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**A Design Perspective on Animated Puppets' Materiality.
How Design can Provide New Interpretation Tools in the
Analysis of Animated Puppet Films**

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A Design Perspective on Animated Puppets' Materiality. How Design can Provide New Interpretation Tools in the Analysis of Animated Puppet Films

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Abstract

Animation is an interdisciplinary art field as its production processes can be implemented by many disciplines and it can be analysed from several perspectives. In this fascinating field, several tools of interpretation based on examining moving images from philosophical, social, psychological and aesthetic perspectives have been developed. The paper suggests applying tools of analysis provided by the field of design and considers puppets' material features as another vehicle of significances in the interpretation of stop-motion animated films. The recognition of the evocativeness of the material qualities of puppets' surfaces is not new in the analysis of puppet films, and several scholars have interpreted animated puppets' materiality as a meaningful element in the narrative. These studies demonstrate stop-motion animation to be a powerful expressive material medium, and I suggest recognising the design's toolkit suited for its analysis. Over the last decade, design scholars have studied materials as vehicles of emotions in the user-product interaction and, according to them, those visceral reactions stem from both personal experiences of material and collective values according to the historical dimension evoked by its use: human beings' everyday experience with the surrounding world is mediated by material surfaces of things, and each culture shares common imageries about materials. Stemming from these premises, the paper aims to find new interpretations of stop-motion films, based on the material analysis of their protagonists: the puppets. To support my reasoning I will discuss Adam Elliot's clay-biographical films. Elliot fabricates 'wonky' un-proportioned clay puppets with imprecise lines and imperfect finishes, and this formal imperfection is both a physical feature and the main power of the material used. Shape uniqueness, superficial imperfection and passing time, indeed, are both material features and keys of interpretation in Elliot's films.

Keywords: Animated puppets, design analysis, materiality, interpretation

Introduction

Animation studies [...] is an interesting field because it has emerged from a disparate set of practices and discourses. Rather than the interdisciplinarity suggested by two or more well-established disciplines 'joining forces' to interrogate a research topic, animation studies' interdisciplinarity stems from its inherent hybridity as a form of cultural practice [and] from the craft, practice, production and professional orientations of those involved in the field. (Ward 2013, 321)

Paul Ward in the chapter “Animation studies as an interdisciplinary teaching field” points out the dynamic and unavoidable connections that animation has with a myriad of both practical and theoretical disciplines such as film and media studies, philosophy, aesthetics, fine art, illustration, graphic design, architecture, technology and many other fields. Those fields provide either analytical approach precious to examine, interpret and generate critical discourses through which we can more effectively understand the meanings of moving images or tools necessary in a production perspective.¹

The relationship under investigation in this paper is between animation and design fields, and it is based not on their pragmatic essence as production fields, since both use digital technology and manufacturing processes, but on their “critical and discursive dimension” (Ward, 324). Animation and design, indeed, can speak to the user/viewer and communicate meanings, evoke emotions and memories stemming from a common ground of knowledge and cultural references.

The attempt to find a common path of research between animation and design studies is not new and is based on numerous aspects of these two fields. The Italian scholar and designer Carlo Turri in his PhD research *I linguaggi dell'animazione. Strumenti per la Comunicazione Visiva tra continuità e innovazione* (2010, 74-77) has identified those aspects. According to Turri, design and animation work on the border between creativity and technology and feed on these two components, both of which are rooted in craft activities. Additionally, animation is not just connected to craftsmanship, Turri calls it an "art of modernity" that also exists in an industrial dimension. Design is similarly linked to both craftsmanship, as demonstrated by Morris's Arts & Crafts movement, and the industrial world. Animation is, therefore, also a design discipline because it involves the overall vision of an object - the film - and the definition of all the elements that form it. Furthermore animation, as other forms of design, works from a framework of constraints and limits, often coinciding, and sometimes it finds its strength in them. Those limits are, for instance, the relationship between time and available resources, the ‘non-ordinary’ operations related to the peculiarity of the case, the inevitable or unexpected changes, the available materials, the available technologies, the feasibility, and the costs. Both design and animation, finally, work in the presence of a public/user.

The discussion omits, however, to address the relationship between stop-

¹ More details in Paul Ward, “Animation studies as an interdisciplinary teaching field,” in *Pervasive Animation*, ed. Suzanne Buchan (London: Routledge, 2013), 319-324

motion animation and design studies that I suggest considering way more closely, since the protagonist of this form of animation is an object of design, the puppet, and as such can be analysed from both material/functional and linguistic-emotional points of view.

