
Of Seals and Humans Media and Scientific Discourses About a Caregiving Medical Device

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ABSTRACT

The paper aims to analyze the representations of mediation and assistance within the framework of cognitive deficits and/or accompaniment of cancer patients, through communication and mediatization around an animal-shaped technical communicating device: the stuffed seal Paro, an emotional robot for therapeutic assistance. The following research questions are explored : What are the imaginary and presence of animal mediation in this specific medical context? Which imaginary and presence of the power of technical mediation devices are conveyed with the use of Paro? What are the representations of communication, within the framework of medical caregiving, peddled by this device and its uses? The purpose of this research is to encourage translational perspectives through the explorations of possible use of Paro in the context of rare neurological and hematological cancers within the Siric CURAMUS clinical teams and hospital facilities.

Keywords: Cancer, Health, Media, Paro, Robot, Seal

INTRODUCTION

The approach we propose is developed within an integrated cancer research site or Siric CURAMUS (Cancer United Research Associating Medicine, University & Society) linked to the Groupe Hospitalier Pitié Salpêtrière - Sorbonne University. The eight Sirics accredited in France by the Institut du Cancer have the mission of optimizing and accelerating the production of new knowledge and promoting its dissemination and application in the treatment of cancer through integrated and translational multidisciplinary research programs. CURAMUS has three integrated research programs (neuro-oncology, rare immuno-hematological cancers, microsatellite instability cancers) linked to a cross-cutting program in human and social sciences whose objectives are to achieve multidisciplinary assessments, between technical expertise and patient preferences, and issues of ethics, equity, particularly in access to care.

This paper aims to analyze the representations of mediation and assistance within the framework of cognitive deficits and/or accompaniment of cancer patients, through communication and mediatization around an animal-shaped technical communicating device: the stuffed seal Paro, an emotional robot for therapeutic assistance. Paro was originally developed in Japan in 2005. According to the french website dedicated to it, « Paro

aims to offer health professionals an easy-to-use, high-tech tool to convey the benefits of animal therapy to people with behavioral and communication disorders (Alzheimer's patients and related disorders), or with motor and sensory deficiencies, by improving their well-being and quality of life in a non-medicated setting »[1]. With this case study, the paper aims to explore the following research questions : What are the imaginary and presence of animal mediation in this specific medical context? Which imaginary and presence of the power of technical mediation devices are conveyed with the use of Paro? What are the representations of communication, within the framework of medical caregiving, peddled by this device and its uses?

Corpus

These issues are addressed using a composite methodology, first using semio-communicational analysis (content and discourse analysis) of a specific corpus. This corpus includes the following items: a French media corpus collected from a search in the Europress engine, via a query using the keywords "Paro", "seal" and "robot". This research yielded a corpus of 72 press articles. This corpus is composed of articles published in the regional press (68 out of 73), 4 articles from the national press and a dispatch from the AFP agency.

In order to explore the discursive panorama concerning Paro, this corpus has been completed with a search for scientific articles about Paro, via the reference search engine Cairn. This search gives access to the discourses and perspectives of caregivers on the one hand, and of researchers in the humanities and social sciences on the other. Finally, a semi-structured interview was conducted with Anne-Sophie Rigaud, professor of geriatric medicine at the University of Paris-Descartes, in order to understand the uses of Paro, from a caregiver point of view.

The purpose of this research is to encourage translational perspectives through the analysis of current uses in the French health system and the explorations of possible use of Paro in the context of rare neurological and hematological cancers within the Siric CURAMUS clinical teams and hospital facilities.

PARO, MEDIA STAR

The press articles and Youtube videos in the corpus are analyzed as "media narratives", the accumulation of which is relevant to understand the imaginaries that surround Paro (Lits, 1997). Indeed, "media narratives operate as distributors of social esteem and thus participate in the production and reproduction of symbolic hierarchies of recognition" (Voirol, 2005). Whether they are composed of images or words, the narratives studied here reveal a shared, almost unchanging narrative structure: they open with the arrival of Paro in the health facilities, continue with the meeting with patients/residents, with the caregivers speaking and explaining how it works, and end with a hopeful opening. In so doing, they make Paro emerge as a real "media character" (Lits, 1997), by acting as the protagonist of the story around which a laudatory evaluation, also widely shared, will crystallize.

