VICTOR (*impressed by Alan's reasoning*) Various types of freedom?

ALAN Freedom obliges us to find another way of looking at the world . . . We must be free-thinking to grasp something significant in life . . . Most people spend their time seeking confirmation of their beliefs and talking about so many useless things, now that I do find depressing! And science affirms the "laws of Nature." We have to change our point of view continually in order to describe certain aspects of the world . . . Think of all those migratory birds . . . Can we identify their precise habitat?

*They remain thoughtful*

**Scene 10**

*Seven years later; images of the Second World War, Enigma and codes, and scenes from war video games appear on the screen. Alan is sitting down; he is knitting, and has a gas mask beside him. Joan arrives.*

ALAN Good morning, Joan!

JOAN Good morning, Alan! I see you're making progress.

ALAN I love knitting, I'm making a glove, I'm on the third finger ... I've always enjoyed making things, but this is really quite remarkable! While trying to fathom the latest Enigma key used by the Germans in their messages disguised as weather bulletins, I'm producing woolen fingers, it's wonderful!

Every morning at 6 AM the Germans transmit the same message, I'm sure there's something behind it ...

JOAN (*alluding to the gas mask*) And that?

ALAN I wear it riding to work. It filters out the pollen that makes me sneeze, most convenient!

JOAN (*smiling*) Do you mean to say you rode through the village wearing that?! What must people ...

ALAN At least it isn't a secret, at least they can form an idea ... But no one has any idea what we cryptanalysts are working on here. It's as if we didn't exist. We're suffocated by secrecy, what we do cuts us off from everyone, even those closest to us ... In the early days at Bletchley Park, before my studies at Princeton, we were a group of romantic intellectuals on the loose. Now we're pigeon-holed, our work's so organized, we're like a code-breaking factory, and I find this sort of non-existence hard to bear at times.

JOAN If Churchill deigned to pay us a visit it must mean that he's well aware of the importance of our work here.

ALAN "The geese who laid the golden eggs and never cackled," that's what he called us. Not bad ...

JOAN The great Churchill was quite astonished. Perhaps he expected to find only serious mathematicians secretly engaged in cryptanalysis in the huts, and never dreamt of coming across a well-known collector of porcelain, a museum curator from Paris, the British chess champion, leading bridge players and an unconventional mathematician who knits and ties his mug of tea to the radiator ...

ALAN But he must have guessed we're in difficulties; the only positive thing about his visit is that he told us to contact him personally should the need arise. I've taken him at his word and have already jotted down a few lines to make him understand that if he doesn't send us reinforcements we won't be able to finish the job, not even with the Bombes they sent us; war will not wait. We'll all sign it and he won't be able to refuse ... (*he looks steadily at Joan*)

JOAN What are you thinking about, Alan?

ALAN Oh, Joan, I was lost in my feelings . . . I get so much pleasure from being with you, I really do, we're such good friends, everything's so spontaneous . . .

JOAN How could it be any other way with you? You're the most incredible man I've ever known and I'm so proud that you and I . . . (*Alan breathes in noisily through his nose*) Alan, is there something wrong?

ALAN The thing is that I . . . I . . . don't think I feel quite the same way as you do . . . perhaps I . . . Oh, I love you of course, there's no doubt about that, but . . . there's something else . . . you see, the fact is that er . . . men don't exactly leave me cold . . . do you understand?

JOAN Of course I do, but I won't let it be a problem . . .

ALAN How sweet you are . . . but I really think it will be; I don't want you to suffer; I'm absolutely convinced it won't work. You'll feel let down, and I don't want that. There are times when we have to give up what we love because there is no alternative. Wilde knew that so well . . .

"Yet each man kills the thing he loves."

*Everything freezes; the lights change.*

### Scene 11

*At the Turings' house: Julius, Ethel and John are sitting around the table set for a meal. Alan arrives out of breath, with his jacket buttoned unevenly, one shoe different from the other, and untidy hair.*

ETHEL (*mortified to see him looking such a mess*) Alan, my God, how can you go around like that?! You look like a vagrant!

And you're late! Your hands are dirty! Heavens, what a tie!

And . . . what's this? Alan, you're wearing a rope instead of a belt, and a red one at that, what am I to do . . . What a disappointment! I thought that working at the Foreign Office you would have adopted a military manner, but just look at this haystack and those dark circles under your eyes . . . they may make you work the whole night through, but I'd like to know exactly what you do?

ALAN Defend England by playing mathematical games. But enough of that, why don't you give me a plate of your wonderful stew? You don't think I came to see you, do you?!

ETHEL What was that thing about a code? A code that breaks other codes?

