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THE QUANTUM MECHANICAL IMAGE OF THE WORLD OF ESPIONAGE: TOM STOPPARD'S *HAPGOOD*

Hapgood, first produced at the Aldwych Theatre on 8 March 1988, takes up several motifs sketched only in *The Dog It Was That Died*, a 65-minute radio play, first transmitted on BBC Radio Three on 9 December 1982. Both of the plays "parody the double agent plot of Le Carré"[1] employing Stoppard's familiar technique of "dislocation of the audience's assumptions,"[2] and deal with the themes of deceptiveness of appearances and "the maddening relative nature of human perception and understanding."[3]

Like its radio predecessor *Hapgood* is, on the most obvious surface level, a play about espionage. In both cases we encounter double (or even triple) agents, a situation of which the Chief in *The Dog It Was That Died* complained saying: "These double and triple bluffs can get to be a bit of a headache."[4] Both plays focus on the struggle to distinguish between lies and truth, loyalty to oneself and one's closest from loyalty to one's agency. The final scene of *The Dog It Was That Died*, presenting the top figures of intelligence service, evokes the notion of the futility and senselessness of espionage. The same idea is again voiced in *Hapgood* when, on being told by her superior, Blair, that they have to carry on, this being a matter of whether "It's them or us, isn't it?", the heroine cries out: "Who? Us and the KGB? The opposition! We're just keeping each other in business, we

[1] Susan Rusinko, *Tom Stoppard* (Boston: Twayne Publishers, 1986), p. 110.

[2] In the interview with Ronald Hayman Stoppard has defined the use of this artistic method in *Travesties*: (I just wanted to dislocate the audience's assumptions every now and again about what kind of style the play was to be in. Dislocation of the audience's assumptions is an important part of what I like to write." Ronald Hayman, *Tom Stoppard* (London: Heinemann, 1979), p. 143.

[3] Katherine E. Kelly, "Tom Stoppard Radioactive: A Sounding of the Radio Plays," *Modern Drama* 32 (1989): 451.

[4] Tom Stoppard, "The Dog It Was That Died," in: *The Dog It Was That Died and Other Plays* (London: Faber and Faber, 1983), p. 43.

should send each other Christmas cards – oh, f-f-fuck it, Paul!"[5] And, finally, last not least, both of them deal with the epistemological question of what really constitutes reality and illustrate the notion of the difficulty of separating mere illusion from actual reality.

Hapgood starts with a bizarre stage image, so that what Stoppard once said about *Jumpers* and *Travesties*, "You start with a prologue which is slightly strange,"[6] is also true of this play. In the original London production the play began with a red dot moving about the map of London projected onto panels which filled the stage.[7] The winking red light moving along the streets thus represented a car under surveillance. Hapgood, talking to someone on a short-wave radio, provided a verbal commentary to this strong visual image. By the time the first person comes through the doors of the changing room of the swimming baths which form the set of this scene, we know that agents have been following someone all over London. What follows is a sequence of entrances into and exits out of both the room and the changing cubicles placed in it and a smart switching of attachè cases.

In his note Stoppard says: "In the first production, all the foregoing action was done to music and lightly choreographed" (4). The audience watching this "ballet" become aware that it is simply impossible to make sense of what is actually happening.[8] The opening stage image, just as the entire play, brings about confusion and the impossibility of distinguishing what is real and true and what is a mere illusion. Stoppard has commented on this aspect of the drama saying:

> The play has been written about as though it were incomprehensibly baffling. It does not seem to me to be borne out by experience. After all these years one thing you learn is what's going on in an audience and by God you know when you're losing them. It's like getting a temperature, you can't miss it. My impression is that your ordinary punter has less trouble with it than some critics.[9]

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[5] Tom Stoppard, *Hapgood* (London: Faber and Faber, 1988), p. 87. All the references in the text will be to this edition.

[6] Hayman, *op. cit.*, p. 12.

[7] Michael Billington, "Stoppard's Secret Agent," *Guardian*, 18 March 1988: 28.

[8] Hersh Zeifman writes: "The confusion of this opening scene is deliberate; there is no way an audience can possibly follow all those comings and goings, and Stoppard knows that. We are thus immediately made to experience, structurally, what the play's characters are suffering from thematically: an inability to figure out what's going on, to determine precisely who is the traitor in their midst." Hersh Zeifman, "A Trick of the Light: Tom Stoppard's *Hapgood* and Postabsurdist Theater," in: Enoch Brater and Ruby Cohn, eds, *Around the Absurd, Essays on Modern and Postmodern Drama* (Ann Arbor: University of Michigan Press, 1990), p. 182.

[9] Billington, *op. cit.*, p. 28.

It is undoubtedly true that, while most probably finding it difficult to understand what is actually happening, the "ordinary punter" will find this spy thriller thrilling. On the other hand, the fact that some uncertainty remains concerning the question of what is taking place adds to the overall impact of the play which is about uncertainty as such, about the difficulty of defining reality and about the prevailing relativity.

The scene at the pool opening the play foreshadows the main thematic and structural interests of the play. It indicates that what we are about to watch is a play about espionage. Christopher Innes argues that "the whole play is structured on game-playing, using the Kiplingesque image of spying as 'the Great Game', but taking the metaphor literally." In his article he discusses the numerous game strategies employed in the play and argues that the very initial stage picture in the original presentation was evocative of "a recently issued cops-and-robbers board game called *Scotland Yard.*"[10] It may be said that one of the games introduced in the course of the play is the game of interpretation played both by the characters and the audience. One can wonder whether the theatre audience watching the production are aware that the very first scene presents two pairs of twins – there are two Ridleys and two Russians taking part in it. Even if the theatre audience do not immediately realise that a special doubling effect is employed, they do discover it as the play progresses. If the audience are temporarily misled, however, it means that Stoppard, while employing one of his ambushes for the audience[11] and withholding information, has made them interpret the situation differently from what it actually is.

