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Adapting Specialist Knowledge on Screen to Transmit Scientific Theories: Inter-Epistemic Translation in the *Jurassic Park* Movie Saga as Case Study

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Abstract

According to Calsamiglia & van Dijk (2004) popularisation of scientific knowledge is a re-formulation of specialist discourse. Thus, popularisation might be considered a form of translation; within the paradigm of inter-epistemic translation (Bennet 2024a; Bennett 2024b; Bennet & Neves 2024), it might be regarded as a kind of “Science in Transit”, whereby “specialist knowledge is transmitted across disciplines, reformulated for different audiences, and reworked into imaginative literature, audiovisual content or works of art” (“The EPISTRAN Project” 2025). This process is particularly productive in sci-fi movies, whose plot focuses on future scientific or natural world developments caused by humans or unknown natural forces, which must be understood, tamed, or destroyed (Johnston 2011). Therefore, sci-fi movies exploit the affordances of popularisation to transmit specialist knowledge to the audience in order to present the scientific theories pivotal to the story. The long-standing movie franchise of Jurassic Park (1993-2025) is a case in point since it incorporates several disciplines (palaeontology, biology, bioethics, high-tech, IT, etc.), so the transmission of the corresponding theories is essential for the audience to understand the movie plots. The paper investigates the Jurassic Park saga as a case study of Science in Transit within the paradigm of inter-epistemic translation. The analysis is divided in two parts: the first part investigates the saga by analysing the strategies employed in the movies to transmit scientific theories to the audience in English. The second part of the paper considers the challenges that popularising these theories poses to subtitling by examining differences that might exist between Source Language/Culture (English) and Target Language/Culture (Italian). To do so, the popularised scientific theories of the first part are contrasted to their versions in the Italian subtitles. The aim is to ascertain which translation strategies (Díaz-Cintas and Remael 2014; Bolaños-García-Escribano and Díaz-Cintas 2019) are used in order to maintain the specialist knowledge as accessible in Italian audience as it is in English.

Keywords: *Jurassic Park* saga; inter-epistemic translation; Science-in-Transit; subtitles; English; Italian; Adaptation.

1. Introduction

The popularisation of scientific knowledge can be defined as a reformulation of specialist discourse “in such a way that non-specialised readers are able to construct lay versions of specialised knowledge and integrate these with their existing knowledge” (Calsamiglia and van Dijk 2004: 370). As such, popularisation can be considered a form of translation. In actual fact, popularisation has already been explored as a form of translation in several contributions, particularly in the context of scientific communication (e.g. Gotti 2008; Liao 2013; Raffo 2016; Garzone 2020, to name only a few). The actual concept of popularisation as a kind of translation revolves around the idea of transforming specialised knowledge into accessible information for a lay audience; a process which often involves linguistic as well as conceptual adjustments to make specialist knowledge available to the general public who might include people with different degrees of previous knowledge on the subject, different levels of education, or even different age groups (cf. Cesiri 2020).

Considered from this standpoint, popularisation can be framed within the paradigm of inter-epistemic translation proposed in the EPISTRAN Project (Bennet 2024a; Bennett 2024b; Bennet and Neves 2024) and might be categorised in the area of “Science in Transit”, whereby “specialist knowledge is transmitted across disciplines, reformulated for different audiences, and reworked into imaginative literature, audiovisual content or works of art” (“The EPISTRAN Project” 2025).

This area is particularly exploited in movies of the science fiction (a.k.a. sci-fi) genre, in which the plot revolves around “a potential future development within science or the natural world, caused by human or unknown force, which has to be understood, tamed or destroyed” (Johnston 2011: 1). Known for “its flexibility and genre hybridity [...] science fiction films are traditionally dramas about these topics, usually with thrilling and romantic elements and often reliant upon state-of-the-art special effects techniques to create a new, or expanded, worldview” (*ibid.*). It is therefore evident that sci-fi movies exploit the affordances of popularisation to transmit specialist knowledge to the audience in order to

present the scientific theories pivotal to the development of the story and its conclusion at the end of the movie itself.

In this perspective, the long-standing movie saga of *Jurassic Park* (1993-2025) is a particularly interesting case in point in that it contains elements from several disciplines (palaeontology, biology, bioethics, high-tech, IT, etc.) that in turn entail the necessity to transmit the corresponding scientific/specialist theories essential for the audience to understand the plot premise and further development(s) during the movie. Considering the movies a case study within the paradigm of inter-epistemic translation, the first part of the paper investigates the *Jurassic Park* saga by analysing the strategies therein employed to transmit, namely, to popularise, scientific theories to the audience in the Source Language (i.e., English).

The second part of the paper considers the challenges that these popularised theories pose to subtitling in Italian, taking into account possible differences in the terminology used that might exist between Source Language/Culture (English) and Target Language/Culture (Italian). To investigate this aspect, the second part of the study examines the popularised scientific theories of the first part as they are proposed in subtitles in Italian. The aim is to assess what kind of subtitling strategies already known to audiovisual translation studies (Díaz-Cintas and Remael 2014; Bolaños-García-Escribano and Díaz-Cintas 2019) are used and whether they help to keep the same level of popularisation in Italian, thereby making the contents in Italian as accessible to the lay audience in Italian as they were to the audience in the Source Text in English.

The present paper is structured as follows: Section 1 briefly describes the EPISTRAN Project, its view of both inter-epistemic translation and the “Science in Transit” area, which is at the core of the present study. Section 3 first introduces the sci-fi genre and then presents the movies included in the *Jurassic Park* saga with a brief presentation of the plots and the disciplines that contribute to their development that are disseminated to the lay audience in the dialogues between characters¹. Section 4 describes the dataset and methods of analysis, while Section 5 contains the analysis itself.

¹ The study considers the actual dialogues from the movies, not the scripts. The scripts in English are freely available online; however, some differences were noticed between the scripted and the final, filmed versions of the movies. Therefore, the latter were considered in the study for both dialogues in English and their subtitled versions in Italian. In addition, since the study considers dissemination strategies as a form of inter-epistemic translation, in order to avoid terminological ambiguity, the article refers to “translation” to indicate dissemination strategies in English, while the subtitles (target dialogues) in Italian are referred to as “subtitles” or “subtitled versions” of the source dialogues in English.

Finally, Section 6 provides some conclusive remarks on the study and its findings.

2. Inter-Epistemic Translation and “Science in Transit”

The EPISTRAN Project aims to explore the semiotic and translational processes involved in the transfer of information between different epistemic systems to investigate how this knowledge is transmitted, transformed, and interpreted across diverse cultural, disciplinary, and historical contexts (“The EPISTRAN Project” 2025).

One of the main aims of the project is to understand how diverse knowledge systems interact through processes of translation, thereby creating new epistemic frameworks. It addresses the challenge posed by Robinson (2017), whereby technical “scientific” knowledge that is by nature objective, rational, and universal interacts with other forms of knowledge such as the humanities, arts or religion. The transfer of knowledge between these systems is defined as “inter-epistemic translation” (Bennet 2024).