In the following sections I will discuss the relationship between material design and stop-motion animation by focusing on animated puppets material features. Although the audience experiences animated characters and fictional worlds indirectly during and audio-visual interaction, this animation technique is based on a material object produced with specific fabrication processes and made of tangible materials, and these materials can be interpreted as further vehicles of meanings. Interpretation and symptomatic meanings² are, respectively, the critical approaching action and the values expressed by material qualities that I suggest analysing by considering the anthropological meanings of materials. In the last section I will discuss Adam Elliot's plasticine puppets as a relevant example of how animated puppets can suggest meanings and evoke memories achieved by both the plot and the material used. The anthropological values that these puppets communicate through their material features are vulnerability, uniqueness and human imperfection.

Puppets between Design and Animation

In cinema, puppets have been used both as "special effects devices in conventional live-action films," (Holman 1975, 11) and in animated films, in which the director builds a story set in a new world without human interaction. The first category of films includes the experiments in the pre-CGI special effects field, through the fabrication of gorillas, dinosaurs or other creatures that could not be obtained live or through digital 3D modelling, because the technology had not yet been developed.³ On the other hand, animated puppet films create

² David Bordwell, Kristin Thompson and Jeff Smith in the book *Film Art. An Introduction* (2016) suggest four types of meanings in a film and classify them according to the depth of the analysis. These levels are: referential meanings (the plot), explicit meanings (made by cliché and universally recognized meanings that the film refers to), implicit meanings (the interpretation and the identification of a more profound, general message of the film conveyed by the story), and symptomatic meanings (the moral, social, cultural and ideological context). According to this perspective, explicit and implicit meanings are considered as manifestations of the main themes of the film. In particular, explicit meaning consists of the most evident theme (the point of the film), while implicit meanings are more abstract and require an effort of interpretation. Symptomatic meanings, instead, are those meanings that bear "traces of a particular set of values that, [when] revealed, can be considered a social ideology." These meanings, therefore, "spring from systems of culturally specific beliefs about the world. Religious beliefs, political opinions, conceptions of race or gender or social class" (57-61). This last typology of meanings is not traceable in the relation between story, style, and context, but they are conveyed by details of the story, stylistic features and referential elements (the analysis of the cultural background of the director, for instance). In this paper, I argue that puppets' material details possess the power to convey symptomatic meanings.

³ A few examples of pre-CGI films using stop-motion technique as special effect are "The Lost World" and "King Kong" by O'Brien, "Jason and the Argonauts", "Mighty Joe Young" by Ray Harryhausen, the AT-AT walkers in "Star Wars: the Empire Strikes Back." Ray Harryhausen in

environments that the puppet has a direct relationship with, because between the environment and the puppet there exists a stylistic and dimensional coherence, and the puppet is moving in a world entirely new and credible, in which everything behaves in a harmonious way. Many successful box office films achieved this kind of coherence, realism and physical awareness, including - to mention the most famous – Tim Burton’s *the Nightmare before Christmas* (1993), *Corpse Bride* (2005), *Coraline* (2009), *Boxtrolls* (2012), *Kubo and the Two Strings* (2016) and the recent *Missing Link* (2019).

In both cases explained previously, “these puppets are photographed on a single frame of motion picture film and so on until the action has been completed. When the finished film is projected the puppet appears to move” (Holman, 11). These words written by Bruce Holman in 1975 describe the animation technique known as stop-motion, in which animators physically manipulate real objects and, by moving them in small increments and taking thousands of pictures of those movements, create the illusion that those objects are alive and can move on their own when the series of pictures is played as a fast sequence. Stop-motion puppets, therefore, are material objects designed to interact with the surrounding space, with lights, gravity and each other. Puppet-makers are skilled designers and artisans capable of carefully planning each phase of a long manufacturing process that starts by designing complex objects made of different guises and materials. Puppets, indeed, could be either made of mouldable materials, such as *plasticine* (used by Aardman studios and many other pioneers of *Claymation*) or be toys with movable joints, or, more often, objects fitted with an internal armature, coated with semi-rigid materials such as foam rubber or latex. The art of making puppets is full of technical and material variables, and here I argue that these qualities can be a vehicle of significances and tell ‘stories’ that run parallel to the diegesis, sometimes reinforcing it, since materials can be approached not only in their functional role, but as an “inspirational source [to] create new sensorial and expressive experiences” (Crippa et al., 2012).

Theoretical Premises: Evocativeness of Material in Design and Film Studies

Meanings of Material from a Design Perspective

The materials have taken on a role that is not just about basic physical and engineering properties. Materials now perform a role that is in a sense invisible. No longer do we use objects to perform essential functions in our lives: their roles are based more on an emotional level (Lefteri 2007, 4).