Media Technophilia

In his book *Text and Ideology*, Philippe Hamon exposes about the novel characters of the Rougon-Macquart by Zola that “the technological doing of the character can also be accompanied by a commentary, an evaluation on his know-how”. “The work,” he continues, “will thus be the place where what we might call the technological competence of the narrator (or of a character delegated to the evaluation, a spectator for example) can be manifested, more or less explicitly” (Hamon, 1983). This proposition is extremely relevant in the case of Paro insofar as media narratives are composed of qualifications that make him recognized as a technological object whose description reveals not only the “competence” but also the profound technophilia of the media. For *La République*, “the seal-robot is a little marvel of technology” (11/07/2016), for *La Montagne*, it is “a concentrate of technology” (02/12/2018). “Behind the silky coat and the big round eyes hide a jewel of technology”, still exposes *Le Berry* (03/12/2018).

This technophile enthusiasm is also expressed through the enumerative list form of the robot’s components. “Equipped with seven motors, three microphones and twelve sensors, Paro, which costs €7,000”, we can read in *Le Télégramme* (09/21/2017). “It is equipped with seven motors, which allow it to move its head, blink its eyes, wag its tail and operate its two lateral fins. At the same time, the sound of his voice comes from a real recording of a baby seal. Equipped with fifteen sensors and artificial intelligence software, this robot is intended to interact with people with behavioral disorders”, we can read for example in *La Dépêche* (02/10/2019). These lists are similar to the figure of the accumulation which “aims to insist on the idea expressed”, here the technological prowess. Added to this is the connotation of precision and accuracy conveyed by the very use of numerical data (Candel, 2008) and which comes here, by extension, to give guarantees of Paro’s reliability.

This is all the more true since the media like to recall its origin, namely Japan, a country whose repeated mention brings with it its share of connotations in terms of advanced technology. Out of 73 articles, 58 mention the origin of the seal. “The Paro robot, born of Japanese technology, has everything to make you want to cuddle it”, says an editor of *La Nouvelle République* (01/27/2019). This geographical origin charges moreover the seal of a power of oriental exoticism, of those which, for Barthes, “shake the Occident” (Barthes, 2005).

Anthropomorphization

The exoticism of the robot also fascinates the French media because of its shape. The choice of the seal leads to a shared questioning “why a seal?” and its presence in health establishments and home for elderly people is qualified as “unusual”. “No less unusual, a hammock hides in a corner of the room: on board, a small white seal of about fifty centimeters, fine whiskers and black eyes begging for a caress,” reported the national daily *La Croix* (03/06/2014). Now, the unusual, as Hecate Vergopoulos (2010) states, “when it is notable, defines the only of the extraordinary”. We find there the spectacular charge that this animal carries with him and this since the 19th century

during which, already, “the local chronicle did not fail to point out the miracle” that represented its presence, in town, during circuses or fairs (Guitton, 2021).

The journalists seem to take great pleasure in describing the robot and its operation, all in a chorus of unanimous praise, and the descriptions of Paro are similar to the figure of the picture which corresponds to “vivid and animated descriptions of passions, actions, events, or physical or moral phenomena” (Fontanier, 1977). “In the experimental room, the visitor can meet Paro. An adorable ball of white fur, which makes you melt when he stares at you with his big black eyes or when he squeals with pleasure under your caresses”, we can read in *Le Progrès* (03/19/2017); “His coat is snow white and very soft. His eyes with long black lashes open and close. His head turns slightly and he emits little cries of contentment when you stroke him. The realism of Paro the seal is remarkable”, marvels for his part an editor of *Sud Ouest* (06/15/2018).