Moreover, according to Bennet (2024a, b) and Bennet and Neves (2024), inter-epistemic translation also includes the process of knowledge transfer between different epistemic systems or frameworks, such as scientific and non-scientific discourse communities. Unlike interlingual translation, which focuses on language, inter-epistemic translation deals with knowledge transfers in genre, discourse, and knowledge systems.

In fact, the project assumes that knowledges are different modes of discourse and aims to investigate cultural frameworks that generate cognitive inequalities and the semiotic mechanisms that enact them (*ibid.*). It also “seeks to contribute to a new transdisciplinary research paradigm, with translation at its core, by investigating mechanisms that are at work in six areas” (“The EPISTRAN Project” 2025). The notion of inter-epistemic translation as a transfer of knowledge between specialist and non-specialist knowledge (the “Science in Transit” area) is particularly fit for this study, which considers the strategies employed by screenwriters to transmit science-based, specialist theories to lay audiences to help them understand the plot of sci-fi movies. Moreover, the area of Science in Transit is the one that is also specifically relevant for the present investigation since, among the areas in the EPISTRAN project paradigm, it is the only one that examines “how specialist knowledge is transmitted across disciplines, reformulated for different audiences, and reworked into imaginative

literature, audiovisual content or works of art” (“The EPISTRAN Project” 2025), as already mentioned in Section 1.

3. Science in Movies

3.1. The Sci-Fi Genre

Sci-fi is a movie genre that explores speculative, futuristic, and more imaginative concepts, which might include advanced science, technology, space exploration, time travel, parallel universes, and extraterrestrial life (Johnston 2011). It combines entertainment with social commentary, aiming at inspiring in the audience some “sense of wonder” while proposing an underlying critique of contemporary societal issues (Parrinder 2013).

Its origins date back to the early twentieth-century, during the silent cinema era (Roberts 2016): one of the first sci-fi movies is believed to be Georges Méliès’ *A Trip to the Moon* (1902), which contained innovative photography, earliest examples of present-day special effects. A few years later, Fritz Lang directed *Metropolis* (1927) and marked the first proper feature-length sci-fi movie that portrays a dystopian future influenced by industrialisation. A typical sci-fi movie narrative often centres on future advancements in science or the natural world, brought about by human actions or mysterious natural forces, which must be understood, controlled, or eradicated (Johnston 2011).

However, in later decades and mainly from the 1930s to the 1950s, sci-fi movies were essentially low-budget “B-movies”, or movies of inferior quality, whose plots often reflected societal fears of automation and nuclear war (*ibid.*). It will be only at the end of the following decade, with Stanley Kubrick’s *2001: A Space Odyssey* (1968), that the genre’s artistic standing and conceptual complexity will be elevated (Kolker 2006).

The twenty-first century marked a new trend in the plots of sci-fi movies, in that they become means for more explicit political and environmental critiques in works such as *Avatar* (2009), *District 9* (2009), and *Children of Men* (2006), while franchises² such as *The Matrix*, *Star Wars*, and superhero films dominate box offices (*ibid.*).

² While a saga includes only movie instalments, a franchise is defined as the series of media products that are connected with the saga and which include all the movies and any sequels/prequels, possible spin-offs, animated and live-action series, merchandise products, books (included printed and/or audiobooks), videogames, theme parks/theme park rides,

In order for a movie to be included in the sci-fi genre, it has to present the plot characteristics already indicated by Johnston (2011). It has also been ascertained (e.g. Thorne 2014; Cain *et al.* 2019; Al Fahoum and Ghobon 2023) that sci-fi movies are more than just entertainment: they are an insightful medium that seeks to stimulate audiences to consider humanity's relationship with science, technology, and society. A matching example is the franchise considered in this study, *Jurassic Park* that, since the first movie release in 1992, contained several levels of critique, which are illustrated in the next Section.

3.2. The *Jurassic Park* Saga

The *Jurassic Park* saga is considered an example of sci-fi franchise that combines innovative scientific concepts with exciting storytelling, making it a cornerstone of the genre (Eldridge 2025). The franchise is based on Michael Crichton's 1990 homonymous novel that explores genetic engineering and cloning, more specifically the rebirth of dinosaurs using DNA extracted from insects preserved in fossilised amber.

The initial premise, though speculative, is grounded on real scientific hypotheses (Poinar and Hess 1982), showcasing the sci-fi genre's ability to blend imagination with real life scientific ideas which, since the release of the first movie in 1992 and its sequels in later years, have increasingly gained popularity both mediatically (Boissoneault 2018) and scientifically (Schweitzer and Cano 1994; Cano 2024).

The first movie, entitled *Jurassic Park*, gave the name to the entire saga and franchise. It introduced audiences not only to the scientific concepts but also to the corresponding complex bio-ethical debates, such as the ethics of genetic manipulation and the consequences of human *hubris* in exploiting nature for profit (Attwood 2021). This first movie – directed by Steven Spielberg – also revolutionised the movie industry with pioneering visual effects that combined CGI and animatronics, effectively bringing dinosaurs to life. It shifted from Crichton's “purer” sci-fi approach to a greater emphasis on human drama and survival, creating a more accessible “soft sci-fi” narrative (Dickson 2021).

The first movie had such a cultural impact at the time of its release that it influenced both popular culture and scientific fields, renovating

toys, gadgets, and any other merchandise product (cf., e.g. Hernández-Pérez and Ferreras Rodríguez 2014).

public interest in palaeontology and genetics (Attwood 2021). Moreover, the way in which dinosaurs had been reproduced and depicted on screen was considered highly accurate at the time (Dickson 2021), further contributing to bridge the gap between science fiction and real-world science, between experts and non-expert audiences.

All the instalments that followed the first movie replicated the original theme of technological arrogance and pride of the humans and the same ethical dilemmas already seen in the first episode of the saga: from cloning dinosaurs this further extended to human cloning in later movies such as *Jurassic World Dominion* (2022). At the time of writing, in fact, the saga has become a franchise and counts seven movies, the latest one released in July 2025. For the time being, the franchise includes the following movie instalments³:

- *Jurassic Park* (1993)
- *The Lost World: Jurassic Park 2* (1997)
- *Jurassic Park III* (2001)
- *Jurassic World* (2015)
- *Jurassic World: Fallen Kingdom* (2018)
- *Jurassic World Dominion* (2022)
- *Jurassic World Rebirth* (2025)

However, only the first three movies are considered as officially part of the *Jurassic Park* saga. Since 2015, it has become the *Jurassic World* franchise (Kroll 2013), even though in popular imagination and in Google Searches is still referred to as “The *Jurassic Park* saga”, and this is how it will be indicated in this study.

4. Dataset and Methodology

The dataset examined includes only the first three movies in the saga, namely, *Jurassic Park* (1993), *The Lost World: Jurassic Park 2* (1997), and *Jurassic*

³ This list does not include non-cinematographic products that are typically part of a franchise. They include three short films, two ongoing animated series, one theatrical representation, several board games and video games, comics, toys of different kinds and for different age groups, merchandise of various kinds that is either available in shops as part of the franchise or is produced when a new movie is released, theme parks and exhibitions around the world, and the official soundtrack that can be purchased via streaming apps (www.universalphictures.com).

