Judith Leah Cross*

Enigma: Aspects of Multimodal Inter-Semiotic Translation

Abstract

Commercial and creative perspectives are critical when making movies. Deciding how to select and combine elements of stories gleaned from books into multimodal texts results in films whose modes of image, words, sound and movement interact in ways that create new wholes and so, new stories, which are more than the sum of their individual parts.

The Imitation Game (2014) claims to be based on a true story recorded in the seminal biography by Andrew Hodges, *Alan Turing: The Enigma* (1983). The movie, as does its primary source, endeavours to portray the crucial role of Enigma during World War Two, along with the tragic fate of a key individual, Alan Turing. The film, therefore, involves translation of at least two "true" stories, making the film a rich source of data for this paper that addresses aspects of multimodal inter-semiotic translations (MISTs). Carefully selected aspects of tales based on "true stories" are interpreted in films; however, not all interpretations possess the same degree of integrity in relation to their original source text.

This paper assumes films, based on stories, are a form of MIST, whose integrity of translation needs to be assessed. The methodology employed uses a case-study approach and a "grid" framework with two key critical thinking (CT) standards: Accuracy and Significance, as well as a scale (from "low" to "high"). This paper offers a stretched and nuanced understanding of inter-semiotic translation by analysing how multimodal strategies are employed by communication interpretants.

1.   Introduction

Circa 1943, Hermann Hesse wisely noted: "History's third dimension is always fiction" (p. 39). Accordingly, movies capitalise on the promotion of their fictitious history-based productions. They achieve this partially by using phrases, such as "inspired by..." or "based on a true story" in order to introduce and frame their drama, while establishing certain expectations that may depend on the choice of these few words. Introductory comments containing "based on…", rather than "inspired by…", suggest the movie will be grounded more in attempting to observe the factual content of their source stories accurately. On the other hand, if a story has been "inspired …", then a degree of artistic freedom in translation can be expected. Regardless of the choice for such an introductory scenario, however, audiences do expect the essential meaning to be interpreted faithfully. As a consequence of such framing, "fidelity" and "truth" become significant. Understandably, therefore, these two concepts have traditionally been problematized in translation studies, as has the parallel ongoing debate between "fidelity" and "freedom". Promotional claims by movie producers thus serve to segue into the critical analysis explored in this paper.

Jeha (n.d.: 4) argues that evaluating a translation according to its fidelity to an original source is a "Byzantine question better left alone". On the other hand, it can be argued that it should not be left alone. Despite such an appraisal process that investigates fidelity to an original being necessarily complex, fidelity in translation (identified and acknowledged by Ajunwa 2015) is nonethe-

*   *Judith Leah Cross*
      University of Wollongong Australia (UOW)
      Faculty of Education
      Sydney
      jcross@uow.edu.au

less an extremely significant perspective to explore – particularly in this age of television, films, videos and similar multimodal texts where millions of audience members across the globe soak up MIST productions. Interestingly, Ajunwa argues fidelity is not only a pertinent aspect when evaluating a translation, but fidelity is also the hallmark of quality "defining the professional worth of the translator" (para. 0.0). Further, Jeha emphasises (along with Aveling 2004 and Kelly in Munday 2000: 22) that what is significant is what has been transposed from one semiotic system to another; that is, the meaning of a sign (3-4):

> Every cultural artifact is the result of a transformation of a previous artifact, a sign that preceded it but also succeeded another. In the endless chain of ever-growing symbolic signs, intersemiotic translation equals meaning production.

In other words, meaning is what has generally been agreed upon as key, even if we look back to 395AD and the case of the Holy Scripture when St Jerome insisted on "the accurate transmission of the meaning of the text" or "not word for word, but sense for sense" (Robinson in Aveling 2004: 149).

Therefore, when movies state they are based on stories recorded in books, it is a comparison of the meaning produced that lies at the heart of undertaking a multimodal analysis and assessment of the quality of their translation. This is not to deny that fidelity in translation studies is not an extremely perplexing issue (Frasheri and Kastrati 2013:149), as well as one that is greatly limited - translation also involves translating culture (Buden 2008: para. 3); however, acknowledging the bewildering and limited aspects of fidelity to meaning should not deter us from exploring this area further – as Jeha would have us do. According to the rationale that accepts these challenges, the following paper will compare how accurately, and significantly, a movie (multimodal text), which explicitly claims to be based on "a true story", translates and interprets the verbal text, on which it is based. This is a worthwhile endeavour if we agree that any kind of communicative act, which includes any kind of translation process, is never complete – there is always a loss of at least a part of the message and, sometimes it is the missing part of the meaning that is the most meaningful.

Both books and movies are amenable to social semiotic analysis since they contain *modes* (socio-culturally shaped resources for meaning-making), which consist of motivated signs. In the case of a multimodal text such as a movie, the significance of each mode interacts in such a way that the meaning of the whole text is more than the sum of each part. Hence, a case-study of a multimodal inter-semiotic translation (MIST) of a movie is an extremely challenging and complex undertaking – it involves investigation of a complex and relatively new territory, even though it harkens back to Jakobson's (1952) third type of inter-semiotic translation: "an interpretation of verbal signs by means of signs of non-verbal sign-systems" (para. 3).