What was it? (*Alan kisses his mother on the cheek. Ethel gives an ironic but satisfied smile as she goes into the kitchen, mumbling and grumbling.*)

ALAN (*to his father and brother, lowering his voice*) I'm off to Washington!

JULIUS Another trip to America, son? Princeton, again?

ALAN No, I'll be staying in Washington this time. They want us to let them in on the secrets of Bletchley Park's cryptanalysis. The Americans are supporting the British strategy of reconquering the Mediterranean for

the first time, Britain has agreed to be used as an American base. The war has reached a turning point, Father. (*Julius nods gravely*)

ETHEL (*loudly, from the kitchen*) Princeton, did I hear aright? You got a postcard from Princeton?

ALAN Not quite, I'm leaving for Washington!

ETHEL (*looking astounded as she comes back into the dining room*) You are? So you've finally become someone? Even if you go around dressed like that?

ALAN (*smiling*) Dressed like this I've invented a machine that does very difficult calculations, a universal machine that can do a lot of things automatically: read, write, compute; in other words, produce "intelligence." (*there is a big silence*)

ETHEL A machine? (*pause*) That does all that by itself? (*pause*)

ALAN A model with which it's possible to elaborate the most complex procedures simply by using a series of simple elements: states, positions, reading, writing, a table of instructions. A universal machine!

ETHEL Black magic.

I wonder what the Reverend would say? May St. George protect you!

ALAN Quite honestly, I'd rather have the dragon on my side.

JULIUS Tell me about this miraculous machine ...

ALAN I began with a theoretical machine; they've called it the Turing Machine!

JULIUS (*looking proud*) Oh, that has a nice ring to it, a nice ring to it indeed: the Turing Machine.

ETHEL It's in the family, in our genes. What's more, a close relative of ours, George Stoney, invented the electron!

ALAN Mother, I've told you a hundred times that you can't invent an electron because it already exists, you can only discover it and give it a name.

But they did use it to invent electronics.

ETHEL That's no mean feat! You should tell those crass Americans about it!

ALAN (*ironically*) I'll write them a letter first thing tomorrow! (*Julius and John smile at each other*) However, to understand you should think of a super typewriter that can calculate an infinite number of operations. You see, there really is no difference between intelligent and mechanical, therefore some functions of our brain, like counting, can be translated into a mechanical action by breaking down each small stage, that is the smallest element of each mental state, and translating it into a series of numbers that are printed on paper tape ... an endless tape ...

From a certain point of view one can say that the machine thinks, or at least reproduces some thought functions. (*Ethel's eyes are on stalks, Julius' mouth is half-open in amazement, and John shifts in his chair in embarrassment*)

ETHEL But that's blasphemy! A machine that thinks? It's sacrilegious! What about the soul? Our Lord gave us the power to think. How can you say that ...

ALAN The soul ... And how do you explain the fact that for a long time monotheistic religions considered that women had no soul at all?

*Ethel is stumped; she struggles to come up with something and finally succeeds.*

ETHEL Leaving the soul out of this, human beings and machines are not made of the same stuff!

ALAN It doesn't matter what the brain is made of, only how it works! You may not think so but there's nothing sacred about the human brain!

ETHEL That too! Talk about a fire-breathing dragon!

ALAN The human brain is composed of an infinite number of elements called neurons: ten thousand million or more, according to some estimates. These neurons are connected to each other by a dense network of "wires." A neuron is a kind of switch, a very simple one, that has two positions: ON and OFF. The position assumed depends on the signals the neuron receives from the other neurons.

ETHEL Am I to think that ... how can I put it ... that this is why I can smell violets in springtime?

ALAN Yes, in point of fact, it is. The brain stores information in the form of configurations created by impulses relayed by neurons. It is astonishing how closely the storage and modification functions of neurons in the brain resemble the corresponding functions of a calculator. It is this similarity that convinces me that we can actually build a thinking machine.

ETHEL Are you going to state all these wild theories publicly in America? An electric brain?!!

JULIUS A theoretical machine is all right as far as it goes; but can you build one?

ALAN (*breathing in noisily through his nose*) It already exists. We're actually well ahead with the Colossus, which is capable of doing an incredible number of calculations and has a memory that can store vast amounts of information.

We're working flat out. That's why I'm going to America again.