In the introduction to the second issue of the journal *Ingredients* (2007), Chris Lefteri acknowledges the fundamental role material aspects play in the field of design in determining the properties of products experienced by users and in

his book *A Century of Stop-Motion Animation: From Melies to Aardman* (2008) defines ‘Dynamation’ the mixed cinematographic technique in which stop-motion monsters or mythological creatures interact with live-action actors.

affecting feelings and emotions. Lefteri's statement takes place in an emerging area of interest in design whose main aim is to investigate the intangible aspects of materials and their power to elicit emotions and convey meanings. The main recent references in this field of interest are Elvin Karana, Valentina Rognoli and Marienella Levi, however the increase of the popularity of the materials aspects of objects and of the inspirational side of materials has its roots in numerous articles and researches published before those studies.

One of the first publications was *The Material of Invention* by Manzini (1986). For the first time with this book Manzini approaches materials in a new way and examines the values that material play in the design practice, both recognising their technical properties, and examining "the way in which matter becomes material, i.e. how matter becomes capable of being integrated into design and in the end becomes part of a product" (17) through supplying cognitive tools and cultural reference.

From those first thoughts about materials' relevance in the design process, the value of the cognitive dimension in the experience of material increases exponentially.⁴ In 2002 Mike Ashby and Kara Johnson in the book *Materials and Design: The Art and Science of Material Selection in Product Design* stated that for a designer "materials are not simply numbers on a data-sheet and design is not a meaningless exercise in styling and it is not an isolated exploration of technology"(4), and as a result, a material is "like an actor, it can assume many different personalities, depending on the role it is asked to play" (73) in the design process.

In 2008 Elvin Karana inaugurated one of the most accurate researches in this field. Her first publication "Sensorial Properties of Materials for Creating Expressive Meanings" aimed to describe materials through categories and one of these categories is the 'emotional description' and it is related to the subjective feeling of people towards a material. From her PhD thesis *Meanings and Materials* (2010) the emotional elicitation operated by materials and the exploration of meanings has become the main focus of her research.⁵ Through the analysis of the sensory proprieties of materials, she formulated for the first time the

⁴ There are numerous relevant sources of inspiration and information about materials for design:

- private database, e.g. Material Connexion, Materia;
- academic laboratories: "Materiali e Design" at Politecnico di Milano, "MatTO" at Politecnico di Torino in Italy, "Made of..." at Delft University in Netherlands, ME-Lab at METU Ankara in Turkey.

On the other hand, new researches has started with the aim to investigate different aspects of materials in the design field. The main areas are:

- expressive-sensorial characterization of materials (Rognoli, Levi, Zuo, Karana);
- meanings of materials (Karana, Hekkert);
- materials selection (Pedgley, Kesteren);
- material education (Rognoli, Pedgley, Levi, Karana);
- sustainability (Rognoli; Ostuzzi).

⁵ E. Karana is author of several articles and papers concerning the same path of research: "Assessing material proprieties on sensorial scales" (2009); "Meanings of materials through sensorial proprieties and manufacturing processes" (2009); "A tool for meaning driven materials selection" (2010); "Meanings of materials: findings and implications" (2010).

idea of the meanings of materials, and she justified the use of this world in the field of material studies, generally centred on technical concerns and empirical validations, by suggesting considering this quality as the result of the intangible values a material conveys within the interaction between users, products/materials and context. In the article “How do Materials Obtain Their Meanings?” (2010) she writes “‘Meanings of materials’ are what we think about materials, what kind of values we attribute after the initial sensorial input in a particular context” (275). Meanings arise from combinations of variables such as: materials’ technical and sensorial proprieties, related to the product the material is used for (manufacturing process, shape, function, brand), users’ and cultural context (gender, age, expertise and culture).⁶ Other researches have also concentrated on the relationship between material and emotions, trying to answer the question “How and to what extent do the materials contribute to the emotions conveyed by the artefacts?” (Translated by the author. Rognoli & Levi 2011, 89). Some relevant examples are the PhD research written by Shayne Beaver in 2010, titled *Consumers’ concepts of materials*, in which he studied the material’s role in encouraging and expanding the emotional relationship between users and artefact, as well as Gaia Crippa’s Master’s Degree thesis *Emotional materials. L’emozione suscitata dai materiali nei prodotti industriali (Emotions elicited by materials used in industrial products)* (2011). Despite these numerous attempts to categorize and systematize emotions and perceptions, they are arguably linked to the feelings that materials evoke, and therefore belong to the sphere of subjectivity.⁷

In the conclusion of the aforementioned article Karana adds a relevant aspect of the expressive-sensorial dimension of analysis of a material. She writes:

In order to understand the roots of a material’s meaning, designers should look beyond obvious properties and avoid constructing one-to-one relationships between material properties and meanings. They [...] should be able to comprehend the dynamic character of the issue and find the meaning evoking patterns for a specific user group, in specific contexts and at a certain time. (2010, 282)

In this way she suggests considering a further dimension of analysis of materials, the cultural one, that has been defined anthropological by a field of design research close to the one just described, but that focuses on the collective value of a material according to the historical dimension evoked by its use. In the same article, indeed, Karana states that materials’ history “helps us to assign meanings to them even when they are not embodied in products” (274). This sentence is extremely useful in the interpretation of intangible material values, but before arguing about how I applied this idea to the puppets’ manufacturing process, I shortly mention the main theories about the relationship between

⁶ More details in Elvin Karana, *Meanings and Materials*, Doctoral Thesis, 2010.