Since the mid-twentieth century, movies have usually been produced for reasons different from and/or beyond those that motivate the documentation of a true story in a book such as a biography. The 2014 film, *The Imitation Game*, may draw its content from the seminal tribute by Andrew Hodges, *Alan Turing: The Enigma* (1983), but it attempts to dramatize a perceived emotional reality that may or may not be based on the book it adapts, re-contextualises and translates. *The Imitation Game*, like several similar films made earlier, such as *Breaking the Code* (1993), share and acknowledge Hodge's biography as their primary source while endeavouring to portray the crucial role of Enigma during World War Two, together with the tragic fate of a key individual in this global conflict and ongoing cross-cultural scenario, Alan Turing. However, the films differ significantly from each other as well as from the book on which they both claim to be based.

Films about Enigma(s) and Alan Turing involve adaptation, re-contextualisation and translation of at least two important stories, so the resulting and different interpretations can raise critical questions about how important the fidelity of interpretation is when realised by such movies. Agreeing to a certain extent with Jeha (n.d.:1), I suggest that: "The appropriate parameter to assess an inter-semiotic translation would be the carrying through of meaning from the source system to the new representation". As mentioned earlier, accomplishing this task is complicat-

ed when multimodal texts are involved, owing to what Kress and van Leeuwen refer to as the "incessant process of 'translation', or 'transcoding' – 'transduction' – between a range of semiotic modes" (2006: 39). An even more difficult, thorough and appropriate understanding of representation and communication considers translation across borders as well as modes. By acknowledging this complexity, the following paper seeks only to evaluate using two criteria: accuracy and significance, applying these criteria for translated meaning on a small scale; that is, only to a limited set of selections from Hodges' seminal biography and its most recent film realization.

Moreover, none of this is to suggest that Hodges' biography presents a purely factual account or represents an ideal "truth". Nevertheless, the film announces (in white printing on a black background at the very beginning) it is based on a true story. This story is recorded as a biography, a genre on which a high degree of modality is conferred and so, it is the translated meaning of the book into a movie, which will be the focus of this paper. The quality and integrity of this movie translation will be determined according to highly appropriate Critical Thinking (CT) criteria for assessing translation: accuracy and significance. The method chosen adapts Sonzogni's (2011) case-study approach that uses a "grid", while including a specific set of CT criteria.

2. Method

The grid used in this paper selects two key and relevant critical thinking standards (Critical Thinking Foundation 2013); that is, Accuracy and Significance, since they are the most suitable ones for assessing the integrity of a translation or MIST. These two standards test for distortion and determine what is most important, respectively. In order to apply these most practically, a small group of characters, Enigma(s) and events have been chosen.

Critical thinking (CT) is a multifaceted metacognitive skill concerned with "thinking about thinking" (Lau in Davies 2015: 373). CT is comprised of several higher order thinking "elements" (Foundation for Critical Thinking 2013) ranging from, for example only: analysis, identifying assumptions and suggesting hypotheses, through interpretation, consideration of other viewpoints, evaluation, synthesis and reflection, leading on eventually to recommending ethical and logical solutions for addressing complex problems. Appropriate application of these various elements involves using criteria, or standards, so as to assess, for instance, how accurate, logical, fair, evidence-based, significant or complete a certain translation or interpretation might be. It is thus assumed in the CT theoretical framework used in this paper, that it is not the case that any interpretation, representation or adaptation is equally acceptable, convincing or fair, nor – and, most importantly – necessarily faithful or accurate/evidence-based. CT is a rigorous social practice offering a dialogic and ethical theoretical framework for defending, exploring and expanding on essential, as well as cross-cultural and universal, aspects of knowledge in all disciplines and professions (Cowden and Singh in Davies 2015: 561). Hence, translation studies are no exception.

According to Wittgenstein's later thinking, translation is a form of semiosis and a type of language-game (Gorlée 1989), but translation does not function in a social vacuum; language-games are inscribed in "forms of life" and are a form of human communication. Language games are concerned with encoding, decoding and interpreting signs via an infinite semiotic representation process that is grounded in communication. Gorlée interprets Wittgenstein's use of language-game to refer to a resemblance (84):

> which mediates as a sign between existing reality and possible reality; … In other words, it would make possible the kind of nonmechanical sign-use or sign-action referred to by Peirce as semiosis. The Peircean concept of ground is the point of view which renders the representation as meaningful.

However, Peircean Thirds and logical interpretations do not necessarily need to possess a high "truth" value. Although multiple and plausible interpretations are possible, they are neither true nor false; they just have to "work". Hence, assessing a multimodal semiotic translation (MIST) is necessarily a subjective endeavour, but one for which CT standards can provide a useful yardstick.

For this subjective task, I have also employed a rubric that utilises a scale (from "low" to "high"). This way of organising and categorising makes transparent what I have sought to explore: how CT elements and standards are invaluable as part of a more holistic approach to the evaluation of MISTs.

Hodges makes it clear in the Preface of his biography that he is proposing an interpretation for Turing's behaviour regarding scientific (mathematical, mind and matter) questions as well socio-political (the secret war and homosexuality) ones:

> Why did Turing go so public on AI, and make so little of himself as an established maestro of algorithms and the founder of programming? Partly because AI was for him the really fundamental scientific question. The puzzle of mind and matter was the question that drove him most deeply. But to some extent he must have been the victim of his own success. The fact that he knew so much of the algorithms of the secret war, and that the war had made the vital link between logic and electronics, cramped his style and constrained his communication (p. xviii).