The printed text, on the other hand, does not permit such a misinterpretation as the stage directions are quite telling:

> *The essence of the situation is that* RIDLEY *moves around and through, in and out of view, demonstrating that the place as a whole is variously circumnavigable in a way which will later recall, if not replicate, the problem of the bridges of Königsberg. . . . As a matter of interest, the* RIDLEY *who posts the briefcase is not the same as* RIDLEY *who entered with it.* (2–3)

The case of the bridges of Königsberg is explained verbatim by Kerner, the atomic physicist, who provides numerous scientific explanations of what the characters and audience alike are witnessing. In the Prussian city of Königsberg there were seven bridges and "an ancient amusement of the people of Königsberg was to try to cross all the seven bridges without

[10] Christopher Innes, "*Hapgood* – A Question of Gamesmanship?", *Modern Drama* 2 (1989): 316.

[11] Stoppard himself has commented on this device in: Roger Hudson, Catherine Itzin and Simon Trussler, "Ambushes for the Audience: Towards a High Comedy of Ideas" (Interview with Tom Stoppard), *Theatre Quarterly* 14 (1974): 6.

crossing any of them twice." It was the Swiss mathematician, Leonhard Euler (1707–1783) who "took up the problem of the seven bridges and . . . presented his solution to the St Petersburg Academy of Science in the form of a general principle based on vertices. The conclusion the mathematician came to was that it cannot be done, two walkers are needed." (45–46) The knowledge of mathematics and Euler's solution enables Kerner to solve the mystery of the dressing room case. Looking at the situational diagram of the initial scene of the play he comes to the conclusion there must be two Ridleys.

In *Hapgood* Stoppard turns to mathematics and physics in order to supply an explanation of the events presented. Whereas Euler's solution provided a scientific explanation which shed light on reality and explained it, the numerous references to physics in the play have an opposite effect and stress the importance of relativity. It was Clive James who first noticed the parallels between Stoppardian theatrics and Einsteinian physics. He argued that Stoppard's plays reflect the new, post-Newtonian outlook based on the proposition voiced by Einstein who "found himself obliged to rule out the possibility of a viewpoint at rest."[12] In an interview Stoppard said that he considered James's article to be brilliant and added:

> What he said was that you get into trouble with my plays if you think that there's a static viewpoint on the events. There is no observer. There is no safe point around which everything takes its proper place, so that you see things flat and see how they relate to each other. Although the Eisensteinian versus Copernican image sounds pretentious, I can't think of a better one to explain what he meant – that there is no point of rest.[13]

Already George Moore in *Jumpers* complained about the general uncertainty resulting from the development of science: "Copernicus cracked our confidence, and Einstein smashed it."[14] The case of Copernicus is similar to that of Euler in the sense that both of them described the nature of reality and employing science explained it. The case of Copernicus is also reminiscent of the Wittgenstein anecdote mentioned by George. On being told by his friend that people assumed that the sun went round the earth because it looked like this, Wittgenstein asked: "Well, what would it have looked like if it had looked as if earth was rotating?"[15] Copernicus, in fact, proved that sometimes our interpretation may be misleading and that, due to imperfect perception, the description of reality may be faulty. Furthermore, Copernicus's discovery may also be viewed in the light of Einstein's theory of relativity concerning space.

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[12] Clive James, "Count Zero Splits the Infinite," *Encounter* 5 (1975): 71.

[13] Hayman, *op. cit.*, p. 144.

[14] Tom Stoppard, *Jumpers* (London: Faber and Faber, 1973), p. 75.

[15] *Ibid.*

Making numerous references to the discoveries of modern physics *Hapgood* demonstrates the changes that have occurred in our conception of reality as the result of the shift from Newtonian mechanics to the formulation of relativity and quantum theory. Classical Newtonian physics postulated a permanent external world, fixed, objective and describable. Scientific laws were always based on strict cause and effect laws and independent of the perceiver. Modern physics has shown that once it is discovered that a law does not hold in conditions in which it has so far been considered to hold, it is necessary to search for new explanations. This notion was expressed by Richard Feynman in his *Lectures on Physics* from which Stoppard takes the motto for his play and to which he often refers in course of the drama. In the lecture "Probability and Uncertainty – the Quantum Mechanical View of Nature" Feynman discusses the experiments concerning defining the nature of light.[16]

In his lecture Feynman describes an experiment during which electrons were supposed to get through two holes and the observation of their movement was to bring about the answer whether they are particles or waves. In order to be able to observe the behaviour of the electrons the experimenter has to use light which "affects the result. If the light is on you get a different answer from that when the light is off. You can say that the light affects the behaviour of electrons."[17] The situation, then, provides no solution – it is simply impossible to state exactly what is happening: either you turn the light off and are thus unable to watch the electrons because you simply do not see what is happening, or you turn it on and thus affect their behaviour. Feynman has written:

> A philosopher once said "It is necessary for the very existence of the science that the same conditions always produce the same result." Well, they do not. You set up the circumstances, with the same conditions every time, and you cannot predict behind which hole you will see the electron. Yet science goes on in spite of it – although the same conditions do not always produce the same results. That makes us unhappy, that we cannot predict exactly what will happen.[18]

Feynman's experiment is discussed by Kerner who calls it "a trick of the light." (10) In discussing it he does not seem to pay much attention, though, to the changed circumstances (the light being either turned on or off) but he concentrates on the perceiver: "Every time we don't look we get wave pattern. Every time we look to see how we get wave pattern, we get particle pattern. The act of observing determines the reality." Furthermore,

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[16] Richard Feynman, *The Character of Physical Law* (London: Cox and Wyman Ltd, 1965): 128.

[17] *Ibid.*, p. 140.

