## The semantic mechanisms underlying disagreement. An argumentative semantics approach

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This paper approaches disagreement from a lexical and argumentative perspective. I first give a brief presentation of Galatanu's model, the Semantics of Argumentative Possibilities. Then I examine disagreement by identifying the argumentative orientations that are manifest in discourse. Finally, based on the illustrations, I propose a list of semantic mechanisms inherent to disagreement. The illustrations are drawn from an online participatory consultation on issues related to bioethics.

KEYWORDS: disagreement, Semantics of Argumentative Possibilities, argumentative semantics, discourse analysis, meaning potential, semantic mechanism, bioethics, participatory democracy

#### 1. INTRODUCTION

This paper will shed light on disagreement from a complementary perspective to the one that is generally adopted in argumentation studies. Within the framework of argumentative semantics<sup>1</sup>, I will approach disagreement with the analytical tools provided by the model of the Semantics of Argumentative Possibilities (SAP). Thus, in this paper, the cases of disagreement<sup>2</sup> will be analysed via the argumentative orientations triggered by lexical meaning.

<sup>&</sup>lt;sup>1</sup> The term has lately been used for a range of theories that derive from the Argumentation within Language (Anscombre & Ducrot, 1983), including the AWL theory itself. Ducrot's article on 'rhetorical argumentation and linguistic argumentation' (2004) provides a synthesis of this view compared to the one that is specific to argumentation theories.

<sup>&</sup>lt;sup>2</sup> Disagreement is understood here in a broad sense as an 'utterance that comments upon a pre-text by questioning part of its semantic or pragmatic information (sometimes its format structure as well), correcting or negating it (semantically and formally)' (Sornig, 1977, p. 363).

The corpus on which this study is based comes from an online consultation that took place in France in 2018, namely the Estates General of Bioethics 2018, a nine-topic consultation from which I retain the discussion on the topic of 'Artificial intelligence and robotisation'. Due to lack of space, no general conclusions for the whole corpus will be drawn here; instead, I will simply use the corpus in order to illustrate my approach to disagreement in terms of lexical meaning, and leave the general considerations on the whole corpus for a future study.

Disagreement is an inherent feature of democratic debate and, in the consultative setting of the Estates General of Bioethics, there are no negative connotations attached to it. It is simply part of the democratic participation, without any other implications than everyone being able to express their views. However, in other settings, for instance a deliberative one, disagreement has a different significance and broader implications. These are beyond the scope of this paper.

I will start by providing a short description of the SAP model and by introducing the key concepts of this study. The model will then be illustrated with the selected corpus put into practice in order to present a new way of looking at discursive cases of disagreement. The examples that I will analyse, namely the comments left by the participants in case of disagreement, will also serve as a preliminary basis for the classification of the mechanisms of disagreement.

### 2. ARGUMENTATIVE MEANING IN DISCOURSE AS A RESULT OF THE ARGUMENTATIVE POTENTIAL OF LEXEMES

The SAP is a theoretical model developed by Olga Galatanu, and is in line with Hilary Putnam's perspective on lexical meaning and Oswald Ducrot's view of argumentation<sup>3</sup>. The model is positioned at the interface between lexical semantics and discourse analysis, as one of Galatanu's

<sup>&</sup>lt;sup>3</sup> Olga Galatanu has been developing her theoretical model for over twenty-five years and the name 'Semantics of Argumentative Possibilities' has been used for the model since 2002 (see Galatanu, 2004). A comprehensive view on the motivations and design of the model can be found in the book she published in 2018, in French. A presentation in English of this model can be found in the paper published in 2009. As for the English name of the theory, several other translations can be found – for instance, Semantics of Argumentative Potentials –, but the one that was finally favoured is *Semantics of Argumentative Possibilities*, which is also the closest to the French name of the theory. Although the expression 'argumentative possibilities' might sound strange to someone who is not used to it, 'Semantics of Argumentative Possibilities' is in fact the most accurate translation of the French name *Sémantique des possibles argumentatifs*, since the French expression '*les possibles argumentatifs*' can also be initially puzzling.

main concerns is to show what is the role that lexical meaning plays in the construction of discursive meaning and, vice versa, to show how lexical meaning – and therefore the vision and values underlying meaning – are reconstructed through discursive mechanisms.