We can see from these examples that the color white is a recurring motif in the description and contributes to the very favorable judgment made by the media. In fact, white “is the color of glory and celebration, impeccable, and also shows hygiene” (Pastoureau, 2022).

Furthermore, the descriptions of Paro can also be compared to hypotyposis, a figure of speech that “puts in front of the eyes” and creates an effect of presence (Fontanier, 1997 and Wrona, 2012). In doing so, media narratives produce a first type of anthropomorphization, consisting in seeing an animal more than a robot. “Like a real pet, it utters little cries and moves from head to paws, to the rhythm of the caresses it is given”, relates for example *Ouest France* (07/20/2017).

This logic - which also reflects media enthusiasm - is further accentuated when personification is added to the descriptions. The robot seal then becomes a living being, capable of action - “Paro, an interactive robot seal is currently in residence on the Perharidy site to meet with the elderly, children and health professionals” (*Le Télégramme*, 09/16/2017) and, even, to express emotions: “If you caress him for a long time, he stretches against you. If you touch his whiskers, he cries”, exposes *Le Monde* (08/12/2017).

The analysis thus reveals a process of media domestication which transforms the “disturbing strangeness” (Freud, 1976) into reassuring familiarity. The comparison with other beings or objects which can be ordered in this paradigm, such as “Bibi Phoque”, “Nano the small robot” or, even, babies, also takes part in it. The recourse to caritativism, the use of “linguistic term which designates the affectionate forms which one sometimes gives to the names which refer to usual objects” (Barthes, 2002) still takes part there. For *Le Parisien* (05/30/2019), it is “Pilou” which is found in the title: “Pilou has already been adopted”; in some other regional newspapers it is found under the name of “Chouchou” (*La Voix du Nord*, 04/23/2017): “Chouchou is unanimously approved; “Chouchou, the robot seal, therapeutic companion for Alzheimer’s patients”, (04/22/2017, *Nord Eclair*).

The media thus seem to be affected by the “baby seal syndrome”, a phenomenon of tenderness on which zoos capitalize to attract the public (Guitton,

2021). In the Paro case, this syndrome finds its extension in its promotion, by the media, as a perfect adjuvant for the caregivers.

PARO, A CAREGIVER AMONG OTHERS?

The fascination and enthusiasm of the media for Paro does not end with its description: it continues and culminates in their participation in the identification and recognition of the robot as a true therapeutic adjuvant. This transformation emanates, from the point of view of narrative analysis, from the encounter and interactions between Paro and two groups of actors who constitute the other key characters in the media narratives: the patients/residents on the one hand, and the caregivers or facility managers on the other.

The Seal's Powers 1/2: Punctual Transformations

The media stories, in images as in texts, have an almost immutable structure, as we have seen. One of the high points of this structure, a sort of event within the event, is the meeting between Paro and a person to whom he is supposed to bring help. The accounts of these encounters, which also contribute to the anthropomorphization outlined above, fully participate in the praise of the object, since they emphasize the ease with which it can be integrated into the residents/patients. Moreover, they mention an instantaneous transformation, visible on the patients' bodies and, especially, on their faces. The lexical fields of smile, satisfaction... fill the stories, in a new mobilization of hypotyposis. "As if by magic, Liliane, whom everyone here calls Lili, comes out of her bubble and lets a large smile invade her face", one can read in *Le Parisien* (03/25/2022). Center Presse retains for its part "the smile of this old man, who literally comes alive when Marie-Claude Brégeat, one of the employees trained in the use of Paro, puts it in his arms"(10/11/2017). "The pensioner, who has practically lost the use of words, enjoys tickling the animal, kissing it, and talking to it," the journalist continues.

For the transformation is also audible when the quotation comes to "make the people speak" in direct speech and report their emotionally charged reactions (Compagnon, 1979). Here we find "the argumentative (persuasive) force of recourse to quoted speech" (Mouillaud & Tétu, 1989), whose pathos is put at the service of the stuffed seal. "He's adorable. I would keep him". Albertine, who is about to celebrate her 101st birthday, raises her eyes to the joyful blue", exposes for example *Ouest France* (07/04/2018).