This logical interpretation is subsequently substantiated by a significant amount of documentary and explanatory evidence contained in the body of his well-researched and in-depth text. In sharp contrast, the movie effectively dramatizes a quite different interpretation for Turing's idiosyncratic scientific and socio-political behaviour by relying on standards other than accuracy and significance; that is, "emotional accuracy" (Dockterman/Tsai 2015: para. 2). Popular techniques for movie story telling depend on economic imperatives that usually prioritize atmosphere, love and drama. As a result, the story told is often inaccurate and not based on fact so that, for the purpose of drama, the story is reinvented and the resultant meaning altered in the process. In short, accuracy and fidelity may often be sacrificed or ignored in a film translation of a book.

Inter-semiotic translation (IT) is a relatively unexplored domain of language procedures and practices and hence, modelling has yet to employ agreed upon standards. IT entails an apparent departure from traditional translation, interpretation and sign manipulation. Correspondingly, inter-semiotic multimodal translation (MIST) is an even less explored field of inquiry with no universally recognized theoretical framework.

Despite IT sharing essential features with traditional Translation Studies, it differs from inter-lingual translation because IT involves translating the logic of semiotic processes. Nevertheless, many authors have stressed that a translation is fundamentally a semiotic operation … as well as an iconic one (Aguiar/Queiroz 2010: 338). Images in a movie (MIST) often function as a type of icon and, IT is an in-depth iconic-dependent process where values of "fidelity" and "equivalence" are as important as in traditional Translation Studies.

A primary concern with this relevant and evolving approach to Translation Studies consequently involves questions regarding fidelity to the sense of the source text (regardless of whether the original source text is "true" or not), as well as the integrity involved when translating icons and their import into other semiotic systems. When analysing book illustrations, Pereira (2008) postulates there are:

> three particular ways through which illustrations can translate the text, namely, by reproducing the textual elements literally in the picture, by emphasizing a specific narrative element, and by adapting the pictures to a certain ideology or artistic trend (104).

In the case of films, however, Pereira argues it is mainly by adapting the production to an artistic trend and/or ideology.

It was C.S. Peirce who originally acknowledged "the iconic character of an image or the 'perception of iconicity' as one reason for postulating a sign relation" whereas, in the moving images of today's films, celebrity icons are omnipresent. These celebrity icons are surprisingly similar to religious ones from the past in that they "enshrine [paradoxical] elements of both the sacred and the profane" (Sonesson in Cross 2006: 174-175). Actors are usually chosen because of their appearance, such as similarity to a person, or because of their ability to entrance the audience. However, the personalities and actors selected to play "real" people constitute only one, if mainly one,

mode as well as one aspect of a multimodal text; that is, image and similarity in appearance. Since a MIST is an extremely multifaceted process that entails analysing several modes while making cultural assumptions, positing hypotheses, selecting and sequencing elements and simultaneously positioning the translation across languages, times and spaces, this paper only attempts to consider two specifically selected, albeit key, aspects. This is essentially an exploratory case study utilising an eclectic framework.

In this paper I choose and analyse a few words, phrases and sentences from the written biography, *Alan Turing: The Enigma*, in order to compare their re-contextualisation, interpretation and translation into the movie, *The Imitation Game*, a multimodal text. I then assess (using the grid illustrated in **Figure 1** below) to what degree the meanings of these texts have been accurately and significantly translated into image, action, music and speech. This small case study approach will, nonetheless, highlight a pattern that is probably common in similar types of MISTs.

Figure 1 has been inspired by Sonzogni's grid used in his experimental case study of "unchartered territory" (2012: 5), pertaining to book cover design as an example of inter-semiotic translation. **Figure 1** stretches Sonzogni's approach and outlines a MIST structure, based on well researched CT elements and standards ("The Elements of Reasoning and Intellectual Standards" in *Foundation for Critical Thinking* 2013). These CT elements and standards reveal how even though a creative MIST may succeed in engaging audiences and producing well-crafted and immensely entertaining products, these MISTs often fall short of accurately translating iconic characters, key and/or complex problems, as well as historical events, from the sources on which they are based since detailed evidence is often omitted or conflated in the interests of drama, audience appeal and/or economic imperatives; hence, the resultant meaning is usually altered or significantly distorted.

Book			
Mode	Elements		
Written Text	Interpretation of: Characters (Alan, Joan) Problem (Enigmas) Events (History: War & Arrest)		
Movie		**Standard/Criterion**	**Evaluation**
Modes	Elements		
Image Movement (Action/Story)	Interpretation of:		
	Character (Alan, Joan)	Accuracy	Low
		Significance	Medium
	Problem (Enigmas)	Accuracy	Low
		Significance	Low
	Events (History: War & Arrest)	Accuracy	Low
		Significance	Low
Sound (Music)	Interpretation of:	Accuracy	High
		Significance	High
	Characters, Enigmas & Events		

Figure 1. Grid for assessing the integrity selected aspects of a multi-modal inter-semiotic translation (MIST)

Excerpts from Hodges' book, concerning characters (mainly Alan Turing and Joan Clarke), Enigma(s) and historical events of the period from 1912 to 1951 (Alan's life) are analysed and appraised according to **Figure 1** in order to assess the integrity of one MIST: *The Imitation Game*.

Understandably, not every interpretation or translation possesses a high degree of integrity, nor necessarily retains it throughout a translation. As Hodges says (when explaining the significance of mathematical rather than creative thinking): "The trouble is that truth does not reside in strings of symbols … the business of interpreting them correctly requires experience" (2012: 668). Recognising his right to artistic freedom, the director of *The Imitation Game*, Morten Tyldum, spoke to *Time* on 13th February 2015, attempting to justify why his movie about Alan Turing and Enigma did not "stick to history": Tyldum believes "emotional accuracy" was the way by which Turing's story could best be appreciated:

> … there's no way you can be totally accurate. You have to convey the emotional accuracy – how did Alan Turing feel at this time? – and to do that, you sort of have to dramatize events …

In short, Tyldum's movie dramatizes his personal interpretation of Turing's emotional life and therefore, it does not shy away from unapologetically embellishing on how it depicts significant historical events, Enigma(s) or iconic characters, such as Alan Turing and Joan Clarke.