⁷ The subjectivity of material meanings has been described by Valentina Rognoli and Marinella Levi in the book *Il senso dei materiali per il design* (2011). They state that such a feature depends on our personal idea of the material, which originates from our experience of it. This explains why it is “impossible identify a direct and universal relationship between materials and meanings” (translated by the author, 60).

material and anthropological meanings. Alongside the personal sensorial one, the anthropological dimension of materials has been largely recognised in design studies by scholars such as Frida Doveil, Eleonora Fiorani, Valenina Rognoli and Marinella Levi.⁸ All of them give great importance to the memories aroused by materials and emotions felt during the perceptive experience of it and recognize materials to have collective values and anthropological significances as they play a fundamental role in the history of techniques and the evolution of technology. Levi and Rognoli wrote:

Materials have always built the thread that guides civilization, and often their analysis is very interesting in terms of cultural studies. Materials have a history and characterize civilizations and cultural styles. Every age has its preferred materials and, recognizing them as such, stimulates technological development (Translated by the author, 2011, 89).

Fiorani also provides an interesting overview of cultural meanings of some everyday materials, linking them with uses, historical periods, cultural context, religion, and technological level.⁹

Puppets' Materials as Meaningful Elements in Puppet Films Interpretation

The analysis of material aspects in the interpretation of animated films has been a matter of interest of several scholars who have concentrated on the evocative power of the material qualities of puppets' surfaces. In those researches animated puppets' materiality has been studied and interpreted to call attention to material details as meaningful elements in the narrative.

Suzanne Buchan in the book *The Quay Brothers: Into a Metaphysical Playroom* (2011) identifies a correlation between the physical and aesthetic features of the materials used in puppets' manufacturing of the Brothers' Quay film *Street of Crocodiles* (1986) and the levels of narrative they belong to, arguing for three different levels according to a "hierarchy of performance" (110-111). Furthermore Tyrus Miller in the article "'Cut out from last year's mouldering newspapers': Bruno Schulz and the Brothers Quay on *The Street of Crocodiles*" (2003) suggests that the material of some puppets in the Quay's film reveals an idea of the transformation and replacement of human beings with machine pieces and mechanical prosthesis and consequently the loss of confidence in humanity in the era of mechanization (82). He obtains this idea especially from the scene in the tailor's shop (see Figure 1), when the puppet's father is drawn into the shop by the tailor's assistants, who remove the plaster head of the father and replace it "with a dummy head stuffed with cotton, and begin to refurbish the father's look, not merely by fabricating a new wardrobe for him, but by reconstructing his head and

⁸ See Doveil's article "Designed Material" (1998), Fiorani's book *Leggere I materiali [Reading materials]* (2000), Rognoli and Levi's book *Il Senso dei Materiali per il Design [Materials' Meanings for Design]* (2011).

⁹ The detailed argument is developed in Eleonora Fiorani, *Leggere i materiali. Con l'Antropologia, con la semiotica* (Milano: Lupetti, 2000), 89-130.

body in a different way” (96). The texture of the plaster, the cotton, the fabric, the plastic heads of the dolls, and the cracked metal surfaces of the set, reveal, therefore, the consumption and the destruction of the industrial world and the complex mechanical processes of technology that constitute our relationship with nature in the modern world.

Peter Hames in book *The Cinema of Jan Švankmajer: Dark Alchemy* (2008) recognises that in the film *Dimensions of Dialogue* (1982) there is a relationship between the appearance and changing morphology of plasticine puppets, as at the end of the film they become shapeless and unformed pieces of clay thanks to the malleability and the “volubility” of the material, and the idea that those puppets are a symbol of the loss of identity and individuality under dictatorial political regimes and under capitalism (37). Another two scholars validate this interpretation, Micheal J. Anderson in the article “Dimensions of Dialogue” (2005) and Jack Eason in the article “Dimensions of Dialogue: možnosti dialogu” (2010). They are united in interpreting the third episode of the film as the representation of the process of the market under capitalism, since the end of the episode describes the inevitable attitude of conformism. During the dialogue, indeed, the two head-characters exchange objects, clearly consumer goods, but while in the beginning those objects are complementary (such as bread and butter, toothbrush and toothpaste) (see Figure 2), at the end the two heads exchange the same objects and become unformed pieces of clay.