Park III (2001), not only because it changed its name and key plot objectives (as already mentioned in Section 3.2.), but the franchise also started shifting movie genre from sci-fi adventure into greater attention paid on elements from action adventure movies and even horror of the later *Jurassic World* instalments.

The study analyses the dialogues in the first three movies. More specifically, it isolates the lines in which some scientific theory is explained or described to the other characters and, by extension, to the lay audience. In the course of the movies, several characters clarify not only scientific theories, but they also provide explanation of domain-specific terms, concepts, or names of dinosaurs. Occasionally, two experts who talk between themselves provide this explanation one to the other. This is obviously given only for plot development's reasons or to favour the audience's understanding, especially in consideration that the movies were particularly popular with the younger public. The dialogues in which just a term or a simpler concept is explained were not included in the study that investigates only how more complex theories are translated for the lay audience, composed of adults and children alike. The aim is to observe how screenwriters managed to transmit this kind of specialist knowledge to such a diverse public.

After the identification of the line in which a scientific theory is explained, the corresponding scientific domain is identified as well and, by means of the paradigm of inter-epistemic translation (and particularly the area of Science in Transit), the strategies employed in the movies to transmit, i.e. to popularise the scientific theory, are examined in order to assess the extent to which the transmission of the corresponding specialist knowledge may be effective towards the audience in the Source Language (i.e., English). To this purpose, the strategies listed by Gotti (2008) are also used to integrate the theoretical framework provided by inter-epistemic translation.

The second part of the investigation considers the challenges that these popularised theories pose to the process of subtitling, taking into account possible differences in the terminology used that might exist between the Source Language/Culture (English) and the Target Language/Culture (Italian). In order to investigate this aspect in the three movies, the lines already investigated in the first part of the study are isolated in their subtitled versions in Italian and compared with the English counterpart. In this case, the aim is to identify the subtitling strategies used to convey the same information in Italian, and to ascertain whether they

manage to translate the line into the Target Language, at the same time successfully maintaining the disseminated specialist knowledge accessible to the target audience. Subtitles, in fact, because of technical constraints (see Section 5.2.) might not always be able to perfectly match the source dialogues, thereby causing a loss in contents. This part of the analysis ascertains whether choices in subtitling were able to reflect the same level of inter-epistemic translation in Italian as the corresponding lines in English, thereby successfully disseminating the same scientific theories to the Italian audience.

5. Analysis

5.1. Disseminating Theories in the Source Language

5.1.1. *Jurassic Park* (1992)

The first movie, *Jurassic Park* (1992), starts with industrialist John Hammond who invites three scientists (two palaeontologists, Ellie Sattler and Alan Grant, and a mathematician, Ian Malcom) to visit his animal themed park on a remote island where he has cloned dinosaurs, whose DNA was extracted from blood samples in mosquitoes trapped in fossilised amber. They are joined by the billionaire's grandchildren. During a tropical storm, the park's security system encounters a technical failure which – also due to the sabotage of one of the park's employees – causes the electric fences of the dinosaurs to be deactivated and, consequently, all dinosaurs escape and attack the group, while most of the park's staff had already left the island before the storm.

Being the first movie in the saga, the dialogues necessarily present a consistent presence of scientific theories since the theories and principles behind the dinosaurs' cloning need to be explained to the visiting scientists. However, since they are experts in other disciplines than genetics and bioengineering, they also serve as replacements for the lay audience, a technique that also works for the explanations that the palaeontologists and the mathematicians reciprocally provide of their own, respective disciplines of expertise. In fact, the plot contains the dissemination of other related disciplines, all functional to the development of the plot, such as the mathematical theories at the basis of Dr Malcom, who is also the only one

to raise ethical concerns derived from John Hammond's endeavour. Finally, the domains of animal behaviour and IT/high-tech are also present since the public needs to understand the difficulties faced by the characters in running the island's security systems, and – after these systems fail – the challenges faced to re-activate them. These domains, and corresponding theories, are disseminated by two secondary characters, Robert Muldoon (the park's game warden) and Ray Arnold (the park's chief engineer), respectively.

As already mentioned, being the first movie in the saga, the theories need to be transmitted in full detail. For this reason, the dialogues in which they appear are long and complex, occasionally they are delivered as one character's monologue that explains a new theory, as is the case of Example (1)⁴, which is the first instance of inter-epistemic translation, from the knowledge system of palaeontology that is found at the beginning of the movie. In the scene, the two palaeontologists, Ellie Sattler and Alan Grant are digging a Velociraptor's skeleton using a kind of ultra-sound new technology. They are in a tent, looking at a screen with the image of the dinosaur's skeleton (still buried in the ground) with the technician operating the machine and the other members of the team surrounding them. Therefore, they are in a context in which experts communicate with other experts.

In this scene, Dr Alan Grant explains his new theory about the evolution of dinosaurs to the other members of the research group, therefore he is talking to other experts of the same discipline. However, he employs strategies that are typically used to translate specialist knowledge to lay audiences. For instance, he uses terms from general language instead of domain-specific terminology to indicate the composition of the bones in the dinosaur's skeleton. In the scene, moreover, he has to point at the screen every time he says "look" to indicate all the anatomical parts of the dinosaur, which he should not need to do if he were talking to an audience exclusively composed of other palaeontologists. Finally, he also provides the etymology of the name Velociraptor; something that any expert in palaeontology is supposed to know, but perhaps members of the audience might not know it, so the character's monologue is used to transmit this piece of information to the public off screen. This last line in Example (1), in particular, translates a domain-specific term to the lay audience recurring to the so-called juxtaposition technique, a defining technique that has been found to be very

⁴ All Examples with the corresponding subtitle in Italian are reported in Table 1 in the Appendix.

productive in popularized texts, whereby “the specialised term is [typically] followed by its periphrasis with the two separated by a comma, dash or parenthesis” (Gotti 2008: 209). Naturally, in the movie punctuation cannot be detected as was done in the transcription in Example (1) but is replaced by the way in which the character utters the sentence, with a slight pause in his intonation, indicating to the audience the presence of the periphrasis after the domain-specific term, namely, by means of stress intonation.

The scene continues with another plot technique that allows the same character to translate the Velociraptor’s ferocious behaviour. The reason is that Velociraptors will have the role of this character’s antagonists later in the story, so the plot is preparing the audience to fear the Velociraptor by educating them now on what is already known in the discipline. The “plot trick” here is the use of a film extra whose presence is just pivotal to the plot, so that the main character translates the specialist theory to the lay audience, especially when he is surrounded by other experts in the same discipline.

This is the case of the second instance of inter-epistemic translation. The boy’s exclamation comes soon after Dr Grant’s last word at the end of Example (1). Unnoticed, an unknown child has joined the group and overheard Dr Grant’s theory. In replying to the boy’s remarks undermining the Velociraptor’s appearance, the palaeontologist employs several strategies that are typically found when experts translate scientific knowledge for non-experts (Gotti 2008). For instance, he uses similes to compare the dinosaur (underlined parts in Example 2, emphases added) to a present-day bird, to a lion, or to more famous dinosaur (T-Rex); or when he compares the Velociraptor’s claw to an object (“like a razor”). He also uses again juxtaposition (bold type) to define what “pack hunter” means. Moreover, in Example (2) Dr Grant employs not only verbal descriptions, but he integrates them with hand gestures and onomatopoeic sounds that are useful to complete its description and to enhance the sense of realism of the scene he depicts for the boy so, vicariously, also the lay audience relives the attack of the Velociraptor. Therefore, in this case screenwriters combined two systems of knowledge, palaeontology and sensorial knowledge, to translate the scientific knowledge of how Velociraptors attacked.