Although I agree with Tyldum (Dockterman/Tsai 2015: para. 1) that it is probably impossible not to "be fascinated or intrigued or outraged when you hear [Turing's] story for the first time", that does not necessarily make his absorbing movie, *The Imitation Game*, a MIST of *Alan Turing: The Enigma,* one that possesses a high degree of integrity as regards it being an accurate and significant translation. However, the integrity of the translation is what this paper emphasises it is important to consider when MISTs are based on "true" stories. There are implications for the future when alternative historical perspectives on the past are represented and translated:

> Through translations and translating, the possibilities of the present become the tendencies of the future. All in all, this is what in a Peircean context can very well be referred to as the evolutionary aspect of semiotranslation (Hartama-Heinonen 2012: 127).

The integrity of an interpretation, or a translation, often hinges on subjective elements, such as selection, emphasis and perspective.

Consequently, it is worthwhile identifying how Hodges considered his narrative and then compare his explicitly stated viewpoint with what we can infer from Tyldum's production. In the Preface of the recent edition of Hodges' Turing/Enigma biography, Hodges reflects on the first 1983 edition (2014: xx):

> As a narrator I adopted a standpoint of a periscope looking just a little ahead of Alan Turing's submerged voyage, punctuated by just a few isolated moments of prophecy. The book bears in mind that what is now in the past, the 1940s and 1950s, was once the completely unknown future. This policy required an unwarranted confidence that readers would wade through the pettier details of Alan Turing's family origins and early life, before being offered any reason for supposing this life had any significance. But it has had the happy outcome that the text has not dated as do texts resting on assertions about "what we know now". So although so much has changed the story that follows can be read without having to extract 1983-era comment.

Hodge's periscope perspective is in stark contrast to the standpoint adopted by Tyldum's film version, which dares not risk audiences' interest waning should limited, "pettier", or less dramatic, details intrude at any time in the movie: Tyldum unambiguously states that he wanted his movie to be "a thriller" (Dockterman/Tsai, 2015: para. 5).

The Imitation Game therefore begins with a rather melodramatic rhetorical question: "Are you paying attention?" It is the Turing/Cumberbatch of 1951 who is warning his police interrogator, and the audience, that if one is not attentive, then one will miss something important about the past (that begins in 1939) as Turing/Cumberbatch will not pause or repeat anything, nor can he be interrupted. In other words, the written text begins in the present of the early 1900s and takes the reader/audience up to 1954, while the MIST begins around a century later looking back over five

to seven decades. A difference in perspective will inevitably result in a difference in translation. Whether the meaning of these different translations is also essentially different is what this paper critically investigates.

3.   Characters

This analysis and evaluation begins by looking at the main personalities in the film interpretation and translation of Hodges' biography: Alan Turing and Joan Clarke, as well as their relationship.

In the film, Benedict Cumberbatch appears to have been chosen because of his skill as an actor and also because of his height and potentially plausible resemblance to Alan Turing. It also appears that he has been directed to portray the adult Alan Turing as someone who enacts an "irascible genius routine". This character is subsequently and variously described by other personalities in the film in an extremely negative fashion; for example, as "inhuman" (by Hugh Alexander) when, as the new leader, Alan is the one who fires two members of the cryptographic team and later, as a "monster" (by Joan Clarke) when he breaks off his engagement with her. In short, the adult Alan Turing is spoken about and reacted to in the film as the sort of person whom others regard with distaste not simply because he is brilliant, different and a loner, but also because he is machine-like, strange and just not likeable.

This off-putting and distancing depiction of a socially awkward, donnish, Asperger-type, conflicts with the various comments made about Turing in Hodges' text where Alan is described as "Likeable, almost loveable …" by Jim Wilkinson (Hodges 2014: 432), while his social awkwardness is probably grossly exaggerated (see Hodges 2014: 110, 121 and p. 435 to mention only a few instances) and his broken engagement with Joan Clarke did not result in a furious backlash from her: "The break was a barrier, but the understanding of it continued as a link" (Hodges 2014: 272-273). Furthermore, there is no evidence in the book that Turing fired two members of the Hut 8 team, while there are multiple occasions detailed in Hodges' text where Alan regularly enjoys trips with and visits to friends as well as enjoyable evenings with his peers. In addition, Alan maintained long-standing friendships: "Rather than forming new ties of friendship at the NPL, he retained those of the war. Donald Michie was one of these …" (Hodges 2014: 433). The Alan Turing that emerges from anecdotes, descriptions and documents provided in the evidence-based biography is one who is brilliant and different, spending a lot of time alone thinking but, in contrast to the striking and iconic figure conjured by the movie personality, much less obtuse and much more thoughtful, kind and amiable; in other words, significantly different. Alan Turing is portrayed as a genius in both the book and the movie, but how accurately this genius translated into his character, based on available evidence and testimonies, is what is being compared in this analysis.