Barry Purves explains his own short film *Achilles* (1996) in the book *Stop Motion: Passion, Process and Performance* (2008), and reveals that the film speaks about vulnerability and humanity not just through the plot and the narrated story of the tormented love between Achilles and Patroclus, but also through the puppets’ materiality. The protagonists, indeed, are casted foam latex puppets with wrinkles and textured skin representing a broken statue from an ancient myth (see Figure 3). The author writes: “I encouraged Mackinnon and Saunders to sculpt the puppets with appropriate bulges, curves, and textures” (2008, 17).

If in Švankmajer’s short film plasticine malleability has been interpreted as a significant element because of the idea of unformed shape as loss of individuality, in Adam Elliot’s films the scholars Jane Batkin, Ben Mitchell, and Katie Ellis observe the use of the same malleable material as representation and symbol of “Otherness, disability and stigma” (Batkin 2017, 130), as I will illustrate in detail in the next section.

Figure 1. *Brothers Quay's Street of Crocodiles (1986)*



Source: Street of Crocodiles (DVD), 1986 © British Film Institute (BFI)

Figure 2. *Jan Svankmajer's Dimensions of dialogue (1982)*



Source: Jan Svankmajer – The Complete Short Films (DVD), 2007 © British Film Institute (BFI)

Figure 3. *Barry Purves' Achilles (1996)*



Source: Barry Purves – His Intimate Lives (DVD), 2008 © Paris, Potemkine

These analyses demonstrate that animation studies' scholars already recognised stop-motion techniques as being a powerful expressive material medium. But in all those references the analysis is based on the visual features that the material is dressed with in the specific film, rather than on the universe of meanings, both collective and personal, related to the material and relied upon the aforementioned analytical tools provided by scholars in design who deeply interrogate the materials' features and meanings. By merging these theoretical premises, a new path of analysis can be explored through the application of a different set of anthropological and phenomenological references used as tools of interpretation of puppets' material aspects.

The idea of intangible significances conveyed by materials is the ideological assumption, however, it seems prudent to provide some relevant specifications:

- Unlike the analysis conducted on the meanings of materials in product design, in the filmic experience users are spectators whose interaction with the material happens to be visual, and they indirectly experience only the superficial layer of the object's material, its skin;
- The issue of the context of analysis is highly relevant. The experiences with material surfaces described by both design and film studies occur in the moment of the interaction, respectively the direct and tangible interaction between the object and the user, and the visual on-screen experience of the spectator. In my analysis the spectator's experience occurs during the on-screen interaction, but the context of analysis are the processes of material manipulation and fabrication of animated puppets in the pro-filmic world.

Case Study: Analysis and Interpretation of Material Features

Adam Elliot's Clay Biographical Memories

According to Batkin, Mitchell, and Ellis, the connection between material qualities and both personal and collective memories is an important theme of all the stories told by the Australian Academy Award-winning animator and director Adam Elliot. Since his first trilogy (*Uncle, Cousin and Brother*), he coined the portmanteau term *Clayography* "in order to emphasise the integral connection between the careful hands-on craftsmanship of his formal technique, the stories that he tells, and the characters that he brings to life" (ACMI, 2000). *Clayography* is a combination of two words: clay and biography, and follows the same construction criteria of the portmanteau term *Claymation*: the trademark registered by Will Vinton in 1978 to describe his animated films whose characters were made of clay. Similarly, Adam Elliot invents a composite term in which 'clay' is the broad term for plasticine and malleable materials, and 'biography' refers to the fact that Elliot's films investigate aspects of real people's lives, stressing the process of empathy and identification. According to Batkin, through this term Elliot suggests a definition of his artistic style based on the physical connection

with the animation process for the animator, and on tactile perception for the viewer: “Audiences love seeing the fingerprints on the clay, as it reminds them that what they are watching was not generated on a computer” (Batkin 2017, 119).

I now concentrate on the several meanings of the term ‘biography’ in the Australian director’s films, and their relationship with the material used: plasticine. In the same way in which the design field identifies cultural and personal meanings in the material qualities of objects, Elliot connects the perceptions of the material used with different kinds of events, both biographical and cultural.