[18] *Ibid.*, p. 147.

as Kerner continues, "nobody knows" how this is possible: "Einstein didn't know. I don't know. There is no explanation in classical physics. Somehow light is particle and wave. The experimenter makes the choice." (12) At another place in the play, Kerner mentions Heisenberg's uncertainty principle and compares the particle world and "the dream world of the intelligence officer":

> An electron can be here and there at the same moment. You can choose; it can go from here to there without going in between, it can pass through two doors at the same time, or from one door to another by a path which is there for all to see until someone looks, and then the act of looking has made it take a different path. Its movements cannot be anticipated because it has no reasons. It defeats surveillance because when you know what it's doing you can't be certain where it is, and when you know where it is you can't be certain what it's doing: Heisenberg's uncertainty principle; and this is not because you're not looking carefully enough, it's because there is *no such thing* as an electron with a definite position and a definite momentum; you fix one, you lose the other, and it's all done without tricks, it's the real world, it is awake. (48)

In this passage Kerner concentrates not on the perceiver but on the very nature of electrons which seems to escape a clear definition. Werner Karl Heisenberg, mentioned by Kerner, an atomic physicist, a specialist in quantum mechanics, has formulated the uncertainty principle which "concerns attempts to measure the position and motion of a quantum object simultaneously. . . . The very act of trying to pin down an electron to a specific place introduces an uncontrollable and indeterminate disturbance to its motion and vice versa."[19] Feynman paraphrases this uncertainty principle in order to be able to use it while describing his own experiment: "It is impossible to design any apparatus whatsoever to determine through which hole the electron passes that will not at the same time disturb the electron enough to destroy the interference pattern."[20] Anthony Jenkins mentions Schrödinger's Cat paradox (1935): "The experiment consisted in closing a cat in a steel chamber with a Geiger device which was to release a toxic acid. The cat, according to the rules of quantum mechanics, is both dead and alive until the result is revealed the moment the box is opened." Jenkins traces this source in connection with the scene with Celia pretending to be Hapgood's twin sister: "Hapgood, at the hotel, obeys these quantum rules: she is both Betty and Celia, since Ridley does not open the disc box, but, as he says earlier, 'I'd trade it for my cat if I had a cat.'"[21]

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[19] Werner Karl Heisenberg, P. G. Davies and J. R. Brown, eds, *The Ghost in the Atom* (Cambridge: Cambridge University Press, 1986), p. 6; quoted in Anthony Jenkins, ed., *Critical Essays on Tom Stoppard* (Boston: G. K. Hall and Co., 1990), p. 174.

[20] Feynman, *op. cit.*, p. 143.

[21] Anthony Jenkins, "Moles and Molecules: Tom Stoppard's *Hapgood*," in: Jenkins, *op. cit.*, p. 174.

The dual nature of the agents, further underlined by the fact that often they are literally doubled, appearing in couples as twins, is evocative of the structure of light as both a wave and a particle. This metaphor of the world of spies being reminiscent of the world of quantum mechanics is enriched by the introduction of the "quantum jump." The probability function, introduced into physics by Feynman, among others, does not in itself represent a course of events in the course of time. It only indicates a tendency of the possible course of events as well as our limited ability to know it. The so-called "quantum jump" is an expression of the transition between the "possible" and the "actual". According to atomic physicists the probability function is a mid-stage between the idea of an event (our perception and interpretation) and the actual event. This point is again explained by Kerner:

> I cannot stand the pictures of atoms they put in schoolbooks, like little solar system: Bohr's atom. Forget it. You can't make a picture of what Bohr proposed, an electron does not go round like a planet, it is like a moth which was there a moment ago, it gains or loses quantum of energy and it jumps, and at the moment of the quantum jump it is like two moths, one to be here and one to stop being there; an electron is like twins, each one unique, a unique twin. (49)

Stoppard uses the notion of the "quantum jump" three times in the course of the play to make it work in visual terms. On the first occasion, it is introduced as a visual bridge between the first two scenes. Scene One ends with Blair making arrangements to meet Kerner and Ridley at twelve in the zoo. As it ends "he puts the radio away and looks at his wrist-watch. The next time he moves, it is twelve o'clock and he is at the zoo." (9) Later on a similar "quantum jump" of Blair provides a link between scene 3 and scene 4. (24) On still another occasion, in the inter-scene, as Stoppard calls it, it is Ridley who makes something like "a quantum jump". The stage directions indicate that the Ridley we see in this inter-scene is "somebody else" than the Ridley presented in the preceding one (69). What we are watching, in fact, is Ridley's literal twin materialising out of nowhere. The use of the "quantum jump" in connection with Blair and Ridley is differentiated. In the case of Ridley the scene is meant to bring out in visual terms the notion that Ridley is something other than he claims to be, that there are, in fact, two Ridleys, twins taking part in espionage. He is (they are) a double agent in both senses of the word – he is spying both for the British and the Russians and there are two of them. In the case of Blair the "quantum jump" has another meaning. When we see Blair as he appears in consecutive scenes, we may realise that he has varied faces to show in different situations. In scene one, appearing at the bath, coming out of the darkness, he does not react to Wates's drawn revolver, remains

professional, cool and in control. At several moments in the play, however, he appears to care for his people, to be a kind of loving, tender father figure to them. Yet Kerner comments on the other Blair when he says that what counts for him is the "technical" aspect of espionage, not the "personal" one, the espionage at large and not the individual people involved. Kerner makes this point clear when he tells Blair that he would betray Hapgood if he thought it necessary. (73)[22]

Quantum mechanics, the uncertainty principle, Feynman's experiment, the "quantum jump", all contain the "mystery", mentioned in Feynman's motto chosen by Stoppard for the play and talked about by Kerner: "There is a straight ladder from the atom to the grain of sand, and the only real mystery in physics is the missing rung. Below it, particle physics; above it, classical physics; but in between, metaphysics" (49). It seems worthwhile in this context to mention the correspondence between Stoppard and a theoretical physicist, J. C. Polkinghorne, included in the Aldwych Theatre programme. Stoppard wrote to Polkinghorne: "I think that the choice of epigraph will irritate you and the word 'metaphysics' in scene five will infuriate you." In his reply the physicist asserted that mathematical language can penetrate beyond "the everyday dialectic of wave and particle" and make the dual nature of light "free of paradox for those in the know." Stoppard, however, refused to be included among those "in the know" and thus preferred to be puzzled by the quantum mystery. He responded:

> I think I understand your point, but it seems to me that in the case of quantum mechanics the difficulty is in reconciling the mathematical language with the commonsensical view of what is *possible*. Feynman who presumably understands the mathematics insists on being amazed and so do I, so please forgive me . . .[23]

The mystery inherent in quantum mechanics makes Kerner, an atomic physicist, doubt the possibility of describing objective reality. Twice in the course of the play, during conversations with Blair who insists that he likes "to know what's what", Kerner remarks ironically: "objective reality." (10 and 73) On both occasions the exchange takes place within the context of a conversation concerning double agents. On the first he starts talking about "the trick of light." On the second the following conversation takes place:

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[22] Hersh Zeifman (*op. cit.*, p. 191) while discussing the scene, notices: "As an accomplished Intelligence agent, Blair is a master of 'Newspeak', the lies that posed as truth in Orwell's *Nineteen-Eighty-Four*. (Orwell, as we recall, was born as Eric *Blair*.)"

[23] Tom Stoppard, "Some Quotes and Correspondence," in: *Hapgood Theatre Programme* (London: Aldwych Theatre, March 1988), p. 11; quoted in Paul Deloney, *Tom Stoppard. The Moral Vision of His Plays* (London: Macmillan Press, 1990), p. 128.

KERNER: . . . So now I am a prime suspect – I love that phrase, it's in nearly all the books. A prime is a number which cannot be divided except by itself, and all the suspects are prime; threes, fives, sevens, elevens . . . But really suspects are like squares, the product of twin roots, fours, nines, sixteens . . . what is the square root of sixteen?

BLAIR: Is this a trick question?

KERNER: For you probably.

BLAIR: Four, then.

KERNER: Correct. But also minus four. Two correct answers. Positive and negative. I am very fond of that minus, it is why I am what I am, I mean not as a suspect but as a physicist. Literally. I am an alchemist of energy and mass, I can turn one into the other and back again, because energy is mass multiplied by the speed of light squared. But the famous equation was not precisely found in its famous form, it was really the *square* of that, and E equals MC squared is a square root. But of course so is E equals *minus* MC squared, an equally correct solution . . . just like with your sixteen. Nobody took notice of the minus for years, it didn't seem to mean anything, there was nothing to which it belonged, you needed a minus world, an anti-world, with all the charges reversed, positive for negative, negative for positive. But finally someone trusted the mathematics and said – Well, maybe there is anti-matter; anti-atoms made of anti-particles. And lo!, they started to find them. And so on, et cetera, until, here I am, Joseph Kerner, the anti-matter man at the zoo. (*Pause.*) I'm not going to help you, you know. Yes – no, either – or . . . You have been too long in the spy business, you think everybody has no secret or one big secret, they are what they seem or they are the opposite. You look at me and think: *Which is he*? Plus or minus? If only you could figure it out like looking into me to find my root. And then you still wouldn't know. We're all doubles. Even you. Your cover is Bachelor of Arts first class, with an amusing incomprehension of the sciences, but you insist on laboratory standards for reality, while I insist on its artfulness. So it is with us all, we're not so one-or-the-other. The one who puts on the clothes in the morning is the working minority, but at night – perhaps in the moment before unconsciousness – we meet our sleeper – the priest is visited by the doubter, the Marxist sees the civilising force of the bourgeoisie, the captain of industry admits the justice of common ownership. (71–72)

As a matter of fact, Kerner (Stoppard?) makes three mathematical mistakes in the above speech. Firstly, prime may be divided both by itself and by one. Secondly, E does not have to be a square. Take, for instance $m = 2$ and $c = 3$. Calculated on the basis of Einstein's equation, E is then 2 multiplied by 9 and equals 18 which is not a square. Thirdly, it does not follow from his discussion of Einstein's equation that the anti-matter exists. What he "proves" at best is that E, being a square number (a mistake in itself) has both a positive and a negative root and thus anti-energy exists. Strict mathematical correctness does not seem to be important in this case. What is important is the point made concerning human nature. At the root of a single individual we may find two (sometimes even more, in fact) opposites: priest and doubter, patriot and traitor, socialist and capitalist, "sleeper" and "joe". The indeterminacies of the subatomic world and the square numbers are reflected in the ambiguities

of human identity, the existence of different selves within a single individual. This notion of doubleness inherent in human nature helps Stoppard present and solve the mystery concerning espionage. Not only are some of the spies double-agents but, having twins, they are literally doubled.

The analogy between particle physics and square numbers extends beyond espionage to include a much more general notion of the mystery of human identity itself and the nature of reality as such. Stoppard has stressed this point in some of his interviews. He told Michael Billington soon after the play's opening night: "The play is specifically about a woman – Hapgood – .... The central idea is that inside Hapgood one there is a Hapgood two sharing the same body; that goes for most of us."[24] "The espionage thing," he insisted in a talk with Kate Kellaway, "came second. It was just a consequence of looking for some sort of narrative which would try to exemplify the first thought."[25]

Elizabeth Hapgood, the only woman in the man dominated world of espionage presented in the play, is undoubtedly the drama's main character as the title clearly indicates. She appears in nearly all the scenes, the only two exceptions being scene two in Act I and scene three in Act II which are set at the zoo and present Kerner explaining to Blair Feynman's experiment and the nature of a square number. When we first see her, during the opening scene at the pool, she is taking part in the exchange of briefcases, an act which aims to find the traitor. She is efficient, fully in command of the situation, it seems, until slightly later on it appears that they have blown it. When she makes her second appearance in scene three she is busy watching her son playing rugby while discussing the problems concerning her network with her superior, Blair. Her reactions to her son's achievements as well as the remarks she makes about him clearly indicate that she is (or at least would like to be) a loving mother. The first two glimpses of her we get in the play, then, present her "technical" and "personal" sides.