Joan Clarke is also represented in the movie quite differently from the person described in Hodges' biography where it is made clear that she was not the iconic beauty that her actor, Keira Knightley, suggests. Joan Clarke was "one of several men 'of the Professor type' to be a woman" (Hodges 2014: 245). Moreover, Alan was not responsible for hiring her, let alone by inventing and conducting a crossword competition. How a significant female linguist was recruited into Bletchley, and treated in the film, bears little relation, if any, to the evidence detailed in the source text. Gordon Welchman, not Turing, recruited Joan Clarke in 1940 (Hodges 2014: 245). Most notably, in the film Joan/Keira seems to recognise the underlying principle of what Turing aspires to do; that is, eventually build his universal machine. However, in the book Hodges notes (2014: 266) that although Alan had talked to Joan about his machine, "she had perhaps disappointed him in her response to it". Once again, Joan/Keira's generous and direct endorsement of Turing's/Cumberbatch's genius at the end of the movie represents a radical departure from evidence supplied in the source biography and seems to be yet another example of what has probably been altered/ invented for dramatic effect and to serve one person's personal perspective, irrespective of its inaccuracies and deliberate departure from the meaning suggested by the book on which it claims to be based.

Hence, in terms of translating a relationship and how others perceived Alan and Joan, the movie's images, speech and storyline (action) do not translate documented evidence provided in Hodges' book accurately; key properties and aspects of the characters and their relationship are ignored, made up or mistranslated. "Yet still the documentary evidence [in Turing's 1983 biography] would not add up to a portrait of Alan Turing", admits Hodges. "Only by meeting so many people who knew [Alan] could this picture be drawn" (2014: 675). Meeting people who had known the living human being, Alan Turing, was not something Tyldum was able to do. Instead, he imagined, employing the freedom of artistic licence and thereby created engaging characters and a successful movie albeit no longer seems to be based accurately or significantly on its source. Tyldum chooses to omit facts that might not support his personal interpretation and imagination of what it felt like to be Turing; Tyldum invents possible scenarios and conflates persons and events; for example, the role of Hugh Alexander has been conflated with that of Gordon Welchman, a significant person at Bletchley, who does not even exist in the film, and so the accuracy of evidence for the roles these persons played in Alan's life has been blurred and distorted.

Tyldum explains his very individual interpretation of what was most important for Alan: "To me [Tyldum], the movie is about lost love, unfulfilled love. The computer came out of the loss of Christopher and the idea to try to recreate a consciousness" and "To me, it's all about his [Alan's] relationship to Christopher. So him turning off the light on the machine and saying goodbye to Christopher, then the movie is over" (Dockterman/Tsai 2015: para. 10). Christopher is a consistent theme in the movie and a much more pronounced, even exaggerated, motivator than can be deduced from the abundance of anecdotes, documents and evidence provided in the biography. Tyldum's free use of artistic licence comes with a sacrifice: an accurate depiction of the Turing researched for the biography and hence, a significantly different character emerges.

Nevertheless, the movie's music creates an aura that seems to accurately resonate with the personality who emerges from the pages of Hodges' detailed research. Alexandre Desplat's music suits two key story elements: how Alan's mathematical mind may have "sounded", as well as how a machine might "think". The conventional four-four time anchors Turing/Cumberbatch and his actions; the music grounds him in the traditional British culture where Cambridge dons are almost expected to behave in an eccentric manner, such as by wearing a gas mask when cycling. The complex, fast and haunting soundscape is created by several piano pieces whose random arpeggios are often played by a computer. Arpeggios are musical techniques where notes in a chord are played in sequence, rather than ringing out simultaneously, and they can thereby create rhythmic interest. This rhythm assists Tyldum in creating a thriller-type feel in the movie: "I wanted it to feel like a thriller" (Dockterman/Tsai 2015: para. 5), but this music also echoes the flow of numbers and depth of outstanding intellect that Hodges, another mathematician, is able to share about his protagonist with his readers:

> Certainly, by the end of 1933, Alan Turing had his teeth into two parallel problems of great depth. Both in quantum physics and in pure mathematics, the task was to relate the abstract and the physical, the symbolic and the mind (Hodges 2014: 110).

In Desplat's soundscape, a celeste harp produces a repeated "twirling sensation" (Desplat in Patches, 2014: para. 7). Rhythm and tempo are musical parameters whose effects function as cues (Tagg, 1987: 282) and so repetitive musical phrasings elaborate on a different perspective of the same information (Halliday in Machin, 2010: 192); as an off-shoot of the music, a sense of the importance of the recursive nature and closed set of computable numbers envelopes the story.

Nonetheless, as the short descriptions, relating to iconic depiction of key personalities, reveal – the film's characters do not all closely resemble the original people and only act appropriately in an internally consistent and logical manner within the film text according to Tyldum's viewpoint, not in a way that is accurate according to a translation of what is generally acknowledged as historical fact. When these characters are considered according to CT criteria of accuracy and significance, translation of how they are perceived and how the relationships between them pro-

ceed departs sharply from the source text, resulting in a totally new whole whose meaning has, as a result, been transformed.

Overall, the relationship between the characters in the movie and the text it translates can be evaluated as "Low" according to the two key critical thinking (CT) criteria/standards relating to integrity, while only the one mode of sound reverberates.