In an interview conducted by Ben Mitchell, the director says: “I love telling stories and biographies about my family and friends, which is why I came up with the word ‘clayography’; [...] I make clay biographies” (Mitchell, 2011). All his stories, in fact, are inspired by real events belonging to his life. By speaking about his first trilogy of films, he confesses that all episodes come from true stories that occurred in his childhood. In *Uncle* (1996), he portrays an hypothetical uncle and assigns him the personality and character of his own authentic uncle with exaggeration and irony, describing a man who is not able to enjoy the little things in life. Explaining the features of *Cousin* (1998), he confessed that his cousin suffered from cerebral palsy, and he was jealous of him, because “he got special treatment; he got to do everything first. I remembered going through this where I wished I had no legs, because I’d get all this attention!” (Mitchell 2017, 17). The last episode of this trilogy, *Brother* (1999), describes his difficult relationship with his older brother. His only feature film, *Mary and Max* (2009), is also inspired by a true story from Elliot’s life. In an interview released in 2009, the director admitted:

I do have a pen friend in New York who I’ve been writing to for more than 20 years. He does have Asperger’s, he is a big man, he is Jewish, he is an atheist. [...] And Mary ... Well, I suppose Mary is me. Her environment was very similar to my own childhood experience! (Pond 2009)

All his characters are victims of social discrimination and impairments, birth defects, “physical disabilities, and mental illness: Tourette’s syndrome, Asperger’s syndrome, cerebral palsy, alcoholism, depression, and all manner of limitations of social and cognitive development” (Lam 2009). *Cousin*’s protagonist suffers from cerebral palsy; the main character of *Brother* has a weak eye and asthma; *Uncle*’s wife commits suicide. In *Harvie Krumpet* (2003), “the protagonist is struck by Tourette’s syndrome, testicular cancer, and Alzheimer’s disease (see Figure 4). His daughter, Ruby, is left limbless due to thalidomide poisoning” (Pond 2009). In *Mary and Max*, Max has Asperger’s syndrome (see Figure 5) and Mary suffers from the lack of understanding of many social issues in the society in which she lives, including homosexuality and alcoholism. The protagonist of *Ernie Biscuit* (2015) is deaf. Why are the social and health limitations of these characters a form of biography? There are two main reasons that explain Elliot’s obsession for outcasts and misfits. The first is personal, and the second cultural and anthropological. As Elliot confessed in an interview, there’s a personal reason for these kinds of recurring themes in his films. He has a physiological tremor affecting his nervous system.

All my characters have these disorders, and I do too. I inherited it off my mum, and she inherited it off her father. None of my siblings have this problem, but I shake. I can't carry a drink in my left hand – it shakes so much, it'll spill. I technically shouldn't be an animator [...] I've really chosen a field that's not suitable for my disorder but it's something I've learned to cope with and I've actually incorporated it into my style. That's why the characters aren't perfect. (Pond)

Elliot's character also, tries to cope with their health issues as something non-limiting. They “are based on real people [...], who often feel misunderstood, marginalised and certainly ‘different’”. “I believe – says Elliot - we are all ‘imperfect’ and people need to understand how my characters are not that different from themselves” (Batkin 2017, 118). The real difficulty of these characters is the sense of alienation that accompanies them while surviving in a hostile world. The identity of Elliot's characters is about more than their disablement. Asperger's syndrome for Max, Tourette's syndrome for Harvie, the semi-blindness of Brother, the deafness of Ernie, and the health problems of Cousin are really not the major hurdle for them. According to Batkin, their biggest problem is the assimilation into society. Elliot's *Clayographies* don't express simply health and mental problems, but describe themes of difference, otherness, cultural injustice, integration, immigration and oppression, alluding to the discrimination of Aboriginal culture in Australian society in which the “indigenous population struggles to be heard” (120). Elliot expresses an artistic sensibility for social issues by drawing archetypes: i.e. Harvie, the former polish immigrant “rejected by Australian society [...] represents change, acceptance, disruption, and then further change” (123-124), and Max, the New Yorker with Asperger's syndrome whose “disability is socially constructed and defined along culturally specific parameters” (Ellis 2010). By telling stories about outsiders he takes the opportunity to educate, inform, and stimulate people's emotions and makes his audience empathise with the characters and understand their differences. In the interview with Batkin, Elliot reveals: “My aim with all my characters is to get the audience to empathise with them; create vivid characters and tell stories that resonate so audiences can begin to understand what it is to feel like the ‘other’” (118).

Figure 4. *The title character of Adam Elliot's Harvie Krumpet (2003)*



Source: <https://www.skwigly.co.uk/adam-elliott-interview/> © Adam Elliot Pictures

Figure 5. *Max of Adam Elliot's Mary and Max (2009)*

Source: <https://www.skwigly.co.uk/adam-elliott-interview/> © Adam Elliot Pictures

Meanwhile, he describes some crucial aspects of his society, which still today suffers from cultural integration issues and from the conflictual social relationship between aborigines and colonizers. Mitchell (2017) writes that “Adam’s films also have a shared sense of national identity, in a manner similar to the distinctly British politeness of Wallace & Gromit” (20), consecrating animation “as a form of escapism, [nevertheless] equally capable of caching real-life issues – be they sociological, political, religious, and so forth – head on” (24). Elliot’s film’s memories, therefore, can be viewed “as an act of creating meaning through remembering [...] the stereotype of the migrant, the outcast and the pilgrims” (Batkin 2017, 128). In the article *Autism & Asperger’s in Popular Australian Cinema Post 2000* (2010), Katie Ellis discusses a connection between the theme of disability and the stories tackled by the Australian cinema in the pre-2000s. According to Ellis, in the past, Australian cinema tended to exclude disabilities “as a signifier of weakness,” in order to strengthen a national artistic identity. She indicates *Mary and Max* as a symbol of the “changing position of disability in Australian national cinema,” because the film educates viewers about the acceptance of both cultural and physical diversity.