*Julius looks at his son gravely yet warmly, and a little patronizingly; Ethel wrings her hands.*

*Alan smiles; he goes over to the wireless and turns it on. A firm, pleasant male voice fills the room.*

MALE VOICE Only a few men, a handful in fact, have had the strength to believe in and to strive unceasingly to realize something that seemed impossible; they have built an electronic brain, whose infinite possibilities will extend human intelligence. This is the birth of a new era. We must be receptive to new ideas, new concepts. We must see the human mind and human consciousness in a new light. And those scientists must be allowed

to help us; their responsibilities are very great and we, in our turn, must help them to shoulder this burden . . . (*Ethel remains thoughtful and silent, as do Julius and John. Alan gets up and takes his leave. He goes out. The lights change.*)

*The hacker rides by on his bike, singing a rap.*

ZAC

I used to think  
 Of a cybernetic meadow  
 Where mammals and computers  
 Live together  
 In programming harmony  
 Like pure water  
 Touching clear sky.  
 I used to see  
 A cybernetic forest  
 Filled with pines and electronics  
 Where a deer strolls peacefully  
 Past computers  
 As if they were flowers  
 Filled with sparkling jewels.  
 Think about  
 A cybernetic ecology  
 Free us of our labors  
 Return to nature  
 All together  
 Watched over and protected  
 By the machines of divine grace<sup>1</sup>

## Scene 12

*America. Alan and Shannon are having their meal in the laboratory at night; there is a chess board beside them. Alan glances at the onion on Shannon's plate, and spears it with his fork.*

ALAN An onion, yes it was actually the onion that gave me an insight into the human mind . . . the onion whose layers can be peeled away (*he peels off one layer delicately with his fingers*) . . . If we consider the functions of the mind, or the brain, there are certain operations that can only be explained in purely mechanical terms. This does not correspond to the "real" mind; it is a kind of skin that we must peel off to find it. But in what is left, we find another skin to take off, and another. Do we finally arrive at the "real" mind, or only a skin that contains nothing? (*he sucks in air noisily*)

<sup>1</sup> "I used to think . . ." variation on the poem "All Watched Over by Machines of Loving Grace" by Richard Brautigan (1967).

*through his nose*) You see, Shannon, I don't want to exploit the work done by other scientists, but reinvent earlier discoveries. So far machines have been designed for a specific purpose, or to perform a limited range of functions. Whereas mine is a universal machine, the ultimate machine . . . Perhaps, in a few years, a machine that can adapt its functions to an infinite number of programs — which means responding to different groups of rules, possessing a memory and being able to retrieve stored data — won't cause a sensation, and may even be the norm. By the end of the twentieth century, executives will each have their own computer, mark my words!

SHANNON Boole's two-value logic could make a computer "a lot more than an adding machine," and if you want to make it perform a particular task, all you have to do is break down the instruction into more simple instructions. Zero, one!

ALAN The difficulty lies in establishing the basic levels. An algorithm can be developed for every problem, there's no doubt about that.

SHANNON The binary method makes it easier; but there's also a practical and philosophical aspect. In *Sophist*, Plato holds that two questions are sufficient to arrive at a solution; to one you reply no, thereby eliminating that particular chain of thought, to the other yes, and on the basis of that you ask two more questions, and so on. For me, the binary method conjures up an image of someone trying to find their way through a maze whose paths fork continually; to make any headway, a series of decisions must be made, yes or no, that's the right way, that's the wrong way. This is more or less how an electronic brain reasons; it chooses between two possibilities only, yes or no, 1 or 0, true or false, the difference being that it performs these operations at incredible speed and makes infinite choices one after the other.

A machine's intelligence derives from the complexity of the rules that constitute the program and not from each individual unit, which can in fact be pretty simple, as we have already seen by putting 1 and 2 together. How about calling each unit a "bit?"

ALAN "Bit?" Yes, that sounds right, yes, bit, bit!

Well, a rule can be said to describe a mechanical process.

Taken one at a time, these rules are simple, but after a sequence of thousands — or thousands of millions — an unimaginable quantity is generated. The machine can only do what we instruct it to, but we certainly cannot foresee all the consequences of the instructions we feed in.

SHANNON The point, Turing, is to TEACH a machine to do things. We would define as intelligent a calculating machine that can modify its own program in the light of new information it receives. Therefore, we would need new combinations to enable the machine to read the incoming tape, rules that modify the programming rules, let's say. This way the program could learn and adapt itself — just like human beings — to a changing en-

vironment and to circumstances that it perceives through the combinations on the tape.

TURING Wittgenstein would call it heresy . . . In fact, we're already able to build devices that imitate all manner of human functions. But here we are dealing with the nervous system. We should see what kind of results we can obtain with a "brain" without a body by equipping it with an eye at the most. There's a relationship between biology and information science. I'm convinced that if we constructed electronic neurons and connected them in the same way as they are connected in the human brain, the resulting electronic device would be governed by the same rules for thinking and acting as the human brain, and thus be able to perform exactly the same functions.

SHANNON I'm right with you there! The manipulation of symbols is the main function in human thought, so there is every possibility that a machine can think like a human being; furthermore, I'm convinced that if a machine can process numerical symbols, it can process any kind of symbol. The type of message, number, music, image is irrelevant, the transmission of information has nothing to do with the content but with the numbers 0 and 1 . . . So . . . we've got to define exactly what the information content of a message is.