4.   Enigmas

Not only does Alexander Desplat's musical score suit the cryptographic and iconic characters of Alan and Joan in the movie, but it also continues to create an appropriate semiotic equivalence for the exceptional problem that Enigma machines posed. The second soundtrack of the score bears the same name, "Enigma". The music has, moreover, a regular, insistent beat that underscores the unstated but vital challenge for Alan Turing: Bletchley Park and the entire institution of British Intelligence whose task it was to solve every one of the problems Enigmas presented. In this second musical track, a single high-pitched key chronically resonates, as if heralding how repeated moments of critical inspiration were required to help in the tedious process of cryptographic decoding. However, a low and ominous recurrent phrasing follows, redolent of the sinister and very real dangers encoded in Enigmas. This track is played in the background as the team for Hut 8 are introduced to one example of an Enigma machine; the track is played while Turing and Alexander work out the exact number of possibilities they have to work with: 159 plus 18 zeros. However, as Hodges points out: "Large numbers would not in themselves guarantee immunity from attack" (2014: 214).

For the purposes of evaluating the integrity of this MIST, the consideration that "each mode is partial in relation to the whole of meaning" (Kress/Jewitt, 2003: 3) is significant since the translation of several semiotic resources is involved. Van Leeuwen's concepts of recurrence (2008: 81) and his reference to the metaphorical value of timbre help to explain the effective resonance of Desplat's soundscape for echoing the dangers of the Enigma machines. Desplat's music is almost orchestral with electronic elements that mix scales and pitches. A clacking sound or ringing give this particular track a mechanical flavour that is so appropriate when creating an atmosphere for the behaviour of machines.

Counterpoint is also an important part of music; that is, when there is a melody and a sub-melody. In *The Imitation Game*, a sub-melody reiterates the dominant one while both follow the storyline as the "Enigma" track plays in the background during Hut 8's first view of one of these amazing machines. Here the image similarity is also accurate as an actual Enigma machine is used in the film while the haunting counterpoint emphasizes subtext: millions of calculations. The music in this instance (approximately 23 seconds in duration while Turing and Alexander calculate the exact number of possibilities) once again exhibits fidelity to the essential meaning of the scene it backgrounds: the extreme complexity of mathematics involved in solving the coding of machines such as the Enigmas. This complexity is clearly communicated in the book and the music accurately translates this.

However, the accuracy of how other modes intrinsic to the movie translate the iconic Enigma machines reduces and diminishes the central and intricate problem confronting British intelligence and opponents of the Third Reich from the late 1930s. The film seems to trivialize the life-or-death struggle that Enigmas symbolized for the war, since the movie deals with only one type of Enigma and treats it as a metaphor for a crossword puzzle. Has a crossword puzzle been chosen over the more intellectual game of chess because a crossword puzzle is a more familiar recreational game for the majority of a movie's audience? Chess, a more precise metaphor, however, would have been much more accurate as well as being evidence-based (Hodges 2014: 266):

> A subject closely analogous to cryptanalysis and which could be spoken of when off-duty, was chess. Alan's interest was not limited to chess as recreation, he was concerned to abstract a point of principle from his effort to play the game. He became very interested in the question of whether there was a "definite method" for playing chess – the construction of a physical machine, but only a book of rules

that could be followed by a mindless player – like the "instruction note" formulation of the concept of computability.

The movie, thereby, does not translate the multifariousness, difficulty and delicacy involved in communication of information that the Enigma type of encrypting machines posed. Meaning has been transformed.

Moreover, the employment of Alan Turing for solving this essential wartime task is sensationalized in the movie so that facts are both distorted and conflated. According to Hodges, Alan Turing was probably specifically recommended and then recruited for his work at Bletchley, as far back as 1936, when he was taken into a course at the Government Code and Cypher School (GS and CS) headquarters in 1938 (2014: 188). This is a far cry from having him rock up to Bletchley Park, Radio Manufacturers, at the beginning of the war in 1939 (as happens in the movie), and then affront Deniston by insinuating he is applying for a job because he likes "puzzles". In the movie, Alan is apparently only offered work because he utters the name "Enigma". Yet, notably: "There was no secret about the existence of such machines. Nor was there anything secret about the basic Enigma" (Hodges 2014: 209).

Most importantly, during his time at Bletchley Alan did not go out on a limb and attempt to build his universal Turing machine; rather, he worked as the "Prof." in the innovative and "loosely" structured organization that was Hut 8, on the crucial project of deciphering the Naval Enigma. The Naval Enigma was one of several Enigma machines, but it was especially complicated because it had four, not three, rotors. During the period of Turing's war-time work, Alan was perhaps the most prodigious, but still only one of several "scientific geniuses…brilliant engineers, highly competent intelligence analysts, and diligent and devoted machine operators" (Dodgson 2013), working with an insufficient number of six "Bombes", whose mechanical origins could be traced back to the innovation of several Polish mathematicians in the early 1930s (Hodges 2014: 245). Further, the contributions of other significant team members is inaccurately depicted: it was Welchman (not Hugh Alexander) who was responsible for coming up with the diagonal board when Hut 8 was working on deciphering the Naval Enigma as quickly as possible. Additionally, Alan Turing did not have to defend his brain-child machine physically – his work lay in the tables ("description numbers" according to Hodges (2014: 368) created for existing Bombes and depended heavily on others finding "cribs" that could reduce the number of possible calculations needed to decipher a message. There was no single Eureka moment (as seems to have been crucial in the MIST) during a night out when the phrase, "Heil Hitler", magically simplified the massive drudgery of working out how to mechanize testing millions of possibilities effectively. In other words, the process involved in solving the Naval Enigma is represented in an inaccurate and grossly simplified manner in the movie, albeit with maximum staged impact. This melodramatic crisis in the film was an artistic choice that unfortunately diminishes the value and therefore, the meaning of the crucial work in which Bletchley was involved.