This articulated structure of biographies (personal and cultural) is arguably connected with the animation technique and with the material used. Batkin, in fact, writes that “clay creates an immediacy and interpretation of the ‘real’ through its plasmation, [and] invites a focus on bodies, disability and stigma because it possesses a physicality that other forms do not (115). ‘Wonky’ clay puppets don’t have straight lines or perfect finishes, and this formal imperfection “enhances the human dimension of his stories and the pathos of his characters’ struggle to live their lives” (ACMI 2010). The function of the material arguably stems from its physical abilities to communicate the idea of imperfection. Shape uniqueness, superficial imperfection and passing time are concepts strictly related to this material, whose possible symptomatic meanings, from an anthropological point of

view, can be human uniqueness, human imperfection, human destiny of death, and the human condition of vulnerability and weakness. Plasticine objects, therefore, become unique creations, authentic, irreproducible and always different, modifiable and imperfect due to them being the fruit of human manual labour, and therefore connected to a visible artisanal process. In this ‘visible imperfection’ lies the peculiarity of this material.

Symptomatic Meanings of Material Features: Imperfection in Design and Animation

In the last decade design as a production process has increasingly evaluated and appreciated imperfect artefacts as they create a connection between human beings and the surrounding world. In the book *Il valore dell'imperfezione. L'approccio Wabi-Sabi al design* (2011), Levi, Ostuzzi, Rognoli and Salvia write: “The defect is not something bad, [...] by moving away from the concept of theoretical perfection, it approaches the human and natural sphere” (translated by the author. 2011, 65).

The earliest evidence of this aesthetic originates in the Japanese culture of *Wabi-Sabi*. This expression doesn't have a literal translation. It is formed from two terms, originally considered individually. As Crispin Sartwell affirms in the book *Six Names of Beauty* (2006), *Wabi* points to a humble, asymmetrical and imperfect beauty made “of disintegration, of soil, autumn leaves, grass in drought, crow feathers” (114). *Sabi*, instead, refers to desolation, evanescence, caducity, and loneliness. Among attempts to define this term, the most relevant has been provided by the American architect Leonard Koren, who in his book *Wabi-sabi for Artists, Designers, Poets & Philosophers* (2008), defines Wabi-Sabi as “a beauty of things imperfect, impermanent, and incomplete. A beauty of things modest and humble. A beauty of things unconventional” (7). This short and synthetic definition points out the main features of this lifestyle and design approach: rustic, simple, unsophisticated, straightforward, unpretentious, rough and irregular, transient, changeable, unique and unrepeatable, humble and asymmetrical, but above all difficult to define and to summarize. The West discovered this theology in the last century, but this event has only provided a justification for channelling into objects' aesthetic the human need to reflect on and express the dichotomous relationship of denial and acceptance of the caducity of life and the transience of earthly things. Design met these needs of contemporary human beings, aspiring to find themselves in the objects, and established imperfection as an original morphological and technological inspiration, especially in its meaning of contingency and variation.

Many designers and artists have embraced the concepts of ‘diversity’ and ‘unexpected’ in their aesthetic research, and have sometimes made them identifiable and unequivocal characteristics of their work. The Italian artist and designer Gaetano Pesce is one of the most important cases. His projects have generated the themes of ‘mal fatto’ (badly done) and ‘serie diversificata’ (diversified series). In contradiction to the Eastern idea that only manual, instinctive, and subjective work can create objects that communicate this ideal of

beauty, Pesce works in the Western productive reality, animated by industry and transforms “the poetry of defect from accidental to programmed factor [...] strategy for the production of unique pieces in series” (translated by the author. Martino 2009, 94). The German designer Maarten Baas deliberately ignores the parameters of purity, sharpness and symmetry of classic design, and uses clay, which by nature prevents these aesthetic solutions (see Figure 6). These physical alterations are linked to aesthetic challenges and technical experiments, and some artists and designers have given social purposes to imperfect things and manipulate the genetics of materials to metaphorically deal with social issues of difference and human acceptance. The *Efeito-D project* (2009), for instance, was created for this mission, and involved young designers and artists who developed variants of their products and artworks that differ from the matrices as a result of the injection of a small mistake into their genetic code or, rather, a variation from the original (see Figure 7). This idea developed with a social intent: to make people reflect on the genetic causes of Down syndrome, “hence the idea of the mutation as a valorisation of [...] different qualities intrinsic in each person” (Levi et al. 2011, 63).