Later on in the movie, when the group of three scientists and the billionaire are already on the island to visit the Jurassic Park research centre, they are shown a demonstration video – prepared also for prospective visitors – that is aimed at showing the science behind the rebirth of

dinosaurs at Jurassic Park. The transcription of the video in Example (3) shows that it displays the full array of the dissemination strategies listed in Gotti (2008). The audio component is accompanied in the movie scene by animations and live-action images of scientists conducting experiments on DNA samples and dinosaurs.

As indicated in the Example (emphases added), the transcript contains instances of metaphorical usage (in bold type) that allow experts to translate scientific knowledge for non-experts by comparing complex concepts while grounding them on the information that is already known about the physical world but in a simplified way (Gotti 2008). Moreover, the extract contains approximations of domain-specific terminology (in italics) and general references to groups of experts (underlined with a dash-dot line) instead of providing specific names or quoting sources, which is another disseminating strategy used to simplify specialist knowledge, while the use of emphatic expressions or slang/informal expressions (underlined with a full line in the Example) is a technique used to simplify the language as well as to attract the audience's attention. Finally, the expression underlined with a wavy line highlights the use of the juxtaposition technique employed to translate "amber", and it also showcases the use of the inclusive "we" pronoun to indicate the discourse community of scientists/experts vs. the lay audience discourse community.

As already anticipated, the mathematician in the group, Ian Malcom, has the role of expressing the ethical concerns raised by John Hammond's venture. After knowing that, to prevent uncontrolled breeding, all dinosaurs are purposely laboratory-selected to be born as females, Malcom finally voices his ethical concerns to the group, as illustrated in Example (4). In this dialogue, Dr Malcom interacts with Dr Wu, one of the Jurassic Park laboratory's scientists. Dr Malcom's remarks are expressed using expressions that are not domain-specific, which is quite understandable considering that none of the characters present is an expert in bioethics, therefore the language has to be of general nature. Dr Wu's explanation, however, is meant to translate the domain-specific language of genetics and bioengineering both for the experts in other disciplines and for the general public off screen; for this reason, he employs expressions that oversimplify the corresponding scientific theory ("All vertebrate embryos are inherently female anyway..." etc.) and the process that the laboratory uses to create all female dinosaurs ("...and we simply deny them that").

Continuing with Dr Malcom's character, the disseminating strategies and the entertainment requirements of sci-fi shows are combined in the

complex inter-epistemic translation of Chaos Theory, which is the character's field of study, as exemplified in (5). In this particular case, several systems of knowledge converge, namely: the system of mathematical knowledge, the system of sci-fi movie entertainment, and the system of character portrayal that needs to be kept consistent, while the screenwriter seeks to explain Chaos Theory to the lay audience. Dr Malcom's character is portrayed as a mathematician with a histrionic personality, fashionably dressed and very interested in women, in fact he immediately flirts with Dr Sattler, one of the two palaeontologists. In the scene reported in Example (5), he seeks to explain to Dr Sattler (and, by extension, to the audience) Chaos Theory. However, at the same time, he also flirts with her. Therefore, three different systems of discourse converge: mathematics, entertainment/flirting, dissemination. Moreover, as in the case of Example (2), the combination of the sensorial system of knowledge and the combination of science theory bring the level of "inter-epistemicity" even farther, in turn making the inter-epistemic translation to a lay audience particularly complex in terms of the transmission of the corresponding scientific theory since the audience might be distracted by the character's buoyant personality and flirting attempts.

As for the other disciplines present in the movie, high-tech and IT plays a relevant role since one of the secondary characters, who tries to sell the dinosaurs' embryos, betraying Hammond but gets stuck on the island during the tropical storm, deactivates the park's security system, hence setting the dinosaurs free. When the main characters realise this, they resort to the chief engineer, who is also still on the island. This character, Ray Arnold, runs a diagnostic of the park's security system. Example (6) contains his summary to the characters and, hence, to the audience. In the Example, only some of the domain-specific terminology is explained. Part of what the "traitor" has done remains, therefore still untranslated to the audience (e.g. "keycheck", or the sentences in which it is used, that are not translated in previous or following lines either), but Arnold summarises the results to the other characters and the audience by stating that the safety systems are turning down to hide the traitor's actions. Moreover, his interaction with Dr Sattler also allows the audience to understand the complexity of the situation and how impossible it would be to manually solve it.

Then, in the same scene, the characters debate about possible solutions, until the park's game warden Robert Muldoon proposes what is illustrated in Example (7). Ray Arnold's role in this exchange is quite

peculiar. Being a computer expert, he would not be the qualified expert to translate that particular piece of information to the other members of the group; we might expect that John Hammond, who supervised the whole project, albeit not in the capacity of expert in the field, could explain the concept to the others in simplified terms. Another character might be the same Muldoon since he proposed the idea in the first place and seems informed of the “lysine contingency” plan. However, it is an expert from another discipline who is given the role of translating this theory to the rest of the group. The reason might be that the character is played by Samuel L. Jackson, a famous and popular actor, so it might be a contract-related reason in the number of lines, minutes of presence on screen, or just the actor’s popularity, rather than character-related reasons. However, another plot-related reason might be that the screenwriters thought that the engineer’s voice is also that of an insider-perspective within the laboratory, therefore more apt, reliable, and objective/neutral than a game warden – or the owner with a conflict of interest and opposing views – to translate science-related theories to the characters/audience.

5.1.2. *The Lost World: Jurassic Park 2 (1997)*

The second movie in the saga is *The Lost World: Jurassic Park* (1997). Set four years after the first movie, it still exploits the theme of the consequences of human interference with nature. In this movie, John Hammond’s company, InGen, is run by his nephew Peter Ludlow, who is planning to create a new dinosaur theme park in San Diego from dinosaurs bred from a second island, Isla Sorna. Dinosaurs were here hatched and nursed, and then moved to Isla Nublar, the island of the first movie. Hammond opposes his nephew’s plan and gathers a team to document the dinosaurs and promote non-interference. The team includes Dr Ian Malcolm, palaeontologist Dr Sarah Harding, photographer Nick Van Owen, and engineer Eddie Carr.

Since this movie focuses on ethical concerns/issues, the expedition on Isla Sorna with high-tech and cutting-edge equipment and the addition of characters with different kinds of expertise, the disciplines from which scientific and technical theories are explained are different than in the previous movie. Moreover, their number is consistently inferior because priority is given to the action plot’s development, to contrasting the plans of Hammond’s nephew, to the defence against dinosaurs’ attack along with

scenes that show how dinosaurs behave in a more naturalistic environment than in the first movie.