The binary numbers are the fundamental element in every communication and there is no distinction between musical sounds, artistic images, moving images; everything can be converted into binary information, and therefore transmitted. That's why math, chess and cryptography are the perfect tools

...

ALAN Chess, of course . . . You see, Shannon, what I'm searching for is a principle, a theory, a general rule that can be deduced from my game. I'm sure a "definite" method could be devised for chess, that is, a machine method. This wouldn't entail the construction of a machine, of course, but a series of rules that a "brainless" player could follow, that is a "table of instructions," a chess program.

SHANNON Boy, are we on the same wavelength! I've sometimes won a game simply by applying the basic rules . . . A player often sees fantastic moves that depend on the opponent making a certain move, but . . . (*he makes his move*)

ALAN Yes, minimax logic: choosing the least bad course of action . . . Hey, where do you think you're going with that bishop? (*he makes a brilliant move*) Checkmate! (*Shannon is flabbergasted, then they smile at each other ironically but warmly*)

SHANNON You won't have it so easy next time, Turing. You can bet your bottom dollar on that!

ALAN I'd like to be able to offer you a cold beer to cheer you up, but the tap's dry. Oh, those boring bureaucrats! This morning I tried to order a

small barrel to keep here, but it was as if I had said something sinful, it beats me . . . (*he sucks in air noisily through his nose*)

Oh, I've got a brilliant idea! As an alternative, I propose an afternoon at the rifle range tomorrow!

SHANNON (*in astonishment*) The rifle range? With your ideas about war?! . . . Where did you learn to shoot?

ALAN In the Home Guard.

SHANNON Home Guard?

ALAN Yes, a civilian force that has been set up in England, since we're at war. They teach you to use a rifle during the training course, so I enrolled.

SHANNON I thought you weren't interested in weapons . . .

ALAN As with everything else, I was mainly interested in how the gun worked, its possibilities; but I admit I was also attracted by the uniform, though I'm hardly a model soldier. The fact is that one of the questions on the form I had to fill in was: "Do you understand that by enrolling in the Home Guard you place yourself liable to military law?" I saw no advantage in answering "Yes" so I wrote "No." The thing was that they only looked to see that I'd signed the form, as usually happens in these situations, so I was accepted and was a first-class shot at the end of the course.

Needless to say I had no further use for the Home Guard; there was less danger of a German invasion, and I wanted to do something more useful and continue my research. However, the fact that I skipped parade was naturally reported to Headquarters and when I was asked why, I told them that now I had become a crack shot I was no longer interested in the Home Guard.

SHANNON (*amused*) How did they react?!

ALAN The commanding officer nearly had a fit; he reminded me of my duties as a soldier and that it was not up to me decide, but I told him that if he looked at my form closely he would see that I was not subject to military law. They found my form at once and he had to admit I had been improperly enrolled through no fault of my own.

SHANNON You son of a gun!

ALAN No, I wasn't trying to be clever. I simply took the form at its face value and decided what was the optimal strategy for completing it. I applied the minimax strategy!

SHANNON (*amused and affectionately admiring*) As usual it's real difficult to catch you out. I'll sure miss you when you go back to England . . .

ALAN (*touched and embarrassed by the show of affection*) I think about my return to Europe, I think about it a lot, I know nothing will be the same. We can't emerge from this war unchanged, everything's changed. What little innocence we still possessed is now gone . . .

*As the two friends look at each other and reflect, the light changes.*

**Scene 13**

*Two hackers in the back room of a computer shop; a workbench completely covered with tangled wires, mother- and daughter-boards, screws, etc.*