In several places in the drama references are made to there being a difference between the "technical" and the "personal" aspect both of the situation and the characters involved (17, 24 and 52). Thus, then, two sides of Hapgood's character are presented. On the one hand, she is the network co-ordinator: an intelligent and efficient person, not only knowing the tricks of the trade of espionage but also capable of winning a chess game without having a chess board in front of her. In this world she has her "joes" and is called by them "Mother". Blair comments on the origin of her code

[24] Billington, *op. cit.*, p. 28.

[25] Tom Stoppard in an interview with Kate Kellaway, Review, BBC TV, 13 March 1988; quoted in Deloney, *op. cit.*, p. 130. See also: Peter Lewis, "Quantum Stoppard," *Observer Magazine*, 6 March 1988: p. 58.

name: "she was called Mother when she joined the Defence Liaison Committee – the tea would arrive and the Minister would say, 'Who's going to be mother?'" (27). When the tea-tray is brought in during one of the meetings in course of the play she asks "brightly" whether she should be mother (39). To some extent, at least, even in the present times, she is a kind of a mother figure for her joes, taking care they are treated correctly and not harmed by unjustified accusations and suspicion. On the whole, however, "technically" speaking, she is a strong, most independent female who organises and supervises the work of her network and the men working in it.

On the "personal" level, on the other hand, she seems very vulnerable, unhappy and torn by conflicting emotions of whether to follow the line of duty towards the network or towards the closest ones, her two "Joes", Joseph Kerner and her son, Joe Hapgood. In the past, when she had a love affair with Joe Kerner and got pregnant, she decided to keep it secret, because as Ridley phrases it, "it was a choice between losing a daddy and losing a prize double, a turned mole who would have been blown overnight if he was known to be the father, and we aren't in the daddy business, we're in the mole business" (81). At present she senses that little Joe's staying at a boarding school and having to pretend he was adopted is very stressful for him. At the rugby pitch, while both of them are watching Joe play, Hapgood tells Blair: "He's worried about something, too, we've both got the same look. . . . He got unhappy about something once when he was really little, he was crying, he couldn't tell me what it was, he didn't *know* what it was, and he said, 'The thing is, Mummy, I've been unhappy for *years*'." (18–19) Hapgood's vulnerability is visible in this scene and in the fact that she invites Blair to have tea with her: "Do you want some tea? They lay it on for parents and he's entitled to two." (24) She seems to be dependent on Blair, her section chief, whom she looks upon as a surrogate father-figure for herself and her son. She needs his friendship and responds to his affection and that is why she is disappointed and infuriated when it appears at the end of the play that Blair jeopardised little Joe's safety making him come to the swap scene (86).

During most of her appearances in the play Hapgood is presented on the professional level. There are moments, however, when her "personal", private self is stressed. Such is also the case during the scene with Kerner when she tells him that his career will be over after his cover as her "joe" has been blown. Then suddenly she switches from "technical" to "personal": "I won't need you any more, I mean I'll need you again – oh, *sugar!* – you *know* what I mean – do you want to marry me? I think I'd like to be married?" Kerner, however, tells her he has decided to go back to Russia and she concludes "I don't think I'm going to marry you after all".

(50) Her feelings for him seem not easy to define. It could be said that Hapgood does not know whether or not she really wants to marry Kerner. It could be also said, however, that because her proposal has not been accepted she takes it back and pretends she does not really care. At the end of the conversation she switches back to the "technical" level and reminds him about their professional meeting in the evening during which they will set the trap for Ridley.

The trap consists of two elements. Firstly, Ridley is told that little Joe has been kidnapped and will be exchanged for the materials delivered to the Russians by him. Only at the end of the scene, when Ridley has already left the room and we watch Hapgood talking on the phone with her son who is safe at school, do we discover that the characters were pretending, playing out a scene of their own making in order to deceive Ridley. The ambush, then, has been set for Ridley and not for us. During the swap scene, however, it appears that Blair has acted on his own. He has set his own ambush and, without warning or consulting anyone, has had the boy brought to the pool. Secondly, in order to achieve her aim, Hapgood decides to do so with the aid of her own twin, Celia Newton. In this case, however, the ambush is set both for Ridley and the audience. When the scene in a photographer's studio starts we see Hapgood who "is as different from her other self as the flat is different from her office" (65). Talking on the radio with Hapgood, while Celia has gone out to the kitchen, Ridley comments on this saying: "She may be your twin sister but there the resemblance ends" (66). The disorderly, absent minded, pot-smoking, bohemian Celia is just the opposite of the matter-of-fact, well-organised Hapgood. The gap separating them is also underscored by the differentiation of language they use. Hapgood never swears, this being pointed out by Blair both indirectly in teasing her with "f-f-fiddle," (19) the only swear word she uses and directly, when he asks her: "do you never use bad language, never ever?." (23) Celia, on the other hand, uses a language full of slang expressions and obscenities, the very first word uttered by her being scatological. It appears that Ridley wants Celia to play the part of Hapgood which seems to be a difficult task as the two women are diametrically different.

As we next see them they are in Hapgood's office. When Maggs, Hapgood's secretary, enters Ridley has to be very inventive not to let the disguise be revealed. He does not fully succeed, though, because Celia tells Maggs to "piss off" and "The world ends for MAGGS, just for a moment." (76) They are now waiting for the phone call which is to settle the details of the swap and Celia makes Ridley start playing a cardgame. The situation is complicated as they do not have a deck and Ridley does not know which game they are playing. The basis of "snap", the game they are

playing, is twinning cards. The players reveal successive cards simultaneously and if they match the first one to say "snap" wins the pair. The player who gets the bigger number of pairs wins. The choice of the game metaphorically underscores the doubling of the players and spies, there being two Ridleys as well as twin sisters. Celia wins this deckless cardgame just as Hapgood wins her boardless chessgames. When the telephone rings Ridley nearly breaks her hand, so that when she starts speaking "she is whimpering and disoriented" (79). Not only does he want Celia to pretend she is Hapgood but he also wants her to sound as if she were in pain over the loss of her son. This scene clearly demonstrates the notion so important in the play that "the act of observing determines the reality" (12). The obvious explanation of her sounding as if she were in pain is that she actually is in pain. Her interlocutor on the phone may well be justified in thinking that her sobbing is an expression of her grief and sorrow concerning Joe. We, as the audience, however, know that her cry of pain has quite a different source. The interpretation given by a perceiver is thus determined by his individual perception and information provided for him. As the scene ends and Ridley has left, the audience discover they have been ambushed: Hapgood tells Maggs what the next chess move is to be. It is only then that the audience learn there is no Celia: Hapgood is playing the role of her twin sister in order to trap Ridley.