In Example (8), for instance, when Hammond speaks to Dr Malcom, he uses the metaphors highlighted in bold type. Since he already knows that the other character is a mathematician, he could have used a more formal and technical language, but the terms serve to let the audience understand the role that the two islands have and the difference between the two movies. While later, when Dr Malcom joins the team of other experts, and they are sailing towards Isla Sorna, the engineer Eddie Carr explains the weapon he uses to Malcom.

By this time, Dr Malcom has gained sufficient experience in weapons from the first movie. However, screenwriters wrote his role as the one who is asking questions in a sarcastic tone. This prompts other characters to provide simpler explanations that would serve as translation of the corresponding scientific theories for the audience. In Example (9), for instance, we see the translation of a more technical explanation for an air rifle, a neurotoxin by means of the juxtaposition technique, which is also completed with the translation of the “nerve-conduction velocity” (“0.002 of a second”), further reinforced by the last sentence in the dialogue “you’d be dead before you even realize you had an accident” that answers Dr Malcom’s question about the antidote, which might reflect a question asked by the audience.

Later on in the movie, the group saves a baby T-Rex but is attacked by the baby’s parents. After the group manages to survive the attack, Dr Harding expresses her theory as to why they were attacked by the T-Rexes outside their usual territory. In this dialogue, we see the interaction of two experts – Dr Harding (the palaeontologist hired by Hammond), Dr Burke (a palaeontologist hired by Ludlow) with a non-expert (Ludlow himself who is a businessman) who prompts the translation of the specialist theory in non-specialist language. In fact, Dr Harding starts using a more formal description of her theory, then Ludlow asks her to clarify (“Their what?”). Even though the sentence is not terminologically complex, the underlying concept might be opaque for the general audience, so Ludlow’s character is acting as acts as a “catalyst” for the dissemination of the theory in simplified terms provided by Dr Burke.

In the final part of the movie, a T-Rex is brought by Ludlow to San Diego on a ship for demonstration purposes. Unsurprisingly, the show does not go as planned and the dinosaur – that was supposed to be sedated – unexpectedly attacks the bystanders. In Example (11), Dr Harding asks for

clarifications to a man seemingly in charge of the sedation procedure onboard. In this Example, all the names of the drugs used to sedate the animal are not translated, even though we understand from Dr Harding's first question that they must be all tranquillisers, while the last one is a counteractant as we know from the man's words. Again, by means of the juxtaposition strategy, while the man uses a general statement ("we didn't know how much"), the expert employs the domain-specific expression ("proper dosage") thereby reverse-translating it for the audience. Finally, she summarises – through the same process – the situation for the audience in the last sentence, to highlight the dramatic effect of the situation and to prepare the audience itself for the next sequence in the movie.

5.1.3. *Jurassic Park III* (2001)

The third movie in the saga is *Jurassic Park III* (2001). Its plot follows Dr Alan Grant who struggles to fund his research on Velociraptors after the events of the first movie. He is approached by a wealthy couple, Paul and Amanda Kirby. They offer to finance his work in exchange for a guided aerial tour of Isla Sorna. Dr Grant reluctantly agrees and sets off to the island together with the couple, his assistant Billy Brennan, and a small team. Dr Grant soon discovers that the Kirbys have involved him in a mission to rescue their son and Amanda's boyfriend, Ben. As soon as they arrive on the island, the plane is attacked during take-off by a Spinosaurus, causing it to crash in the forest. As they navigate the island, the group encounters various dinosaurs. While exploring the island, they are repeatedly attacked by Velociraptors, and find Ben's corpse, while Dr Grant is separated from the group but is saved by Eric, who has been surviving on the island. After numerous challenges, Dr Grant manages to contact Dr Ellie Sattler for help, and the group is finally rescued by the U.S. Marines and Navy.

The plot in this case contains even fewer instances of scientific theories translated to the audience. Most of the theories about dinosaurs have already been translated in previous movies, while the third one only gives more details about the most recent theories. Most of the movie is indeed dedicated to the rescue mission and to action and thriller scenes, already testifying the change in genre that would eventually lead to the shift in the *Jurassic World* franchise and different focus in the plot (see Sections 3.2. and 4). For instance, Example (12) shows Dr Grant explaining his new theory to an audience of experts at the beginning of the movie (emphases

added). This kind of translation would not be necessary when an expert is communicating his research to an audience of other experts, as is the case of this scene. However, the dissemination here is for the audience's sake and contains the popularisation strategies listed in Gotti (2008), such as the use of similes (bold type), approximating language (italics), and the use of emphatic expressions (underlined).

In Example (13), instead, Dr Grant's assistant Billy explains some new technology to his boss who is famously non-tech-savvy, as the audience knows from the first movie. However, the translation is also useful for the audience, and the clue comes from the last sentence, since we would expect that an expert as Dr Grant might not be able to use the technology, but he is certainly familiar with the technological instruments that his own profession will use in the future.

Finally, in Example (14), we see some scientific theory used for sarcastic purposes to define Billy's character and to further refine Dr Grant's personality, as well as to present their relationship. Dr Grant's theory of "Reverse-Darwinism" is here translated not just for Billy's character, who might be familiar with his boss' sarcasm, but for the audience. It is transmitted by means of the usual technique of juxtaposition, namely, the term followed by its periphrasis. In the movie, the character utters the periphrasis with an indefinite pause between the term and the definition he gives of it.

5.2. Subtitling Theories in the Target Language

After the Examples identified in Section 5.1., the second part of the analysis proceeds with the extraction of their subtitled versions in Italian. These can be seen in Table 1 in the Appendix (Examples 1b to 14b).

The analysis of the subtitles starts from the theoretical-methodological considerations brought about in subtitling theory and practice in groundbreaking works in the field. For instance, Díaz-Cintas and Remael (2014) identify the key subtitling strategies, which are later discussed also in Bolaños-García-Escribano and Díaz-Cintas (2019). They all argue that subtitling maintains the original speech and images, but it adds written text that corresponds to synchronised transmission of the original dialogue into a target language, in the present case Italian. The most frequent subtitling strategies are Textual Reduction (also called Condensation) or Reformulation, whereby the source dialogue is simplified in fewer words to

omit redundancies or to paraphrase, Segmentation and Line Breaks to ensure the readability of sentences and clauses, Synchronisation to match the source dialogue and visual cues on screen, Linguistic and Semiotic Adaptation to include any socio-cultural element of the source product, Speaker Identification that allows the identification of the corresponding line when multiple speakers are present on screen. All these strategies are considered in the subtitled version of the Examples in Table 1 to ascertain whether they contributed to the inter-epistemic translation of the scientific theories in Italian, making them effective as they were for the English-speaking audience. In fact, what this part of the investigation considers is whether subtitles in Italian conveyed the same contents in the Target Language, thereby effectively disseminating the corresponding theories in Italian as they were disseminated in the dialogues in English, constituting – at the same time – a source of inter-epistemic translation for the Italian lay audience.