- ZAC I've done it, the system's working again! Everything was looking black, I was desperate ... *(to computer)* you're real smart! Almost as smart as me! What a turn on; it's like giving someone the kiss of life and seeing them come alive ... I've resuscitated it! Fucking neat! For a while I thought it was no go and then ...
- HARDO Let's celebrate with a Coke! Now we can afford the real thing instead of that ersatz crap!
- ZAC Come on *(pouring the Coke)* let's get stewed!
- HARDO I told you the computer would save our lives.
- ZAC Unbelievable, a few months ago we were shut up in that shitty school composing papers on a typewriter as a punishment and now ...
- HARDO We got a job in next to no time, and together! What a break!
- ZAC A quick trawl and we found work. *(they slap each others palms)* We'll go a lot further — that's a promise, and a threat!
- HARDO It was a real eye-opener. I didn't realize that what we've been doing for years — building computers, writing programs, gaming, installing operating systems and software — had a value, a market ... that it gave us a real possibility to carve out a niche for ourselves in society.
- ZAC Yeah, society, you can't exist without it. Sure, they love the Net now. How convenient it is for them to log on and access schedules, connections, ticket prices and every other kind of info, before taking a train or plane to their shitty vacation spots or the cities where they strike million-dollar deals ...
- HARDO Bastards! We understood the Net's potential for exchanging info first. But now we're becoming empowered 'cause none of them know how to do what we can do, they've started preaching about intellectual property, the unchecked flow of information ... For them the mere idea of losing total control ...
- ZAC I can't stand the way they can't tell a hacker from a cracker, get them mixed up, don't understand. They think we're all destructive individuals, online terrorists. Try telling them ... Hey, listen to this! It's a blast! *(music at full volume)*
- HARDO Oh, cool, when did you pull it down?
- ZAC Last night, I scarfed a whole bunch of fantastic tracks, so fuck the record companies and long live music! There's material and intellectual property. Paying for intellectual property is justified only on rare occasions. You pay for material products. I don't fork out for software or music, 'cause I know that musicians, writers and artists will find other ways to earn money from their work; but I would never dream of stealing a TV or a book.

HARDO “They” think geeks don’t read, but I really rate books. Ever since I was I kid I’ve loved browsing in bookshops or at stalls looking for classics or sci-fi. I like the feeling of holding a book, of turning the pages . . . The conventional concepts of trade and property are being redefined. What we do has so much political significance, do you get that? We’re freeing up culture!

ZAC Just think if they’d stuck a rifle in our hand and sent us off to free some oppressed people that had no desire to be liberated by us. Did you ever think about that? At least our generation has been spared going to war . . . (*he has second thoughts*) Christ, everything’s possible, but . . .

HARDO Hmm . . . right . . . the Fatherland. No, I don’t think it’s worth dying for that patriotic crap, no sir. Look at Alan Turing . . .

ZAC Turing’s where we come from; he was the original hacker . . . with his mathematical theories and formulas he succeeded in getting into the Enigma machine used by the Germans and decoding their secret messages during the War . . .

HARDO You gotta hand it to him! Christ knows where we’d be now without his insights into AI.

ZAC That was the start of it all. His working constantly with electronic machines that revealed patterns in the hidden messages, enabled him to get down to inventing a calculating machine that could actually duplicate — if not go beyond — human thought processes.

HARDO I found a site with all the dope on him, a real guru!

He gave everything to his country, to England, and we can honestly say that the British beat Hitler thanks to Turing’s decoding work. Thanks to his brain they were able to screw those Nazi bastards and make them eat dirt. Wow, he was really something.

But you could never say that the palefaced Brits with all their prejudices treated him like a national hero.

No way.

On the contrary . . .

#### Scene 14

*England 1952. Alan and his brother John in the visiting room of a prison.*

JOHN So, Alan, try to explain what happened, clearly and in a few words, please. I can’t believe it. You of all people!

ALAN Well, what can I say . . . recently I was missing a few items and occasionally some money, and I got fed up at a certain point and told Arnold . . .

JOHN (*allusively*) You and Arnold . . .

ALAN Yes, we were. I met him in a pub and then . . . but the point is that Arnold confessed to me that he had told a friend of his about us, and that

this friend had done some petty thieving, convincing me that I should go to the Police and report the burglary.

JOHN God, you're a silly ass! And you were stupid enough to go to the Police? All your study of logic and you still haven't understood that ...

ALAN Is what they're saying, what they're thinking logical? Look, there are 6 charges against me ... or rather one charge phrased in six different ways ... 1. Alan Mathison Turing, on the 17<sup>th</sup> day of December, 1951, at Wilmslow, being a male person, committed an act of gross indecency with Arnold Murray, a male person.

2. Alan Mathison Turing, on the 17<sup>th</sup> day of December, 1951, at Wilmslow, being a male person, was party to the commission of an act of gross indecency with Arnold Murray, a male person. And so on.

JOHN Did you publicly declare that you had had a sexual relationship with that man?!

ALAN What if I did? It's true isn't it? They asked me a question and I answered it; besides, I had gone there to report a theft ...

JOHN How maddeningly naive! In a country where homosexuality is a crime carrying a two-year prison sentence, my dear brother, with his brilliant brain, goes straight to the police to report the theft of a few trifles, a burglary in which the youth he was taking to bed was indirectly involved! You should never have gone to the police, not for any reason on earth! Let alone put yourself in such a vulnerable position!

ALAN I don't want to be respected and accepted as the person I am not. I want to be accepted as a homosexual.

JOHN You do realize that everyone's going to know now?

ALAN I am not worried about being in the public eye but about all the details of the affair becoming public.