As regards accurate representation, the filming of an actual model of one of the Enigma machines used during the Second World War is high, but if Enigmas were regarded as impossible to solve, the process depicted to break the code is not convincing, for those who know of the very real complexity involved – solving did not depend on a chance and obvious phrase such as "Heil Hitler" remaining so elusive until one random night out. Evaluating the accuracy of translation for how the problems posed by Enigmas were translated in the movie version results in a poor verdict. Hodges is a highly mathematically informed writer, while the MIST and perhaps its director as well glosses and thereby blurs the clarity of his mathematical explanations; evidence for such a simplistic rendition of solving Enigmas is non-existent.

Overall, the relationship between the iconic problem that Enigmas presented is poorly translated in the movie and so is best evaluated as "Low", according to key critical thinking (CT) criteria/standards; nevertheless, image similarity and the sound/music mode are high.

5.   Events

Related to a comparison of how faithfully the translation of iconic personalities is represented and the Enigma codes were broken is historical accuracy; that is, the timeline of major events during Turing's life. For example, as mentioned earlier, Alan Turing was recruited to Bletchley well before 1939, which is the year suggested by the movie. As well, Alan Turing did not meet Joan Clarke when she arrived late at a timed crossword puzzle competition, but in June 1940 when others were responsible for her recruitment. Third, the decision regarding whether to let Deniston or others know the code had been broken, or whether to save the boat on which the brother of one of Hut 8's cryptographers was on, did not happen. Moreover, similar life and death decisions were being made throughout the war as different phases of code breaking proceeded; there was more than one Enigma and there were "different Enigma key systems" (Hodges 2014: 204). Broken codes depended not only on fast minds and modern machine resources, but also on "luck and sudden brilliant observations" (Hodges 2014: 303) – not simply on one ground-breaking event (as in the movie):

> On 30th October [1942] another stroke of fortune, the capture of U-559 off Port Said, at last gave Bletchley the key to the blank Atlantic, just as Alan was preparing to cross it [as the trusted ambassador between British and US intelligence] (Hodges 2014: 303).

This capture was extremely valuable in breaking the U-boat Enigma cipher.

The music track entitled "U-Boats" is played during an appropriate scene in the movie (the tracking of these vessels) and this musical track is a particularly fast paced and repetitive one. It creates an atmosphere evocative of the very real life and death dangers undersea boats posed to the convoys, which were bringing badly needed supplies to the United Kingdom and its threatened allies, such as the Soviet Union. Nevertheless, the pitch range of this piece is quite limited – as with most of the musical score. According to Van Leeuwen (1999: 140), who describes sound qualities such as pitch register, loudness and tension as having an "experiential meaning potential", where meanings are based on past bodily experiences, a contracted pitch range connotes tension, secrecy and danger. Tempo, moreover, according to Tagg (in Van Leeuwen, 1999: 39), is "an important parameter in determining the human/biological aspect of an affective relationship to time", so the pace of "U-Boats" suggests something fleeting and volatile. Stress, anxiety and disquiet pervaded wartime work at Bletchley and hence, this music continues to translate suitably the incessant amount of life-death thinking Hodges indicates was par for the course in Turing's wartime life.

Despite the appropriate music and, probably as a result of Tyldum's rationale for focusing on "emotional accuracy" (2014: para. 2), important historical events can be seen to have been conflated into imaginary and theatrical ones in the movie: years and dates are inaccurate, while the complexity, depth and drudgery of work entailed in deciphering is over simplified so that the meaning of the work is also dramatically different – historically based life-death decisions are sensationalized and glossed.

Overall, the relationship between events and their chronology in the movie, compared with the book that translated, can be evaluated as "Low", according to the critical thinking (CT) criteria/standards of accuracy and significance for all but the sound/music mode.

6.   Title

To conclude this small-scale exploratory case study, it is worth discussing and evaluating translation of the title, *The Imitation Game* from *Alan Turing: The Enigma*. Hodges' title positions Turing the person as the "enigma", a pun that has relevance to both his mind and life. In the body of his book, Hodges repeatedly uses the phrase, "imitation game", to refer to several key elements in the story, beginning with mathematics: "If it [pure mathematics] was to be thought of as a game following arbitrary rules to govern the play of symbols, what had happened to the sense of absolute truth?" (2014: 105). It is also the title of the Test that Turing proposed in "Computing Ma-

chinery and Intelligence", which he published in the Philosophic Journal *Mind* in 1950. In this famous and controversial paper, Turing detailed a method to determine whether machines can think. Hence, the choice of movie title not only translates Turing's secret work and sexual preferences accurately, but also the ongoing question his Turing Test poses for humans and artificial intelligence (AI). With regard to Alan's work during the war:

> A deeply ingrained fear and embarrassment about the unmentionable was the keynote of all that depended upon Bletchley work … left Alan Turing in an extreme position … an uneasy game of deceit and he loathed pretence (2014: 301-302);

Similarly, regarding his relationship with Joan Clarke, Alan only belatedly removed the veil of pretence and admitted to her that his homosexual "tendencies" (2014: 259) had led him into occasional practice (2014: 585) after he was arrested in 1951.

In short, Alan Turing was involved in several types of imitation game: social in that he needed to mask his homosexuality, political in that he worked for Bletchley Park on a project that officially did not exist and in his personal concern for which he devised the Turing Test that requires the observer to distinguish between a human and AI (pretending to be human). This title is therefore an accurate and significant choice, effectively translating the essential meaning of both "true" stories.