I will give a very brief description of this complex theoretical model, in accordance with the objectives of my study. I will limit this summary to the three following aspects:

- i. the description of lexical meaning according to the SAP;
- ii. the description of discursive meaning based on the preestablished lexical meaning;
- iii. the methodology for discourse analysis provided by the SAP model.

i. Galatanu's model postulates a three-layer semantic representation: lexical meaning is described in terms of core, stereotypes and argumentative possibilities (APs). The core stands for the stable part of the meaning, while the stereotypes are understood as an open and evolving list of culturally motivated representations. Both the core and the stereotypes have an argumentative dimension, which is represented by the structures 'A hence B' or 'A nevertheless B'. Thus, the core consists of an argumentative chain, whose elements are limited in number, for example 'X hence Y hence Z'. As for the stereotypes, they associate only two elements (argument-conclusion), the first of which corresponds to one of the elements in the core (in this case, X, Y or Z). In other words, the stereotypes are extensions of the core elements. Together, the core and the stereotypes account for the meaning potential of the lexeme. This potential is also represented in the form 'A hence/nevertheless B', but in this layer of the semantic representation, A stands for the word itself. Here is an illustration of the three layers of the word *robot* (the semantic representation must be understood as the linguist's abstract construct, in this case my construct based on the dictionaries):

Core elements	Stereotypes	Argumentative possibilities (APs)
	electronic control	$\mathbf{robot} \rightarrow \mathbf{machine}; \mathbf{robot} \rightarrow \mid \mathbf{NEG-machine}$
	wheels	$\mathbf{robot} \rightarrow \mathbf{sensors}; \mathbf{robot} \rightarrow \mid \mathtt{NEG-sensors}$
	sensors → photoelectric sensor	$robot \rightarrow microprocessor; robot \rightarrow   NEG$
machine	servomotor	$\mathbf{robot}$ → human appearance; $\mathbf{robot}$ → NEG
<b>1</b>	microprocessor	
	appearance → human appearance	
1	conception/design 	
	computer	$\mathbf{robot}$ → computer; $\mathbf{robot}$ → NEG-computer
HENCE /	execution	$\mathbf{robot} \rightarrow \mathbf{cybernetics}; \mathbf{robot} \rightarrow \mid \mathtt{NEG-cybernetics}$
↓ //	cybernetics	robot → automatic control; $robot$ → NEG
programme	automaton	$\mathbf{robot}$ → assembly line; $\mathbf{robot}$ → NEG-assembly line
,\ `	automatic control → assembly line	$\mathbf{robot} \rightarrow \mathtt{NEG}$ volition; $\mathbf{robot} \rightarrow \mid \mathtt{volition}$
<b> </b>	capacity	$robot \rightarrow NEG$ feelings; $robot \rightarrow  $ feelings
\ \	NEG-volition	
↓ \	NEG-feelings	
\		
1	multiple functions	robot → calculations; robot →   NEG-calculations
HENCE	walking / moving	robot → efficiency, robot →   NEG-efficiency
↓	carrying out operations	$robot \rightarrow computer; robot \rightarrow   NEG-computer$
tasks	calculations	<b>robot</b> $\rightarrow$ suppression of handcrafts; <b>robot</b> $\rightarrow$ NEG
	assembly	robot → substitute for human; robot → NEG
	efficiency	
	substitute for human action	
	→ suppression of handcrafts	
1	substitute for human	
		$* \rightarrow = \text{Hence}, \rightarrow   = \text{Nevertheless}$

Figure 1. The meaning of 'robot' according to the SAP model

The argumentative association between the meaning elements is represented by means of the abstract connectors HENCE and NEVERTHELESS<sup>4</sup>. Galatanu describes this argumentative association as relying on a natural link such as cause-consequence, symptom-phenomenon, intention-means, whole-part etc., in other words, a link that has some intrinsic necessity to it.