In scene five, set in the hotel room we see Hapgood (playing the role of Celia) sleeping. In the preceding scene Kerner, while discussing everyone's doubles mentioned meeting our "sleepers", our hidden selves (72). At the same time he complained about never having seen Elizabeth sleeping (74). Now we watch her sleeping, the scene evoking numerous possible interpretations. Firstly, the sleeping woman is Celia, the opposite of Hapgood who never sleeps. Secondly, she is Hapgood's "sleeper", her double, her "personal" self. And thirdly, she is, as she puts it, Ridley's "dreamgirl", "Hapgood without the brains or the taste," this being her answer to his question: "Who the hell are you?" (83). In the next scene, set at the pool, Ridley meets his double and "the two men embrace briefly" (83). The ensuing exchange of briefcases points to Ridley as the traitor, a double agent who is also physically doubled, working with a twin brother. It is not quite clear whether he realises that Hapgood does not have a twin sister. If we consider the final sentence uttered by him before being shot, "Well, now I don't know which one you are. One of them can shoot and one of them can –" (85), we can assume that he believes there are two of them. Yet, if this interpretation is accepted, it is difficult to account for his earlier speech:

> Listen, be yourself. These people are not for you, in the end they get it all wrong, the dustbins are gaping for them. Him most. He's had enough out of you and you're getting nothing back, he's dry and you're the juice. We can walk out of here, Auntie. (83)

His using the word "Auntie" indicates that he is speaking to Celia and not to Hapgood. Yet, if this is the case, what he is saying does not make sense, the words being addressed to Hapgood and not Celia. Besides, in the earlier scene he promised he would kill Hapgood (and not Celia) if she set him up (82). It seems therefore, that he does know Celia has never existed as an individual, but has been only the other self of Hapgood, her sleeper, her private self. If this interpretation is taken, the words "be yourself" are an urge directed to Hapgood asking her to stop treating her "technical" side as more important and to concentrate on her more real, "personal" self.

Hapgood, however, does not or cannot respond and Ridley, feeling betrayed, reaches for his gun and is shot by her. As Ridley's body is carried away Wates spits at her a particularly well chosen epithet, "Oh, you mother" (86). Gradually a change begins taking place within Hapgood, "Her anger starts dispersing into misery" (86). She becomes fully aware of all the implications of the situation and of the fact that she has killed a man who, even though suspecting a possible risk, decided to help her son. While taking this decision Ridley considered the "personal" more important than the "technical". While shooting him she acted as Mother and not as the mother of a child who has been saved by Ridley. The killing of Ridley becomes a great burden for her. Firstly, as an ultimate act of killing a person and, secondly, as the killing of a person who loves her and is willing to sacrifice his safety in order to protect her and her child. There is yet one more aspect of the situation which should be stressed here. Ridley, who put the "personal" before the "technical", is dead. Blair, on the other hand, for whom the "technical" dominates over the "personal", who has put little Joe at risk, thinks that Hapgood will get over it. Hapgood, however, has decided to withdraw. When he insists that "One has to pick oneself up and carry on. It's them or us, isn't it?", she finishes her answer insisting on the need to withdraw by saying "oh, f-f-fuck it, Paul!" (87) The phrase she uses is evidently one of Celia's not one of Hapgood's. It is, however, Hapgood who uses it. One can argue that her using of this phrase is an indication that her "sleeper" has at last awakened. Due to the newly reached understanding of the rules governing espionage resulting from the recent events, she has decided to withdraw and to concentrate on the "personal" which is, as she has found out, more important than the "technical".

The last glimpse we get of her in the play is her "personal" self: she is at the rugby pitch, watching her small Joe taking part in the game. Her

other Joe, Joseph Kerner, is standing next to her, having come to say good-bye to her before his departure for Russia. Kerner is introduced to Joe, the boy is not told, however, that this is his father. Hapgood suggests to Kerner that they could go to have tea together, "They lay it on for parents" (88). This part of the conversation is reminiscent of the earlier conversation at the pitch between Hapgood and Blair, yet now she does not utter the end of the earlier sentence ("and he's entitled to two," 24) When Kerner refuses to join her "She breaks down." and he tries to comfort her. As he gets ready to leave she cries out "How can you go? *How can you?*" Then she turns away to start watching the game which has just begun. A few moments later "She turns round and finds that KERNER is still there. She turns back to game and comes alive" (89). The ending of the play is ambiguous. According to Roger Rees who played the part "maybe Kerner does not stay at the rugby pitch or maybe he stays for the rest of his life or maybe he stays for two days."[26]

The ending of the play does not provide a clear answer as to whether Kerner will leave or stay yet it states explicitly what is most important in one's life. Simon Jones, who played Blair in the Los Angeles production has remarked that "the events of the play" make it obvious that what is most real and important in life are "straightforward ordinary human relationships."[27] As the curtain falls we know that Hapgood has given up the "technical" for the sake of the "personal". Little Joe, who earlier did not even have a mother, Hapgood's "personal" self being suppressed by her "technical" self, now gets his mother back. Maybe he will also have a father in the end, the closing of the play indicating that Kerner might stay, after all. In his earlier play Stoppard argued that every good boy deserves a father and there is no reason to suspect that Joe might be an exception to this rule. The Faber and Faber edition of *Hapgood*, presenting three numbered booths at the pool and two briefcases placed outside them, refers to the "technical" side of the play and is evocative of the beginning of the play as far as the world of espionage is concerned. The cover of the programme of the Aldwych Theatre, on the other hand, was "dominated by the photograph of young Hapgood, its edges tattered where his father has torn it from a team picture, and meeting directly over the heart of the boy are a pair of rifle sights"[28] which referred to and stressed the "personal" aspect of Stoppard's drama.