Overall, the relationship between the title of the movie and the text it translates can be evaluated as "High" according to the key CT criteria, while the musical score continues to resound to the text. However, the title of the MIST is an example of IT, not a typical instance of a MIST.

7.   Conclusion

To adapt Weedon, quoted by Sonzogni (2012: 10), a movie "can be seen as a doorway through which we glimpse" the original book. The iconic celebrity actors are "an advertisement and a tease, partially revealing, partially concealing" the truth. "It is the threshold between the public commercial arena … and the more intimate world of the text where the author speaks to us alone …" The movie "dallies with us … Will it give us" the truth? Most of us are probably not seeking the "truth" when we go to the movies, but if a MIST falls short of accurately conveying essential meaning detailed in its acknowledged source and/or disregards conflicting evidence or significant elements – especially those concerned with history – the degree of artistic freedom in translation that a MIST enjoys merits being questioned, bearing in mind the key criteria of accuracy and significance.

References

Aguiar, D./Queiroz, J. 2012: "Modelling Intersemiotic Translation: Notes Toward a Peircean approach". *Proceedings of the 10th World Congress of the International Association for Semiotic Studies (IASS/AIS)*. Universidade da Coruña (España/Spain), 337-344.

Ajunwa, E. 2015: "Fidelity Challenges in Translation". In *Translation Journal,* January. Available at: http://translation-journal.net/January-2015/fidelity-challenges-in-translation.html

Aveling, H. 2004: "A Short History of Western Translation Theory". In *Text* 8(1), April. Available at: http://www.text-journal.com.au/april04/aveling.htm

Buden, B. 2008: "A Tangent that Betrayed the Circle: On the Limits of Fidelity in Translation". In *eipcp* 06, [online]. Available at: http://eipcp.net/transversal/0608/buden/en

Cross, J. 2006: "Icons as Ideology". In *Mediating Ideology in Text and Image*, edited by I. Lassen/J. Strunck/T. Vestergaard. Amsterdam/Philadephia: John Benjamins.

Davies, M./Barnett, R. (ed.) 2015: *The Palgrave Handbook of Critical Thinking in Higher Education*. New York USA: Palgrave Macmillan.

Dockterman, E./Tsai, D. 2015: "The Imitation Game Director Morten Tyldum: We Didn't Need Gay Sex Scenes" In *Time* (13th February. Available: at: http://time.com/3709298/imitation-game-history/

Dodgson, M. 2013: "Bletchley Park" in *Ocham's Razor, ABC*. Available at http://www.abc.net.au/radionational/programs/ockhamsrazor/bletchley-park/5134192#transcript

Foundation for Critical Thinking. 2013: "Elements and Standards Learning Tool" in *The Critical Thinking Community* [online]. Available at: http://www.criticalthinking.org/pages/elements-and-standards-learning-tool/783

Frasheri, A./Kastrati, A. 2013: "Between Fidelity and Freedom in Translation Studies". In *Mediterranean Journal of Social Sciences,* 4(13), 149-152. Available at: http://www.mcser.org/journal/index.php/mjss/article/view/1498

Gorlée, D. 1989: "Wittgenstein, Translation and Semiotics". In *Target* 1(1), 69-94.

Hartama-Heinonen, R. 2012: "A Peircean Approach to Translation, Interpretation and Meaning". In *COLLEGIUM: Studies across Disciplines in the Humanities and Social Sciences* 7,113–129.

Hesse, H. 1943, 2000 edition: *The Glass Bead Game*, London: Vintage.

Hodges, A. 1983, 2014 edition: *Alan Turing: The Enigma*, London: Vintage.

Jakobson, R. 1959: "On Linguistic Aspects of Translation" in *The Cultural Reader* (online), Available at: http://culturalstudiesnow.blogspot.com.au/2011/10/roman-jakobson-on-linguistic-aspects-of.html

Jeha, J. n.d.: *Intersemiotic translation: The Peircean basis*. Available at: http://www.juliojeha.pro.br/sign_res/intersemtrans.pdf

Kress, G./Van Leeuwen, T. 2006: *Reading Images: The Grammar of Visual Design*. London; New York: Routledge.

Machin, D. 2010: *Analysing Popular Music: Image, Sound and Text.* London: Sage.

Patches, M. 2014: "Alexandre Desplat on 'Imitation Game,' the Turing machine, and hints for 'Unbroken'". In *HitFix* [online], November 24. Available at: http://www.hitfix.com/in-contention/alexandre-desplat-on-imitation-game-the-turing-machine-and-hints-for-unbroken

Pereira, N. 2008: "Book Illustration as (Intersemiotic) Translation: Pictures Translating Words". In *Meta: journal des traducteurs/Meta: Translators' Journal,* 53(1). 104-119. Available at: https://www.erudit.org/revue/meta/2008/v53/n1/017977ar.html

Sonzogni, M. 2011: *Re-Covered Rose: A Case Study in Book Cover Design as Intersemiotic Translation*. Amsterdam/Philadelphia: John Benjamins.

Tagg, P. 1987: "Musicology and the semiotics of popular music". In *Semiotica* 66(1/3), 279-298.

Tyldum, M. 2014: *The Imitation Game*, US: Black Bear Productions.

Van Leeuwen, T. 1998: "Music and ideology: Notes toward a Sociosemiotics of Mass Media Music". In *Popular Music and Society* 22(4), 25-54.

Van Leeuwen, T. 1999: *Speech, Music, Sound.* London: Macmillan.