This part of the model will be used to a lesser extent in this paper, but is nevertheless essential for the understanding of the approach used in this study.

ii. To describe the **discursive meaning** according to the SAP model means to identify the argumentative associations of the form 'A hence/nevertheless B' occurring in that discourse, and to show in what way they are related to the meaning potential of the occurring lexemes, i.e. to show if they correspond or not to the activation<sup>5</sup> of a part of the meaning potential understood in terms of core-stereotypes-argumentative possibilities. These argumentative associations occurring in discourse are considered to be 'discursive deployments of the meaning potential'. When the discursive deployments are not in line with the

<sup>&</sup>lt;sup>4</sup> The French connectors DONC and POURTANT play this role in the Argumentation within Language theory and its developments (see, for instance, Ducrot, 2002).

<sup>&</sup>lt;sup>5</sup> 'In SAP, the core and the stereotypes constitute a device for the generation of argumentative discursive sequences, 'the argumentative potentials', which can be activated within discursive occurrences, or deconstructed, even inverted, by co-contamination or contextual phenomena.' (Galatanu, 2009, p. 283).

meaning potential, they serve as a means to de/reconstruct the lexical meaning of the given words. Without going into detail (see Galatanu 2018b, p. 226), I will refer to all argumentative associations occurring in discourse as being 'discursive deployments' (DDs).

This facet of the model will be central in this paper. However, it should be noted that my approach in terms of DDs makes sense insofar as we describe the idea of the meaning potential in terms of corestereotypes-argumentative possibilities.

iii. When **using the SAP model for discourse analysis**, the analyst focusses generally on one or several lexemes. First, they provide a description of the meaning, i.e. of the meaning potential, of those lexemes, by establishing the core, stereotypes and APs in accordance with the semantic representations shared by the speakers (this can be done either by using the language dictionaries or by submitting questionnaires to the speakers). Second, they examine the occurrences of the lexemes in a corpus, they identify the corresponding DDs and explain the mechanisms of (de/re)construction of the meaning in the discursive context. This methodology is made explicit in Galatanu's work (2009, p. 284).

However, the SAP model will be used in a new manner in this study. Instead of focussing on the DDs of some given lexemes, I will consider all the DDs that are present in the pieces of discourse I analyse (the CCNE's proposal and the participants' comments). The result will be a network of DDs, or more precisely, an oriented graph. This approach to the implementation of the SAP model can be productive for two reasons: the proposal and comments that constitute the corpus are brief, and the interaction in the corpus is limited to the participants' comments on proposals (each proposal is accompanied by a set of comments that are linked directly to it).

In addition to these three aspects, I would like to specify that the SAP model analyses words by means of other words. Meaning is not necessarily described through a set of minimal or primary elements, but rather through other words that are understood as meaning elements. It is the meaning elements *and their organisation*, i.e. the oriented links between them, that constitute the meaning of the word. Behind a word, there are other words, more precisely a specific configuration of other words. That is why Galatanu points out that her semantic theory is an associative, holistic, encyclopaedic and dynamic approach to lexical meaning. Modality also plays a key role in her theory.

#### 3. DISCOURSE AS A NETWORK OF ARGUMENTATIVE ASSOCIATIONS

The methodology of this study has already been outlined in the previous

section. I will now illustrate it and provide practical details. But first, I will introduce the corpus from which the illustrations originate.

The topic 'Artificial intelligence and robotisation' was one of the nine topics displayed on the website of the Estates General of Bioethics 2018, an online consultation that took place from January 18th to April 30th, 2018, and was organised by the CCNE, the French governmental advisory council on issues related to bioethics<sup>6</sup>. The general question was 'How should robots be integrated into medicine in order to improve treatment and health care?'. According to the numbers still on display on the consultation's website, the topic drew the attention of 4,514 participants and totalled 238 proposals (out of which 11 emanated from the CCNE). The participants had several options: to vote for or against existing proposals, to comment upon them, and to add their own proposals. The comments to a proposal are listed under it, in two columns, according to whether they are in favour of or against the proposal. The comments do not always focus on the topic; they also discuss and criticise the way the consultation is organised or the way the proposals are formulated. These forms of disagreement occurring in the corpus could be easily analysed from a pragmatic perspective, for example using Grice's conversational maxims, and for this reason I will disregard them. For the purpose of this paper, I will consider the comments on only one CCNE's proposal, titled 'Developing social robots', which received not one negative comment on a pragmatic level (see below). This proposal received a total of 91 comments, but for some reason only 87 are visible on the website, out of which 72 are against the proposal. For practical reasons, I use the term 'comment' for the participants' reactions, but on the website they are referred to as 'arguments, reasons' (in French, argument).