Figure 6. *Clay Forniture*, Maarten Baas (2006)



Source: <https://www.pamono.it/designers/maarten-baas> © Marteen Baas

Figure 7. *Rhino Chair*, Richard Hutten – Efeito-D project (2009)



Source: <https://www.designboom.com> © designboom

Audio-visual artefacts, as well, make imperfections both as a result of mistakes that evidence “the wear and tear of the journey” (Gall 2016, 38) (specifically fingerprints; scratched film, images passed from hand to hand), giving the medium itself ‘a humanised value’, and as thematic issue that follows the aesthetic trend of dissimilarity and deformity by staging aliens, genetically modified creatures, the Frankenstein monster’s progeny, androids, technological monsters, half-mechanical-half-human creatures, that create a series of ethical and psychological questions. In audio-visual artefacts, the failure in seeking perfect realism generally defines imperfection. In cinema, perfect realism concerns both the consistency of the mimetic representation in imitating human features or historical events, and, mostly in modern cinema, the perfect realisation of virtual reality. In animation it can be related to different aspects such as:

- The stylistic consistency between the animated world, the characters, and the narrative.
- The technical virtuosity of animation.
- The characters’ verisimilitude and credibility.

Imperfection happens when one of these features fail. But as Paul Wells argues in *Understanding Animation* (1998), the relationship between truth and fiction is a complex issue in animation, where realism is not just a matter of representativeness but is primarily a fact (Wells, 1998: 89). In this perspective tangibility and materiality become privileged measures of realism, different from verisimilitude and credibility. This is why numerous scholars and practitioners associate the idea of imperfection with the concreteness of puppet animation and with the handcrafted process of drawing animation. Chris Pallant, Barry Purves, and Tom Brierton respectively define imperfection as a consequence of puppet

material realism (Pallant 2015, 130), a consequence of the puppets' skin texture (Purves 2008, 17-18), and mutability and randomness in the behaviour of puppets' material surface, otherwise as a consequence of the contingency of the animation technique itself (Brierton 2006, 34-35). By taking into account the idea of uniqueness followed by the aforementioned designers through artisanal process and malleable materials, plasticine puppets, such as Elliot's, are imperfect because they differ from each other, both visually and from a narrative perspective.

Imperfection as diversity perfectly suits a medium manipulated by imperfect human beings and made of imperfect material. In 2015, in coincidence with the release of his film *Anomalisa*, the Director Charlie Kaufman published a 'filmmaker's letter' in which he paid tribute to the role of the stop-motion animator, as well as providing a succinct explanation of what makes stop-motion such a unique animation technique: imperfection. He wrote:

As we move into an increasingly virtual society, I find solace and comfort in the hands-on, human imperfection of the stop motion process. It is to me both heart-breaking and beautiful. The imperfections of the humans who create these works make it so. And, oddly perhaps, because of this, these puppets make me feel more connected to those sweet aspects of us as human beings.

Conclusion: a New Path of Research?

Puppets through the material features of their surface can convey symptomatic meanings related to both anthropological memories and imageries, and personal experiences. By taking advantage of the cultural documented value of a specific material because of its physical, chemical and behavioural qualities, new meanings and levels of interpretation can be reached, although as, already stated, generalization and universalization of both collective and especially personal meanings conveyed by materials' features are impossible to theorize. Karana in the article "How do Materials Obtain Their Meanings?" (2010), expressively states: "No simple rules exist for explaining meaning-material relationships. In other words, it is not possible to locate a design method that will guarantee material 'x' will evoke meaning 'y' in product 'z'" (282). And this statement suits perfectly the hypotheses to use materials as new keys of interpretation of stop-motion animated films.

Despite the consciousness of impossible 'objective meanings' of processed materials, the formulation of consistent significances and new narratives is possible by interrelating a series of parameters, such as materials features, diegesis, cultural context and author's background, as argued for Adam Elliot's clayographies. This hypothesis of interpretation can be read as a contribution of both the two fields of design and animation studies, or as the beginning of a new path of research that involve both of them in an interdisciplinary perspective.

To synthesize, the paper can be read from three different perspectives:

1. As a contribution to the field of material design, as it associates

symptomatic meanings to the material surface of objects belonging to a specific category. In this case, puppets become a case study that these meanings can be applied to.

2. As a contribution to the field of stop-motion animation film analysis, because it provides tools of interpretation, by suggesting that meanings can also be conveyed by the material aspects of objects.
3. As an opening of a new path of research that relies upon the fields of stop-motion animation film analysis and material design as it suggests giving value to puppets' material aspects to identify new meanings and new instruments of analysis and interpretation.

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