An overview of the Examples reveals that the most frequently used strategy is that of Textual Reduction and Reformulation. Necessary to convey the differences between English and Italian versions, and to fit the subtitles on screen, the strategy allows the subtitle to convey the corresponding content in the Italian version with an elevation of the register that makes explanations more formal and more similar to semi-expert descriptions. The result however is not always effective in terms of the translation of the scientific theory to the Italian audience. As we can see in Example (1b) in which Dr Grant's description of the Velociraptor's skeleton employs the terms highlighted in bold type (in English lit. "closely related" and "hollow"). This is also repeated in Example (2b) in which the Velociraptor's "coordinated attack pattern" is described in more formal and domain-specific terms, with an expression that in English can be back-rendered as "recurs to coordinated attack schemes" and in Italian belongs to a very formal register.

This is counterbalanced by the subtitled version of the Example in (3) which accurately conveys, both in register and figurative language, contents that translate the scientific theory of DNA cloning. For instance, "building blocks" are indicated as "mattoncini fondamentali", while "strains of DNA" as "catene di DNA", namely, the popularised terms which is already familiar to an Italian audience when referring to the corresponding concepts.

Finally, a case of both Textual Reduction and Linguistic and Semiotic Adaptation is present in Example (9b). Here, Adaptation was applied to the

name of the toxin: “*Conus Purpascens*” in English becomes “*Conus Purpurascens*” in the Italian subtitle which also employs italics to highlight the Latin name for the audience; in addition, the use of periphrasis – in this case of juxtaposition strategy – is provided with a consistent reduction than the English source line, namely, “dei mari del sud. La neurotossina più forte al mondo” (lit. “[from/of] the Southern Seas. The strongest neurotoxin in the world”), while in English it contained the inter-epistemic translation “South-sea cone shell... er... Most powerful neurotoxin in the world”. The explanation is not as effective as in the Source Language because of the fewer contextual information provided to the target audience in Italian: it is not clear whether the expression “dei mari del sud” refers to the location of the toxin or is the completion of the name of the shell itself but in Italian instead of Latin, since the preposition “dei” could be interpreted as either “from” (provenance) or “of” (location) the Southern Seas.

6. Final Remarks

The present contribution has analysed the inter-epistemic translation, within the paradigm of Science in Transit, investigating the *Jurassic Park* movie saga, considering only the first three instalments as case study. More specifically, the theories from several disciplines and how they are disseminated to the lay audience were examined, using the strategies of popularisation as identified by Gotti (2008) to complete the theoretical framework provided by inter-epistemic translation.

Findings from the trilogy highlighted the effective recurrence to the defining technique of juxtaposition, similes, and emphatic language. All strategies abundantly ascertained in the literature on specialist knowledge dissemination to effectively translate domain-specific contents to a general audience. The analysis has revealed, however, that these strategies were occasionally ineffective when these lines were uttered by characters who were considered experts in the corresponding discipline and who were talking to other experts in the same discipline (Example 6). Most of the time, however, they talk to experts in other disciplines who act just as “catalysts” to the plot and as audience replacements so the theory can be translated (Example 5). Therefore, these characters ask questions that some members of the audience might be likely to ask, in turn prompting other characters to further explain the theory and the plot to develop towards its climax (Example 9).

In the case of the subtitled version of the same lines, the inter-epistemic translation of the theories was slightly more problematic. Possibly because of the use of the strategies of Textual Reduction and Linguistic and Semiotic Adaptation, in some cases the result was an unclear formulation of the theory, therefore the subtitle resulted not as clear for the Italian audience as it was for the original English audience. Therefore, the subtitled versions do not provide successful cases of inter-epistemic translation in Italian since they provided unclear or misleading, decontextualised information

In conclusion, in consideration of the specific and particular role that this kind of dialogues play for the audience and their understanding of the plot premise and development, it would be advisable that the subtitled versions could remain closer to the source version of the dialogue, so that the target audience might better understand what the expert character is trying to translate them in terms of scientific theory pivotal to later events in the movie.

Appendix: Examples in English and Corresponding Subtitles in Italian

| MOVIE | ENGLISH | ITALIAN |
|-------|---|---|
| JP_92 | | |
| | <p>1) GRANT: And look at the half-moon shaped bones in the wrists. No wonder these guys learned how to fly. [<i>People in the background chuckling</i>] No, seriously. Well, maybe dinosaurs have more in common with present-day birds than with reptiles. Look at the pubic bone, turned backward, just like a bird. Look at the vertebrae, full of air sacs and hollows just like a bird. And even the word “raptor” means “bird of prey”.</p> | <p>1b) G: Guarda queste ossa a mezzaluna dei polsi. Non stupisce che abbiano imparato a volare. Non sto scherzando. Forse i dinosauri sono più imparentati con gli attuali uccelli che con i rettili. Osservate l'osso pubico. È curvo come quello degli uccelli. Guardate le vertebre. Sono cave e cosparse di bolle d'aria come negli uccelli. “Raptor” significa “uccello predatore”.</p> |
| | <p>2) BOY: That doesn't look very scary. More like a 6-foot turkey. GRANT: A turkey? Okay, how about you imagine yourself in the Cretaceous period. You'd get your first look at this 6-foot turkey as you enter a clearing. <u>He moves like a bird</u>, lightly bobbing his head and you keep still because you think maybe his visual acuity is based on movement... <u>like T-Rex</u> and he'll lose you if you don't move. But no, not Velociraptor. You stare at him, and he just stares right back. And that's when the attack comes. Not from the front, but from the side. [<i>makes a swish sound</i>] From the other two Raptors you didn't even know were there. B'cause Velociraptor's pack hunter. See, he uses coordinated attack patterns, and he is out in force today. [<i>takes Velociraptor's book from his cargo trouser's pockets and puts it between middle and index fingers</i>] and he slashes you with this... a 6-inch retractable claw, <u>like a razor</u>, on the middle toe. He doesn't bother to bite your jugular <u>like a lion</u>, see. No, no. He slashes at you here [<i>simulates slashes on boy's upper lower belly</i>] or maybe across the belly, spilling your intestines. The point is, you are alive when they start to eat you. So, you know, try to show a little respect.</p> | <p>2b) RAGAZZO: Non ha l'aria pericolosa. Sembra piuttosto un tacchino di due metri. G: Un tacchino? Fai finta di essere nel Cretaceo. Arrivi in una radura e vedi il tuo tacchino di due metri. Si comporta come un uccello e muove la testa a scatti. Tu rimani immobile perché pensi che la sua vista percepisca solo i movimenti, proprio come un T-Rex. Quindi se non ti muovi non ti vede. Ma il Velociraptor non funziona così. Tu lo guardi e lui ti fissa. E in quell'istante ti attacca. Non frontalmente, ma di lato. Perché ci sono altri due Raptor che tu non avevi neppure notato. Il Velociraptor infatti caccia in gruppo. Ricorre a schemi di attacco coordinati e oggi è venuto in forze. Ti squarta con questo, l'artiglio retrattile del dito medio affilato come un rasoio. Non si spreca ad azzannarti alla giugulare come farebbe un leone. Ti squarta qui o qui o forse ti apre il ventre, facendo fuoriuscire le interiora. E ti divora quando sei ancora vivo. Quindi cerca di essere più rispettoso.</p> |
| | <p>3) John Hammond [<i>in the video</i>]: Mr DNA Where did you come from? MR. DNA: From your blood. Just one drop of your blood contains billions of strains of DNA the building blocks of life. A DNA strand</p> | <p>3b) JH: Signor DNA, da dove salta fuori lei? SIG.DNA: Dal suo sangue. Una sola goccia di sangue contiene miliardi di catene di DNA, i mattoncini fondamentali della vita. Una catena di DNA come me è il</p> |