#### Développer les 'robots sociaux'

Les robots sociaux sont aujourd'hui utilisés dans certaines maisons de retraite au Japon, et permettent des interactions relationnelles avec les patients, en complémentarité avec les soignants. Le développement de ce type de robot, à dimension affective et pratique, pourrait être interrogé afin de pallier les problèmes, par exemple, relatifs aux zones dans lesquelles le besoin de personnels médico-sociaux est important; et à la solitude des patients.

Developing 'social robots'

Social robots are now used in some retirement homes in Japan, and allow for relational interactions with patients, in complementarity with caregivers. The development of this type

<sup>&</sup>lt;sup>6</sup> The website of the consultation is https://etatsgenerauxdelabioethique.fr, and CCNE stands for 'Comité consultatif national de bioéthique'.

of robot, with an affective and practical dimension, could be questioned in order to overcome the problems concerning, for example, the areas in which the need for medical-social staff is considerable; and the loneliness of patients.<sup>7</sup>

The corpus I analyse here is in French and the semantic analysis is based on the French lexemes. I will therefore translate everything into English in order to make my approach also clear to non-French speakers. Given that lexical meaning is culturally motivated, it goes without saying that the French 'maisons de retraite', 'Japon', 'personnels médico-sociaux' and the English 'retirement homes', 'Japan', 'caregivers' are not equivalent; they most probably do not have the same stereotypes and meaning potential. I hope my readers will be able to cope with this inconvenience and, if they are familiar with French, they will look up the original words in my analysis.

I turn now to the first illustration of my methodology. The diagram below (Figure 2) consists of the DDs contained in the text of the abovementioned proposal. As a reminder, a DD of a word, or discursive deployment, is an argumentative association between the word itself and another semantic representation; the arrow indicates the argumentative orientation. In this illustration, [Japan HENCE social robots] and [Japan HENCE retirement homes] are DDs of 'Japan'; there are four DDs of 'retirement homes'; and 'social robots' has the highest number of DDs. I will also use the term 'argumentative orientation' when talking about the DDs of a word, for instance the argumentative orientations of 'Japan' are 'robots' and 'retirement homes'.

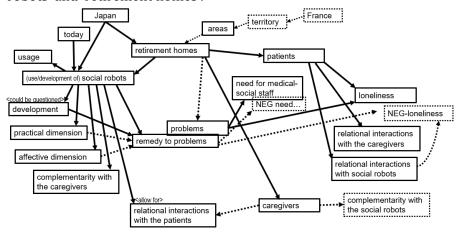


Figure 2. The argumentative orientations contained in the proposal

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<sup>&</sup>lt;sup>7</sup> All translations in the text are mine.

The arrows in the diagram represent the abstract connector HENCE – there are no associations based on the connector NEVERTHELESS, but if there were any, they would be represented in a distinctive manner. The dotted arrows indicate a presupposed, implicit, or even inferred association. The angle brackets are used for modalisation: <could be questioned> (alethic and epistemic modality), <allowed for> (alethic modality). In fact, modality is also present in the semantic representations put in the boxes of this diagram, for instance 'problems' (pragmatic modality), loneliness (affective modality) or 'development' (volition and pragmatic modality). As will become clear below, the axiological modalities play a particularly important role in disagreement.