The process of transformation due to Paro goes a step further when its duration is extended and when the character and personality are metamorphosed. "Marie, frozen in her chair and silent, begins to call the seal with an incessant "meow meow meow". To the care team, she is communicating. And that's huge.", tells *Sud-Ouest* (11/27/2017); "Often withdrawn, not talking to anyone, refractory to grooming, Denise has been as if transformed since the arrival of Paro", a journalist writes in *Aujourd'hui en France* (04/16/2018).

As in this example, the passage from the conjunctural to the structural is acknowledged with the use of the present tense of narration, which is employed transversally in the headline area, where the media "brandishes

its ability to say” (Mouillaud&Tétu, 1989), to summarize the action of the robot in an inciting way. “Paro, the baby seal that heals”, headlines *La Provence* (04/02/2018); “The seal Paro soothes the elderly”, will still announce *Le Télégramme* (01/25/2019).

In the narrative, this process of transformation on several complementary scales is similar to a healing action. In this way, it is the robot itself that is transformed, passing from the status of a pet object to that of a fetish with quasi-magical powers that could be compared to “mana”, about which Mauss wrote the following :

“Mana is not necessarily the force attached to a spirit. It can be the force of a non-spiritual thing, as of a stone to make the taros grow (...), it can be the force of the magician, (...) the force of the rite. We can even broaden the meaning of this word, and say that mana is the force par excellence, the true effectiveness of things” (Mauss, 1973).

In doing so, the media lead the public of readers and spectators to enter into a regime of half-belief that is similar to the “I know well but still”, defined by Octave Mannoni (Mannoni, 1969) and which amounts to saying or thinking “I know (how it is done, who says it, that it is about conventions and intentions), but still, I want to believe in the stories I am told” (Lambert, 2013).

The Seal’s Powers 2/2: Long-Term Action

The capacity of the seal robot to have a lasting effect on the well-being of people is reinforced by another second-hand work. The press articles and videos in the corpus give access to the discourse of actors directly involved in the deployment of Paro among the elderly and sick. These include caregivers (nurses, gerontologists, geriatricians, onco-gerontologists, care assistants, doctors, psychologists, etc.) and nursing home managers.

From the fragments selected for publication, several converging arguments emerge, pointing in the direction of this lasting transformative power and, in so doing, of a pro-phoque plea. Paro is above all perceived by these actors as a “tool”, a recurring term in their discourse. For *La Montagne*, for example, it is “a therapeutic tool in its own right” (02/12/2018). Caregivers and home managers therefore do not participate in the anthropomorphization dynamic identified above. On the other hand, as a tool, Paro is praised for the enrichment it brings to the therapeutic processes already implemented with the elderly. The phrases “substitute for medication”, “therapeutic complement” or “a real plus” are thus regularly used in quotations. The seal is particularly distinguished for two major functions. The first one has to do with the anxiolytic virtues that are recognized to him. “Paro is a transitional object intended to unload stress, anxiety and fear”, thus exposes Martine Charreyre “first assistant to the health” of a home for elderly people (*Le Progrès*, 06/22/2022).

The second function is similar to mediation. The actors interviewed by the media indeed underline its “transitional role”, the reinforcement of the senses and, consequently, of the relationships that it allows. “This emotional robot

interacts with people, it is a communication tool and a means of expression that promotes verbal and tactile contact”, explains a psychologist met by the *Courrier de l’Ouest* (04/20/2019).

Finally, it emerges as a technical support to the work of caregivers. “We can work properly and more relaxed,” say for example two caregivers of a home (*La Nouvelle République*, 01/27/2019). “It can serve as a mediator when we are helpless, especially in non-verbal communication,” says a hostess of another home (*Ouest France*, 07/04/2018), while reminding that “this intelligent robot does not replace the caregiver”.

It is precisely this last dimension, or fear, which is not very present in the corpus of testimonies emanating from the medical personnel, that part of the scientific attention given to Paro will be focused on.