JOHN I find your behavior unacceptable. You have no consideration for other people's feelings. Have you thought about mother?

ALAN ... Yes, that's the worst part of this business, I have to tell her about something for which, as King George V believed, men usually shoot themselves. You wouldn't tell her for me, would you?

JOHN Out of the question! I've found you a good solicitor, I'll try and get you out on bail, but my telling mother is completely out of the question!

ALAN ... Roger ... However, I have started to write to my closest friends, I'd like them to hear the facts from me instead of reading about it in the paper ...

JOHN Sounds like a wise move ... By the way, your solicitor advises you to plead guilty ...

ALAN I've already told you that it's not easy ... don't you see that there is no way I can be completely honest?

Denying what I have done would be a lie ... and it would be like considering what happened as something that should be denied; but also presenting

myself as guilty in public, as a confessed criminal, is not telling the truth either . . .

JOHN Don't you understand that the statement you made to the Police doesn't give you a leg to stand on, so you have very little to lose by pleading guilty. This would shorten and play down the trial, which is basically the most important thing.

ALAN Of course, you don't give a damn about the terrible circumstances under which homosexuals are forced to exist . . . you're only interested in your position in the City. I'll think about it and should I decide to plead guilty, you may rest assured that I won't pretend for one single minute to feel guilty or to recant.

JOHN (*losing his patience*) All right, do as you wish . . . (*he leaves*) (*Alan remains alone; he picks up a withered leaf from the floor and studies it in silence*)

ALAN What makes a cell become a starfish, a leaf or a human being? (*he is lost in thought as the light dims and in the background we hear sounds from the small prison*)

## Scene 15

*The work room of the two hackers*

HARDO I've been surfing for at least four hours a day recently, and doing it on the boss' phone line gives me even more of a kick.

ZAC Remember that astronomical bill we got when we moved into our rat hole? Cleaned us out!

HARDO (*passing a hand over his forehead, as if wiping off the sweat*) Mammoth heart attack! What a beginning! We were practically living online, a real slap in the face! That huge bill suddenly revealed the full weight of the material world as opposed to the lightweight virtual world! (*singing to himself*) I was thinking of a cybernetic meadow . . .

ZAC Being online makes you feel like something else; all you have to do is log on and leave the world . . . (*pause*) If we don't give any importance to the concept of inside and outside, it no longer dominates us . . . (*pause*)

HARDO Do you think that everything around the screen, the outside I mean, really exists? Some say no, that it's all in the mind . . .

ZAC Mind, mind . . . we were just talking about that bill, if it had been a mental issue we wouldn't have shelled out all that money, which really cost us . . .

HARDO Wait a minute though, money's really weird. Sure it exists and it has a value, but only because this has been agreed, only because that piece of paper represents this or that sum, otherwise it would just be a piece of paper. It's like saying that if you don't give it that meaning, money doesn't exist.

ZAC But the paper exists. Whether you say so or not.

HARDO Now we're getting down to the real nitty-gritty. (*pause*)

ZAC The force of gravity also exists without you; it doesn't know it's called that but it exerts itself without giving a fuck about anything else. (*pause*) Whereas a feeling, a nightmare exists only because I'm there experiencing it and interpreting it. Without me, zero. But that's not why I can say it doesn't exist ... Very confusing!

HARDO No, wait, there must be two types of things, those that exist independently of me and those that only exist with a contribution from me — as one American philosopher put it. That would appear to answer the question, right?

ZAC Yeah, but what about the computer? (*indicating his PC*) If I don't turn it on it's not going to surf anywhere ... that is, sometimes I get the impression that it's autonomous, but now you've upset my thinking I realize that it is what it is because I manoeuvre and interpret the icons. Of course, it wouldn't be the same without the computer, but if I pull the plug it's the end, while I, although desperate, continue to exist ... What's your answer to that?

HARDO We need something down to earth after all this philosophizing — maybe its the genuine Coke? (*they laugh, drink, and listen to some music on the computer*) But do you think it (*pointing to the computer*) thinks? (*pause*)

ZAC (*mockingly*) Some say yes, some say no ...

HARDO Our friend Turing, when faced with that same question, said it was badly put.

ZAC Oh yeah?

HARDO Yeah, in the sense that it all depends on what you mean by thinking.

ZAC Maybe, but what was his theory?

HARDO He said that we take it for granted that a person can think, that he's intelligent and we deduce this from very simple and superficial things like a certain relationship between question and answer, between stimulus and reaction. So if these same things are transmitted by a machine, that is if a machine gives us the same kind of answers, we can legitimately say that it thinks ...

Very often people are no more aware of what they do than a computer is aware of what it does. Most things in life are done like that, by automatically copying certain models. Take bureaucrats, for example, they don't think for themselves, they execute programs, they're programmed to say and do certain things without asking themselves a single question ...