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[26] Roger Rees, interview with Deloney, London, 16 June 1988; quoted in Deloney, *op. cit.*, p. 147.

[27] Simon Jones, *Morning Edition*, National Public Radio, 12 April 1989; quoted in Deloney, *op. cit.*, 157.

[28] Deloney, *op. cit.*, p. 140.

The duality inherent in human nature is not restricted to Hapgood only, even though in her case it is most evident. This notion is evoked in the play by a specific use of names. Hapgood is given a great number of them. The agents Ridley and Merryweather call her "Mother", her secretary, Maggs, calls her "Mrs Hapgood", Wates uses the form "ma'am", Blair calls her "Mother" and "Elizabeth", little Joe uses the phrases "Mummy" and "Mum" and Celia speaks of "Betty". And finally Kerner employs the Russian form of her name, "Yelizaveta", its diminutives, "Lilya" and "Lilitchka", and "mamushka". Hersh Zeifman also discusses the etymological meaning of her two other names. This critic notices that the heroine's name, Hapgood, consists of two elements and "Hap (defined by the *Old English Dictionary* as 'chance or fortune, luck, lot') is specifically linked to *good.*" He furthermore stresses the fact that when Hapgood chooses to play her twin sister "she slyly names herself *Celia* (Latin caelium: heaven) *Newton.*"[29] The variety of names used for Hapgood seems to point out to the fact that, even though she is the same individual, she yet presents divergent images to different people.

The names of other characters are also telling and add to the overall impact of the play. Ridley (a telling name in itself as the characters and the audience alike have to solve the riddle of his identity) appears to have Ernest as his first name which becomes very telling if we realise that while he is a traitor in the "technical" sense he is most earnest in the "personal" sense.[30] Hersh Zeifman points out that "Kerner is thus as much a riddle as Ridley is, . . . – the enigma of Kerner's identity, like Ridley's, is embodied in his very name (German Kern: the nucleus of atom)."[31] It can be said, then, that the use of specific telling names is one of the ways of introducing the main thematic interest of the play that is the difficulty of establishing the nature of human identity and, by extension, the nature of reality as such.

The main idea of *Hapgood*, a play using the subatomic metaphor and stressing the difficulty of interpreting reality is that "the act of observing determines the reality." The play presents an image of the mysteries of human nature and reality and makes us aware of the fact that in the act of observing we are in part determining the meaning we will find in them. This notion is evoked not only by what Kerner says but also by a specific use of language, setting and lighting. The conversation on the radio

[29] Zeifman, *op. cit.*, pp. 194, 196.

[30] Two critics mention the affinities between *Hapgood* and *The Importance of Being Earnest*: Ruby Cohn, *Retreats from Realism in Recent English Drama* (Cambridge: Cambridge University Press, 1991), p. 144 and Toby Silverman Zinman, "Blizintsy/Dvojniki, Twins/Doubles, Hapgood/Hapgood," *Modern Drama* 2 (1991): 316.

[31] Zeifman, *op. cit.*, p. 191.

opening the play contains a number of specific phrases used in the code language of espionage. The same kind of language is often used in course of the play, especially during the conversations on the radio and on the telephone. When we hear Maggs tell Hapgood that a reply has come from Ottawa ("Exchange bishops, and queen to king one", p. 35) or when we watch him say into the telephone ("One square finding Whitaker for Matron", p. 26) we think these are espionage messages. Soon, however, we become aware of the fact that we have been mistaken. Some conversations, even those made on the security link, are not connected with espionage at all. It appears that the two messages, which sounded like coded espionage, were a boardless chess game and a message from little Joe. Two language systems have overlapped and we misinterpreted the sentences using the espionage code and not the everyday language code, a contravention of co-referential rules having taken place. The play also demonstrates an opposite kind of misunderstanding and misinterpretation when Hapgood, playing the part of Celia, pretending not to know the code language of espionage seems to understand only the everyday, literal meaning of certain phrases. That is why, watching Ridley trying to reach Mother on his radio, she asks: "Ernest . . . I can hardly dare ask you this, but is your mother in the secret service too?" (80) A similar misunderstanding is connected with the use of the expression "yo-yo" ("Your eyes only", p. 25). The specific use of language on all these occasions indicates that the interpretation depends to an equal extent both on what is said and on the listener, on the thing perceived and on the perceiver as such and his ability to draw the proper conclusions.

The dual nature of reality and human identity is also stressed by means of theatrical components of the production. One of these is a specific use of light in the play. In scene two, set in the zoo, Kerner explains his notion that "A double agent is more like a trick of the light" (10). The point he is making is underlined by the stage directions which say: "We need one particular and distinct demarcation of light and shadow on the floor, perhaps thrown by the edge of a wall" (9). While Kerner is speaking about the dual nature of light (its being a particle and a wave) we perceive a visual image of the duality inherent in light (light versus shadow on the floor). The two images, visual and verbal one, metaphorically refer to the duality inherent in human nature. A similar effect is achieved in scene six when the torch held by Ridley produces a beam of light in which we see the two Ridleys embracing. Slightly later on, when Ridley is shot by Hapgood, the stage directions ask for "Strobe lighting" (85). The fact that the light focuses on Ridley, that it becomes, in a sense, associated with him, makes it possible to compare his identity of a double agent to the dual nature of light, as described by Feynman.