PARO, OBJECT OF SCIENTIFIC SUSPICION?

With the exception of the few national press titles in the corpus, the media that have covered Paro thus offer a unanimously laudatory representation of its use. Their narratives do not show the dissensions that are clearly visible when we consider the scientific literature on the robot seal, in the fields of health and of human sciences or humanities. The lack of media resonance given to this dissensus prevents it from being considered as a controversy; however, it is interesting to observe because it highlights several points of crystallization, of divergence, to be considered in the perspective of a translational research.

Debate About Caregivers: Complementarity or Replacement?

In the publications signed by members of the medical profession, from different specialities (gerontology, oncology, nursing, psychology, etc.), the arrival of Paro in the care services is perceived as an aid to the work carried out with patients. Firstly, because the robot appears to complement the caregiver-patient relationship, in the sense that its mediating dimension can re-establish an interaction that is distended, or even lost, due to the neuro-cognitive disorders characteristic, in particular, of Alzheimer’s disease. “The Paro robot must be considered as an artefact whose design generates new relationships between people”, Carrion-Martinaud and Bobillier-Chaumon (2017) emphasise in this sense. Thus, Paro is ordered in the paradigm of “robotic mediations” constituting “a promising research space” (Tisseron, 2017), in that it restores the expression of emotions and, more broadly, communication (Deudon&Leone, 2014). In addition to this mediating dimension, there is the ‘improvement of working conditions’ for carers (Dolbeau-Blandin, 2018). On the one hand, because the use of Paro, through the reactions it induces, makes it possible to progress in the knowledge of the person (Ibid.). On the other hand, because the robot seal can act as a relay, a valve, in the (over) busy daily lives of carers. Indeed, as Anne-Sophie Rigaud, a gerontologist at Broca Hospital, explained to us, “it is often thought that care staff can stay with patients 24 hours a day, but this is not the case”.

A reading of the humanities and social sciences publications that have explored the hypothesis of Paro's mediating role reveals a completely different understanding of the phenomenon. Its use is strongly criticized because it seems to participate in a dynamic of 'robotisation' of the world (Talpin, 2018), which implies several forms of replacement. The first relates to the seal form, which, by playing on the possible confusion with the real animal, leads to the erasure of zotherapy in favor of therapeutic robotics. This denunciation can be found in the work of Jocelyne Porcher, a sociologist specializing in human-animal relations. She sees Paro-type robots as "formidable competitors to animal workers" (Porcher, 2017), whose popularity is based on a "narrow idea of animals" and a faulty analogy. "When marketers tout CHiP or Paro as companions or even friends," she explains, "they emphasize qualities that robots precisely lack, namely subjectivity and the ability to enter into intersubjective relationships" (Ibid.). "Friendship is a relationship. I cannot be a friend to a robot if it is not mine. There is no more friendship than companionship without intersubjectivity", she continues. It is precisely this intersubjectivity that lies at the heart of the other type of warning: the possibility, in the long term, of robots replacing carers. "The robot-phoque is undoubtedly only the Trojan horse of the development of robotics which, in another context, has replaced the hand of the worker as well as that of the surgeon, always under the guise of performance and safety", suggests, for example, Jean-Marc Talpin, a professor of clinical psychology (Talpin, 2018), who sees in this dynamic a response not devoid of cynicism to the demands of the market. If we follow him, the robotisation of care would make it possible to have it both ways: to save on salaries on the one hand, and to make profits from the increased sale of Paro-type products on the other.

Debate About Patients: Assistance or Infantilisation?

The criticism of the type of mediated interaction induced by Paro does not stop there: it continues, still in the field of human and social sciences, with the expression of strong reservations concerning, this time, what the use of the robot says about the way of looking at the cared-for person. For carers, whether they are carers or relatives, this reservation is linked to the risk of infantilization incurred by patients exposed to the encounter with Paro. "In France, many psychologists were embarrassed by the very notion of a robot, they were worried about deception, and professionals could be quite uncomfortable with this," reports Anne-Sophie Rigaud. "You have to make sure that the person understands that it is a robot.