Regarding the way in which the DDs and their argumentative orientations are identified, the argumentative association relies, as I said, on a natural link (cause-consequence, symptom-phenomenon etc.). In discourse, this link can either be expressed through lexical items (allow, concerning, for example), or connectors (in order to), prepositions (in: social robots are now used in some retirement homes; retirement homes in Japan; of: this type of robot: robot HENCE type), appositions (this type of robot, with an affective and practical dimension), attributes (social robots: 'robot HENCE social'; the development of this type of robot: robot HENCE development) etc. The argumentative association is thus retrieved from the syntax-semantics interface. Some words have not been taken into account in this diagram: some, considerable (these belong to the class that Ducrot, 2002, calls 'operators') and type (as an anaphoric expression for 'social robots').

The diagram is intended for visualising the discursive representations constructed in the proposal. The title provides the central element, 'developing social robots', and the text specifies the argumentative orientations associated to it: 'remedy to problems', 'practical dimension', 'affective dimension' etc. The DDs [social robots HENCE affective dimension] and [social robots HENCE relational interactions] are definitional in nature, since their conclusion 'affective dimension'/'practical dimension'/'relational interactions' explicates core features of the phrase 'social robots', while the DDs [social robots HENCE development] and [social robots HENCE remedy to problems] correspond to the activation of stereotypical features<sup>8</sup>. The core meaning

<sup>&</sup>lt;sup>8</sup> See Galatanu (2018b, pp. 226 sq.) for the different types of DDs. A similar distinction is made by Anscombre and Ducrot regarding their concept of 'topos': intrinsic topoi, for instance *Pierre is rich: he can buy himself whatever he wants*, are such that the second segment (*he can buy whatever he wants*) is simply the explication of the meaning of first segment (*Pierre is rich*); extrinsic topoi such as *Pierre is rich: therefore he is miserly* work differently, since the second segment brings a real conclusion, not a mere explication of the first segment (Anscombre, 1995). In the SAP model, however, discursive deployments are viewed as

of the phrase 'social robot' can be described by the argumentative chain [relational machine HENCE programme HENCE relational tasks], based on the one for the lexeme 'robot': [machine HENCE programme HENCE tasks]. At the same time, 'social robot' can also be described as being an AP of [robot HENCE sociability/sociality/social 'robot': skills]. argumentative association could also have been displayed in the diagram, since it is presupposed; it has not been done for reasons of efficiency, but it should be noted that all the argumentative orientations of the phrase 'social robots' are also shared by the lexeme 'robot' itself. The comments in Section 4 will show that the participants most of the time simply use the lexeme 'robot', and that some explicitly reject the use of the phrase 'social robot' (in fact, what they reject is the AP [robot HENCE sociability] and *a fortiori* the internalisation<sup>9</sup> of this association that leads to the core meaning [relational machine HENCE programme HENCE relational tasks]). The diagram also constructs a certain representation of 'retirement homes', 'patients', 'Japan' etc. Moreover, it can be read as a set of argumentative chains, for instance 'Japan hence social robots HENCE remedy to problems HENCE NEG-loneliness', 'retirement homes HENCE patients HENCE loneliness' etc.

The advantage of such a diagram, that accounts for all the DDs, is that it does not privilege one element over another; instead, it details all the argumentative orientations, even the less salient. That said, the salience can be determined from the number of associations in which one element is involved, either as the argument or the conclusion: 'social robots', '(remedy to) problems', 'retirement homes' and, to a lesser extent, 'patients' are the most salient, while 'today', 'usage' are the less salient, even insignificant. The participants in the consultation can theoretically show disagreement with any of the argumentative associations in the proposal, even the ones that are marginal (like [today HENCE social robots]).

The figure 2 is thus meant to account for all the argumentative orientations that are contained in the above-quoted proposal. I will now use this diagram in order to analyse a few comments showing disagreement with the proposal.

#### 4. ANALYSING DISAGREEMENT FROM A LEXICAL PERSPECTIVE

explications of the meaning in both cases: the core meaning in the first case (*rich HENCE capable of buying*), and the stereotypical meaning in the second case (*rich HENCE miserly*).

<sup>&</sup>lt;sup>9</sup> I borrow the term from Ducrot (2002), but my use of this term does not correspond to his.

The participants' comments below express disagreement with the proposal. Since they are displayed in the 'arguments against' column, the comments do not need to name the difference of opinion by using words such as 'don't agree', 'disagree' etc. However, there are linguistic markers that indicate the difference of opinion, for instance various forms of negation, contrastive structures, general statements, expressions showing indignation or negative appreciation etc.