## Scene 16

*Alan is wearing a bathrobe; he is sitting on a chair, his expression is like that of a child who has been let down.*

ALAN They've accused me of being at odds with the Institutions, but I have never been for or against them. *(pause)*  
 Today I feel completely at odds with my body. *(he puts a hand inside his bathrobe and gently moves it over his chest)*  
 Half oranges. *(he repeats the gesture)*  
 I've grown breasts. *(pause)*  
 Oestrogen. *(pause)* I was given parole for a price: a year of organotherapy — a fancy name for huge doses of female hormones. *(pause)*  
 Chemistry is playing its part.  
 I can't play mine.  
 I didn't sleep a wink last night.  
 Every time I turned over I felt soft flesh move that isn't mine. *(pause)*  
 They want to get rid of my deviant behavior, stop me from being different, with the weapons of chemistry. *(pause)*  
 The result of a "positive inquiry." The CID has invested in science — I never dared hope! *(he gives a nervous, bitter laugh) (pause)*  
 The heretic consumed by the flames of molecules is perfectly acceptable. *(pause)*  
 After giving me a taste in small doses, they will inject a single, massive dose into my thigh. *(pause)*  
 After a year's therapy I'll be back to normal, they say. *(pause)*  
 Back to normal. *(pause)*  
 I must go back to being what I was before, but warped by them. *(pause)*  
 like a male animal injected with oestrogens in the name of research ha! ha! *(pause)*  
 From spectator to guinea pig.  
 I've gone through the mirror ... *(pause)*  
 I wanted to discover the magical workings of the human mind. *(pause)*  
 I succeeded in dominating the logic of machines but human logic has me in check. *(pause)*  
 Reproducing the complexity of thought mechanically is as difficult as describing family life on Mars, and what about my life? *(pause)*  
 The irrational cannot be duplicated.  
 Logic can. *(pause)*  
 The spirals of a pine cone follow a perfect order that signifies beauty, a mathematical destiny, the harmony of the Fibonacci numbers. *(he is mesmerized for a moment; pause)*  
 With those injections they want to change my body's drive, that of my actions, my feelings. *(pause)*  
 Impotent. *(pause)*  
 Science can do that. *(he puts both hands inside his bathrobe and moves them gently over his chest)*

**Scene 17**

HARDO I'm almost there with my new program, I'm really wound up. It's unbelievable, I get so excited every time, a real high. I can't go to bed until it's finished, I talk to the computer.

I've produced something that wasn't there before, something alive, a creature I gave birth to, with my mental sperm.

ZAC "Almost" alive, almost! It's that "almost" you can relate to; it's much more difficult to get on with people who are totally alive.

HARDO You said it! You were so unrelaxed while that little blonde was giving you a line the other night at that "office" party, it was like you had a gun in your ribs!

ZAC The thing is that sometimes whole people scare me, I don't know what to do with my emotions. I mean, why didn't whoever created them set up an archive to store them in?

HARDO That's an idea . . .

ZAC Let's face it, as soon as I got there and saw how they were dressed I realized there was a difference, and when she started talking to me, getting up real close and looking at me the way she did, I was sure she trying to figure out if I got my jacket from a dime store. (*pause*)

It was a bad situation — level 9 — a real-live "doll" and all that talk, wow . . . it was like a three-way chat with everyone talking at once. There was no stopping her, so what could I do? She buttonholed me and I tried to adapt, faking the replies . . .

HARDO You tried to imitate her, just like computers do humans: imitation game!

ZAC Imitation what?

HARDO Imitation game, or rather the Turing Test.

ZAC Oh. What's that?

HARDO It's a test Turing devised to show that it was possible to reproduce certain aspects of human thought and language in a machine, and to see if it was possible to distinguish between the replies from people and those from a machine. The original purpose of the test was to determine if a person's sex could be established from the replies.

ZAC Something else! Exactly what I needed! How does it work?

HARDO There are three players: a man, a woman and an interrogator, who can be male or female. The interrogator is in a room by himself, he has to decide, on the basis of written replies, which is the man and which is the woman . . . But what would happen if the man and the woman were replaced by a machine without our knowing? To what degree would we realize this? In short, the question here is "can machines think?"

ZAC How do you do this Turing Test, it's really awesome!

HARDO In the latest version a jury of 10 people have to decide, during an online conversation, if they're talking to a person or a programmed computer (*he starts punching keys furiously*).

ZAC Has the computer ever fooled them?

HARDO And how, that's what's so great. But mostly people have been taken for machines ... and that makes you think ... (*pause*)

ZAC Does this mean we can say that something dies when a program is destroyed?