The anthropologist Emmanuel Grimaud reminds us in this regard that "the confusion of genres (human/machine) is the very motivation that drives their fabrication. It is inscribed at the heart of the artefact, it is cultivated, everything is done to ensure that doubt is installed and to make it last' (Grimaud, 2012). It is from this 'original' confusion that the shortcomings denounced outright by some researchers can arise. "The love that a robot can give is an illusion by which we could easily be abused because we are fundamentally empathetic beings", argues Jocelyne Porcher (2017). However, when

we suffer from significant neuro-cognitive disorders, the conditions for the possibility of ‘I know well but still’ are altered. This is how Jean-Marc Talpin comes to denounce “the real cynicism that is either ignored, denied or masked in proposing so-called intelligent machines to elderly people whose sometimes advanced cognitive disorders undermine the recognition and discrimination of human and non-human, living and non-living” (Talpin, 2018). And the psychologist concludes that ‘the dehumanization of those (the demented) whose humanity is undermined by themselves as well as by certain relatives’.

Nothing of the sort is found in the scientific literature from experiments conducted by the medical profession: on the contrary, the characteristics highlighted by the local media coverage are emphasized. Thus, the results of these studies contribute to the recognition of Paro as an optimal adjuvant in the treatment of patients with neuro-cognitive disorders for several complementary reasons. In a rather conjunctural way, we find the mediating action that favors the communication between patients and caregivers. “Social robots are mechanical entities endowed with artificial intelligence. Their physical presence and their capacity for social interaction (speech, facial expression, gestures) make them conducive to interaction with people who have difficulty communicating,” note, for example, Demange, Charlieux, and Rigaud (2019), following a series of experiments involving Paro. In terms of more structural and lasting effects, this literature points to the calming, anxiolytic action that seals can have on people who are ill (Carrion-Martinaud & Bobillier-Chaumon, 2017). Even more, some studies highlight the ability to delay the development of Alzheimer’s disease (Morlet-Haidara, 2022) and to reduce psycho-behavioral symptoms related to dementia (DBP) in a non-drug way (Deudon & Leone, 2014). These studies thus come to the conclusion that there is value in widespread use of the Paro seal and, more broadly, this type of robotic therapeutic mediation.

CONCLUSION

From this analysis of the discourses circulating about Paro in the French public space, several types of conclusions can be drawn, in terms of recommendations. The first type is linked to the translational perspective that initiated this research: if we refer to the contributions and advantages put forward by the caregivers and the medical literature, we can envisage an extension of the use of Paro to other hospital services and to other therapeutic uses. For example, the robot-phoque could be used in the onco-geriatrics department of the Pitié-Salpêtrière Hospital, but also, more broadly, in oncology, to help patients who suffer from severe neuro-cognitive disorders, such as in the case of glioblastoma, and/or who, due to their disease and related treatments, experience anxious or depressive episodes. Moreover, as Paro tends to improve interactions with patients, it could be suggested that it be introduced very early on to families and close friends, so that the tripartite relationship does not only concern caregivers and patients but also all those who enter the close circle of caregiving. Indeed, this figure remains largely absent from the discourses studied, both in the media and in the scientific community, even though family and friends are often irreversibly affected by

the disease and can intervene throughout the care process (Berthelot-Guiet & Charbonneaux, 2020). This observation may lead to a second type of recommendation, this time concerning communication about Paro: in order to anticipate the criticism, which is very strong as we have seen, it would be advisable to take it seriously by dealing with it head-on, in the complexity of the issues it raises, in order to go beyond the level of a mere promotional speech. This would undoubtedly allow the media to enter into this complexity in order to transmit it to the general public. Indeed, our analysis allowed us to see how much their stories fit in with the “escort discourse” (Jeanneret & Souchier, 2001) deployed around Paro by the manufacturer, as well as by the services that use it. It is thus along two parallel and complementary chains, those of care and discourse, that we must act in reflexivity.

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