Several critics have stressed the importance of Carl Tom's set and David Hersey's lighting in the original London production. Christopher Innes has written: "The settings continually required the spectators to revaluate their perception through *trompe l'oeil* distortions of scale, or deceptive perspectives. Thus the boarding school building in the background to the rugby-match scenes . . . which at first glance appeared convincingly three-dimensional, was a flat cardboard cut-out. The photographer's studio (in which Hapgood plays the part of her own sister) contained an eight-foot long toothpaste tube, monstrously out of scale."[32] Hersh Zeifman discusses the setting of scene two: "this conversation at the zoo occurred directly in front of an enormous giraffe – or rather a pair of giraffes, positioned in such a way that we seemed to be seeing a two-head giraffe emanating from a single body."[33] While Kerner was arguing that "objective reality is for zoologists. 'Ah, yes, definitely a giraffe.' But a double agent is not a giraffe" (10), the setting indicated that even in connection with a giraffe objective reality does not seem to exist. The thematic dominant of the piece was brought about by its visual, theatrical component.

The specific setting of the original production seems not only to have stressed the thematic issues of the drama but, being so obviously non-realistic, also underscored the fact that what the audience were watching was not reality as such but only its theatrical representation. The text of the play itself makes also references to the relationship between reality and art, or, to be more specific, to spy stories. In a conversation with Hapgood Kerner praises this genre:

> I like them. Well, they're different, you know. Not from each other naturally. I read in hope but they all surprise in the same way. Ridley is not very nice: he'll turn out to be all right. Blair will be the traitor: the one you liked. This is how the author says, "You see! Life is not like books, alas!". . . . When I have learned the language I will write my own book. The traitor will be the one you don't like very much, it will be a scandal. And I will reveal him at the beginning. I don't understand this mania for surprises. If the author knows, it's rude not to tell. (47)

It could be argued that the description of what Kerner's novel will be like is the description of *Hapgood*. The author, Stoppard himself, does not reveal Ridley as the traitor at the beginning and he does like surprises, yet he constructs the play in a way similar to the rules governing an experiment.

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[32] Christopher Innes, *Modern British Drama* (Cambridge: Cambridge University Press, 1992), p. 345.

[33] Zeifman, *op. cit.*, p. 183. For a discussion of other elements of the setting see also Katherine E. Kelly, *Tom Stoppard and the Craft of Comedy. Medium and Genre at Play* (Ann Arbor: University of Michigan Press, 1991), p. 154.

From the beginning of the play we are aware that the traitor is to be found while the whole play presents the act of setting up the experiment whose aim is to discover whether Ridley is the guilty one or not. Unlike a physics experiment, however, the drama not only tells us how the world of things works but also what the world of things means. The relativity and uncertainty concerning both the world of physics and the world of human beings are unquestionable yet the overall impact of the play and its final scene indicate that one should not sacrifice the "personal" to the "technical", that one should remain faithful to oneself and the beloved ones. Paradoxically enough, among the numerous dichotomies discernible in the play (light as both particle and wave, double agents, twins, art and science, illusion and reality) we can notice yet another one: the overall relativity is put side by side with idealism visible in the stress being put on the not relative value of simple and basic human relationships.

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SIATKA SZPIEGOWSKA A MECHANIKA KWANTOWA: *HAPGOOD* TOMA STOPPARDA

W swojej twórczości dramatycznej Tom Stoppard zajmuje się bardzo często zagadnieniami dotyczącymi relatywizmu poznawczego. Ta sama osoba czy też zjawisko mogą być inaczej opisywane przez różnych obserwatorów ze względu na zmienione warunki samego procesu poznawczego i różnice występujące w interpretacji.

W dramacie *Hapgood* artysta wykorzystał najnowsze osiągnięcia z zakresu mechaniki kwantowej. Sztuka ta odwołuje się w sposób bezpośredni do wyników badań Richardsa Phillipsa Feynmana, noblisty z 1965 r., twórcy relatywistycznej elektrodynamiki kwantowej, i do zasady nieoznaczoności sformułowanej przez Wernera Karla Heisenberga. W przeprowadzonym przez siebie doświadczeniu Feynman obserwował strumień elektronów, starając się ustalić, czy zachowują się one jak fale, czy też jak cząsteczki. W zależności od warunków doświadczenia konkluzje były odmienne. Badania te zostały opisane przez słynnego fizyka w wykładzie, którego tytuł zawierał symptomatyczne słowa: „prawdopodobieństwo" i „niepewność". Ponadto Stoppard posługuje się również matematyką: kwadrat dowolnej liczby może mieć podstawę ujemną lub też dodatnią, przeciwstawne wartości mogą więc dać ten sam wynik.

Badania Feynmana, teoria nieoznaczoności Heisenberga i specyficzny charakter kwadratów liczb posłużyły Stoppardowi do stworzenia metaforycznego obrazu świata siatki szpiegowskiej i działających w jej ramach konkretnych ludzi. Występujące w dramacie postaci charakteryzuje

specyficzna dwoistość. Na płaszczyźnie zawodowej wielu z nich działa jako podwójni agenci, pracując jednocześnie dla Anglików i Rosjan. Ponadto niektórzy z nich działają wspólnie z bliźniakami. Jeżeli rozpatrywać te postaci jako konkretne osoby, niejednokrotnie cechuje je również brak jednorodności charakterologicznej – jawią się inaczej na płaszczyźnie zawodowej, a inaczej na prywatnej. Wielorodność osobowości postaci podkreślona została przez użycie różnych imion w stosunku do tej samej osoby.

Relatywistyczne pojmowanie postaci, będące podstawą tematyczną dramatu, zostało podkreślone przez teatralne elementy przedstawienia. Widz niejednokrotnie zmuszony jest do zdania sobie sprawy z tego, że daje się zwieść grze pozorów, że istnieje zasadnicza różnica między konkretną rzeczywistością a jej iluzją. Podobnie jak w świecie współczesnej fizyki, również w otaczającej nas rzeczywistości brak jest całkowitej jednoznaczności.