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| | <p>like me is a blueprint for building a living thing! And sometimes animals that went extinct millions of years ago, like dinosaurs, left their blueprints behind for us to find! We just had to know where to look! A hundred million years ago, there were mosquitoes, just like today. And, just like today, they fed on the blood of animals. Even dinosaurs! Sometimes, after biting a dinosaur, the mosquito would land on a branch of a tree, and <u>get stuck in the sap!</u> <i>After a long time</i>, the tree sap would get hard and become fossilised, just like a dinosaur bone, preserving the mosquito inside! <u>This fossilised tree sap - which we call amber -</u> waited millions of years, with the mosquito inside - until <u>Jurassic Park's scientists</u> came along! <i>Using sophisticated techniques</i>, they extract the preserved blood from the mosquito, and ... <u>Bingo! Dino DNA!</u> A full DNA strand contains three billion genetic codes! If we looked at screens like these once a second for eight hours a day, it'd take two years to look at the entire strand! It's that long! And since it's so old, it's full of holes! That's where our geneticists take over! Thinking Machine supercomputers and <i>gene sequencers</i> break down the strand in minutes and <i>Virtual Reality</i> displays show <u>our geneticists</u> the gaps in the DNA sequence! Since most animal DNA is ninety percent identical, we use the complete DNA of a frog, fill in the holes and complete the code! Whew! Now we can make a baby dinosaur!</p> | <p>progetto per creare un essere vivente. A volte, animali estinti milioni di anni fa, come i dinosauri, ci hanno lasciato i loro progetti. Dovevamo solo capire dove cercarli. Cento milioni di anni fa esistevano zanzare, proprio come oggi. Come oggi, si nutrivano del sangue di animali. Anche quello dei dinosauri. A volte, dopo aver punto un dinosauro, una zanzara si posava su un ramo rimanendo impigliata nella linfa. Dopo un lungo periodo, la linfa si induriva, trasformandosi in un fossile, proprio come l'osso di un dinosauro, conservando al suo interno la zanzara. La linfa fossilizzata, che noi chiamiamo ambra, ha conservato al suo interno la zanzara per milioni di anni, fino all'arrivo dei ricercatori di Jurassic Park. Grazie ad una tecnica molto sofisticata, estraggono il sangue dalla zanzara ed ecco qua: il DNA di dinosauro! Una catena di DNA completa contiene tre miliardi di codici genetici. Se guardassimo ognuna di queste schermate una volta al secondo per otto ore al giorno, ci vorrebbero due anni per poter osservare l'intera catena di DNA. È così lunga. Essendo molto antica, è piena di buchi. Qui intervengono gli esperti di genetica. Enormi calcolatori e sequenziatori di geni scompongono le catene nel giro di pochi minuti. Simulazioni di realtà virtuale mostrano ai nostri esperti i buchi nella sequenza di DNA. Abbiamo usato il DNA completo di una rana per colmare i vuoti e completare il DNA. OH! E ora possiamo creare un cucciolo di dinosauro.</p> |
| | <p>4) MALCOLM: But again, how do you know they're all female? Does someone go into the park and, uh... lift up the dinosaurs' skirts? WU: We control their chromosomes. It's not that difficult. All vertebrate embryos are inherently female anyway. It takes an extra hormone at the right developmental stage to create a male, and we simply deny them that. MALCOLM: John, the kind of control you're attempting is not possible. If</p> | <p>4b) M: Ma come fa a sapere che sono tutte femmine? C'è qualcuno che guarda sotto le gonne dei dinosauri? WU: controlliamo i loro cromosomi. Non è poi così difficile. Gli embrioni dei vertebrati sono sempre femmine. A un certo punto viene secreto un ormone che li trasforma in maschi. M: Li private? WU: Sì M: John, non è possibile esercitare questo tipo di</p> |

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| | <p>there's one thing the history of evolution has taught us, it's that life will not be contained. Life breaks free. It expands to new territories. It crashes through barriers. Painfully, maybe even... dangerously, but and...well, there it is. WU: You're implying that a group of composed entirely of females will breed? MALCOLM: I'm simply saying that life... finds a way.</p> | <p>controllo. L'evoluzione ci ha insegnato una cosa: la vita non può essere limitata. La vita si libera e si espande, sfondando barriere in modo doloroso e forse pericoloso, ma fa così. WU: Sta dicendo che un gruppo composto di sole femmine si riprodurrà? M: No, dico semplicemente che la vita farà il suo corso.</p> |
| | <p>5) MALCOLM: You see? The tyrannosaur doesn't obey set patterns or park schedules. It's the essence of Chaos./SATTLER: I'm still not clear on Chaos./MALCOLM: It simply deals with unpredictability in complex systems. The shorthand is the Butterfly Effect. A butterfly can flap its wings in Peking and in Central Park you get rain instead of sunshine. [...] I made a fly by, I go too fast. [...] Here. Give me your glass of water. We're gonna conduct an experiment. We should be still. The car's bouncing, but that's okay. It's just an example. [<i>he dips his hand into the glass of water. He takes Sattler's hand in his own</i>] Put your hand flat like hieroglyphics. Let's say a drop of water falls on your hand. Which way will the drop roll? Over which finger? SATTLER: Uh... thumb! [<i>He flicks his fingers and a drop falls on the back of Sattler's hand.</i>] M: uh-hu. Okay, okay. Freeze your hand, freeze your hand. Don't move. I'm gonna do the same thing, start with the same place again. Which way is gonna roll off this time? Ellie: Let's say back the same way M: same way back again? [<i>gasps mocking surprise</i>] It changed. Why? Because tiny variations [<i>starts caressing Sattler's hand while he speaks</i>]...the orientations of the hairs... on your hand, the amount of blood distending in your vessels, imperfections in the skin.../SATTLER: Oh, imperfections?/MALCOLM: Microscopic... never repeat, and vastly affect the outcome. That's what?/SATTLER: Unpredictability.</p> | <p>M: Il Tirannosauro non obbedisce a schemi fissi o agli orari del parco. L'essenza del Caos. S: Continuo a non capire il Caos. /M: Si tratta dell'imprevedibilità nei sistemi complessi. La sua esemplificazione è l'effetto farfalla. Una farfalla sbatte le ali a Pechino e a Central Park invece del sole arriva la pioggia. Non mi sono spiegato bene. Mi dia quel bicchiere d'acqua. Faremo un esperimento. Dovremmo stare fermi. L'auto si muove. Non importa, è solo un esempio. Stenda la mano come in un geroglifico. Una goccia le cade sulla mano. Da che parte rotolerà la goccia? Su che dito? /S: Io dico il pollice. /M: Tenga la mano immobile. Ripeto l'esperimento partendo dallo stesso punto. E ora da che parte? /S: Supponiamo come prima/ M: Invece ha cambiato. Perché? Perché piccole variazioni, l'orientamento della peluria della sua mano, la quantità di sangue che dilata i capillari, imperfezioni cutanee... /S: Imperfezioni cutanee?/ M: Microscopiche. Variano sempre e hanno una grande influenza sul risultato. E questo è? /S: L'imprevedibilità.</p> |
| | <p>6) RAY ARNOLD: Keycheck space minus 0. "Keychecks off, safety space minus 0". He's turning the safety systems off. Doesn't want anybody to see what he's about to do. Now, look at this next entry. It's the kicker. "White rabbit object". Whatever it is, it did it all. With the keychecks off, the computer</p> | <p>6b) RA: Keycheck spazio meno 0, "Keycheck spenti, sicurezza spazio meno 0". Sta spegnendo i sistemi di sicurezza senza farsi vedere. Guardate questo comando. E? il colmo. "Oggetto coniglio bianco". Ha pensato a tutto. Disattivando i</p> |