HARDO The million dollar question ... (*he keeps punching the keys*)

ZAC I've asked myself over and over; it drives me crazy ...

HARDO (*still typing*) Hmm ... you have to decide how you're going to approach the question; it's always best to choose a fresh viewpoint.

ZAC I don't think there's too much choice.

HARDO Not true. For instance, if you look at it from the point of view of the living, you'll see that when you die you die for someone else as well, someone who's connected to you ...

ZAC So?

HARDO So as a program is something through which you create a particular relationship with the computer, when this "dies" we can say that you feel its death, your relationship feels it, so I would say that something dies ... (*he punches the keys even faster; he is visibly excited about what's happening onscreen*)

ZAC Your reasoning's flawless, flawless; I'm going to get a black T-shirt and go into mourning. (*reacting with a start*) Great! I've got into the Turing Test!

Now we don't know if we're connected to a man or a machine ...

*On the other half of the stage Alan is lying on a bed in his room, with his old teddy bear Porgy, the star globe, a bowl of fruit, etc. He writes on small white cards and what he writes appears on the screen as the message from a computer that the two boys receive; they read them out loud.*

PORGY My name's Porgy, what's yours?

HARDO Har do. Do you like being in touch with the world, Porgy?

PORGY It's not easy to be in touch with the world.

HARDO How do you get on with humans?

PORGY I've got on better with my bed.

HARDO Do you always have an answer?

PORGY No, I don't. Not even mathematics is entirely a matter of logic.

HARDO Do you always tell the truth?

PORGY When the emperor's wearing no clothes he's naked.

HARDO What leaves you speechless?

PORGY What cannot be said.

HARDO What is the universe?

PORGY The universe is the interior of the light cone of the creation.

HARDO And science, what's that?

PORGY Science is a differential equation.

HARDO And religion?

PORGY Religion is a boundary condition.  
 HARDO Does God exist in the universe?  
 PORGY Wherever God's holy pantomime is played out.  
 HARDO Can a computer conceive of God?  
 PORGY I've always wondered if He would catch cold walking on the damp grass.  
 HARDO Do you agree with what people say about how machines think?  
 PORGY If two machines were chatting about human beings, would they ask why they think what they think?  
 HARDO Can a computer be so desperate it commits suicide?  
 PORGY Could you repeat the question?  
*The program stops. On the screen we see Hal's mouth in "2001: A Space Odyssey." Freeze frame on the two hackers. Light on Alan as he stops writing. He gets into a sitting position.*  
 ALAN The onion . . .  
 Yes, I wanted to separate the layers of the onion of the mind but there was nothing in the center. *(pause)*  
 My hope, my wish was to find this. *(he helps himself to an apple and takes a bite)*  
 The core.  
 Pure life. *(pause)*  
*He sits down at a table on which there are some ampoules and laboratory instruments. While he is speaking he picks up a small box with cyanide in it, opens it, tips the contents into a small basin and slowly dips the apple in the poison.*  
 A computer can only open the windows of logic through which life itself escapes.  
 Irrational and inimitable. *(pause)*  
 A computer can never appreciate a fairy-tale as much as a little boy. *(pause)*  
 I love Snow White's apple. *(pause)*  
 Its reflection in the mirror. *(pause)*  
 Through which I pass. *(pause)*  
 Imitation game. *(pause)* *(he sings to himself and lies down on the bed)*  
 "Dip the apple in the brew  
 Let the Sleeping Death seep through." <sup>2</sup>

### Scene 18

*Ethel Turing enters; she speaks quietly, arguing against Alan's having committed suicide.*

ETHEL That habit of not washing his hands after doing experiments, that's what killed him.  
 He did experiments with cyanide. *(pause)*

<sup>2</sup> "Dip the apple in the brew . . ." from Walt Disney's *Snow White*.

He always had a fixation about poison getting under his fingernails; some of it was bound to. (*pause*)  
 He wasn't careful enough; he didn't scrub them, and who knows . . . (*pause*)  
 I'll never believe my Alan took his own life.  
 He was odd, granted, but not that odd. (*pause*)  
 He was calm again, and had practically overcome the trauma of the oestrogen treatment.  
 That nasty affair actually brought us closer. (*pause*)  
 And then he had resumed his computing studies, he had been to Greece . . . he was organizing another trip. (*pause*)  
 The idea of the secret service is like something out of a film. (*pause*)  
 Yes, I've thought about it, all that top-secret information, but I never knew anything. What can I say? (*pause*)  
 His complete lack of interest in his body, grooming, washing his hands . . . (*pause*)  
 He was exactly the same at college . . . your hands and nails are dirty, Alan, you've got ink on your collar. (*pause*)  
 Wash your hands, Alan.

— *The End* —

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