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| | <p>didn't file the keystrokes, so the only way to find them now is to check the computer's lines of codes one by one. SATTLER: how many lines of code are there? RAY: About two million.</p> | <p>keycheck il computer non registra le battute. Per farlo bisogna verificare ogni singola stringa di codice del computer. S: Quante sono le stringhe di codice? RA: Circa due milioni.</p> |
| | <p>7) MULDOON: What about the lysine contingency? We could put that into effect. SATTLER: What's that? JOHN HAMMOND: That's absolutely out of the question. RAY ARNOLD: The lysine contingency is intended to prevent the spread of the animals in case they ever get off the island. Dr Wu inserted a gene that creates a single faulty enzyme in protein metabolism. The animals can't manufacture the amino acid, lysine. Unless they're supplied with lysine by us, they slip into a coma and die.</p> | <p>7b) MULDOON: Potremmo utilizzare le scorte di lisina. S: Cos'è? JH: Non se ne parla. RAY: La lisina impedisce la diffusione degli animali, nel caso in cui lascino l'isola. Wu ha inserito un gene che crea un enzima difettoso. Gli animali non sono in grado di produrre aminoacidi, la lisina. Gliela somministriamo noi, altrimenti vanno in coma e muoiono.</p> |
| LW_IP2_97 | | |
| | <p>8) HAMMOND: Isla Nublar was just a showroom, Ian, something for the tourists, Site B was the factory floor. That was on Isla Sorna, 80 miles from Nublar. We bred the animals there and nurtured them for a few months and then moved them into the park.</p> | <p>8b) H: Isla Nublar era solo da esposizione, pensata per i turisti. Il Sito B era la fabbrica. Era a Isla Sorna, a 80 miglia da Nublar. Li allevavamo lì, li accudivamo per qualche mese e poi li trasferivamo nel parco.</p> |
| | <p>9) CARR: Lindstradt air rifle. Fires a subsonic Fluger impact-delivery dart. MALCOM: it works better than your satellite phone? CARR: That's funny? I loaded it with the enhanced venom of <i>Conus Purpascens</i>: South-sea cone shell... er... Most powerful neurotoxin in the world. Acts within 0.002 of a second. Which is faster than the nerve-conduction velocity, so the animal's down before it even feels the prick of the dart. MALCOM: is there an antidote? CARR: Like if you shot yourself in the foot? Don't do that. You'd be dead before you even realize you had an accident.</p> | <p>9b) CARR: Fucile ad aria Lindstradt. Spara dardi subsonici Fluger a impatto. M: Funziona meglio del telefono? /C: Divertente. È caricato con il potente veleno del <i>Conus Purpurascens</i>, dei mari del sud. La neurotossina più forte al mondo. Agisce in 2 millesimi di secondo. Più rapida della conduzione nervosa. L'animale cade prima ancora di sentire la puntura. /M: C'è un antidoto? /C: Nel caso ti sparassi sul piede? Non farlo. Moriresti prima ancora di capire cos'è successo.</p> |
| | <p>10) HARDING: By moving the baby to our camp may have changed the adults' perceived territory. LUDLOW: Their what? BURKE: That's why they attacked the trailers. They're defending this entire area now. HARDING: We have to move right now.</p> | <p>10b) H: Portando il piccolo Rex al campo, potremmo aver cambiato il loro senso del territorio. /L: il loro che? /B: Per questo volevano distruggere la roulotte. Adesso difendono l'intera zona. /H: Dobbiamo andare adesso.</p> |
| | <p>11) HARDING: Why the hell wasn't it tranquilized? MAN: It was, with two darts of Carfentanil, over 10 milligrams. HARDING: That'd put it in a coma. MAN: it stopped breathing. We gave it naltrexone</p> | <p>11b) H: perchè non è stato narcotizzato? UOMO: Roland gli ha iniettato del carfentanil, più di 10 milligrammi. H: dovrebbe essere in coma. U: Non respirava. Gli abbiamo</p> |

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| | to counteract. But we didn't know how much. HARDING: You gave an antagonist without knowing the proper dosage? You put it in a narcoleptic state. It's a locomotive now. | dato del naltrexone ma non sapevamo quanto. H: Avete controbilanciato senza dosare? Lo avete reso narcolettico. Ora è una locomotiva. |
| JP3_01 | | |
| | 12) GRANT: It's through the <i>painstaking study</i> of the interior chamber in <i>multiple specimens</i> that we can determine this <u>exciting correlation</u> between the larynx and the upper plate. That lets us theorise -- theorise, mind you -- that the raptor might have been capable of bird-like vocalisations. Which as you can imagine, would be a <u>tremendous breakthrough</u> . | 12b) G: Un meticoloso studio della cassa anteriore in molteplici esemplari ha rivelato una correlazione tra il palato superiore e la laringe. Questo ci ha permesso di teorizzare, dico teorizzare, che il raptor era capace di emettere sofisticati vocalizzi, che avrebbe avuto un enorme vantaggio evolutivo. |
| | 13) BILLY: It's a rapid prototyper. I feed in the scan data from the raptor skull, then the computer breaks it into thousands of slices which this thing prints, one layer on top of the other. It's the future of palaeontology. | 13b) B: Fa i prototipi rapidi. Inserisco i dati della scansione del cranio del raptor e il computer la suddivide in migliaia di fettine. Poi questa macchina la ricompono, una fettina per volta. |
| | 14) BILLY No way. This is lucky. Couple years ago some buddies and I went hang gliding off these cliffs in New Zealand. Updraft sent me right into the side. BOOM! GRANT: That does sound lucky. BILLY: It was this strap alone that saved my life. Got caught on a rock as I was falling. GRANT: Reverse-Darwinism. Survival of the most idiotic. | 14b) B: No, grazie. Questo mi porta fortuna. Un paio d'anni fa, con degli amici, ci siamo buttati col deltaplano da una scogliera in Nuova Zelanda e una corrente ascensionale mi ha scaraventato contro le rocce. G: Che fortuna. /B: Questa cinghia mi ha salvato la vita. Si è impigliata su una roccia mentre precipitavo. /G: Il darwinismo an contrario: la sopravvivenza dei più scemi. |

Table 1. Extracts and Italian subtitles.

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