For each comment, I will draw a new diagram that corresponds to the argumentative orientations occurring therein. In order to see how the comments are related to the proposal, each diagram will be built into the one shown in Figure 2. The elements from Figure 2 that are not mentioned in the comment will be greyed out, while the new ones stirred by the comment will be displayed in red.

#### Comment n°1

Le robot n'aura jamais de sentiments et l'inter-relation homme/robot est une illusion. Attention à conserver notre Humanité.

The robot will never have feelings and the human/robot interrelation is an illusion. Be careful to preserve our Humanity.

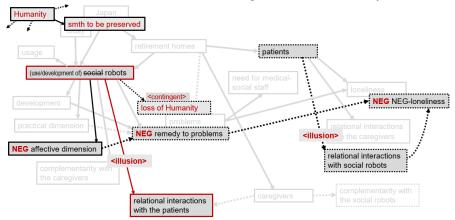


Figure 3. Comment n°1

In this comment, the difference of opinion is manifested in three ways. First, by saying that 'the robot will never have feelings', the author of the comment rejects and opposes one of the stereotypes of 'robot' introduced by the proposal, that is 'affective dimension'. S/he does so by making a prediction (will never) based on the commonly shared linguistic stereotype 'machine HENCE absence of feelings'. Second, by saying that 'the human/robot inter-relation is an illusion', the author rejects the DD [robots HENCE relational interactions], given that this argumentative association corresponds to the meaning of 'human/robot inter-relation' itself. The modal element <illusion> adds a doxological evaluation (belief) to the negation that it implies. Third, in the added semantic

representation 'Humanity' argumentative orientations are left implicit, except for 'something to be preserved'. The warning 'Be careful to preserve our Humanity' implies that there is a risk of losing humanity because of the use of robots, HENCE the association [robots HENCE loss of humanity]. This association leaves a negative imprint on the representation of 'robot', i.e. a negative axiological evaluation (namely pragmatical and ethical: unfavourable and unethical).

#### Comment n°2

Un robot n'a pas de présence et de chaleur humaine : dimension fondamentale dans le soin à la personne. Le risque est la suppression des postes de soins, l'augmentation du chômage et l'accentuation du délitement des liens sociaux.

A robot has no presence and no human warmth: a fundamental dimension in human care. There is a risk of job cuts in healthcare, rise of unemployment and intensification of the disintegration of social bonds.

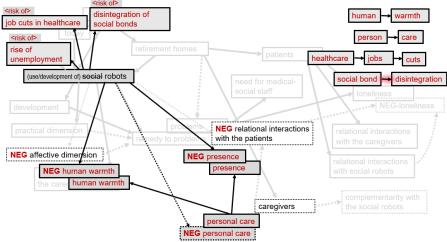


Figure 4. Comment n°2

This comment, just as the previous one, constructs a semantic representation of 'robot' that diverges from the one in the proposal. In contrast to the positive associations mentioned in the proposal, this comment triggers a series of negative ones: the comment contradicts the associations in the proposal ('NEG-human warmth' and 'NEG-presence' are contrary to 'affective dimension' and 'relational interactions') and introduces new associations that correspond to pragmatically negative evaluations ('job cuts', 'unemployment' and 'disintegration of social bonds'). Another negatively oriented DD is inferred: [robots HENCE NEG-personal care]. Overall, the comment rejects the positive representation of 'robot' without taking into consideration other semantic representations mentioned in the proposal; it also marginally presents a certain vision of representations such as 'healthcare', 'jobs' etc.

#### Comment n°3

L'utilisation de robots sociaux est une déresponsabilisation des proches et du personnel soignant dans les souffrances existentielles des patients. La société ne doit pas déléguer ce qui fait la base de son fondement qui est le lien interpersonnel. Les robots pourraient ainsi être utilisé de manière complémentaire comme une distraction, mais ne doivent pas être vu comme un remplacement du lien humain qui demeure aujourd'hui un critère prépondérant du bonheur.

The use of social robots deresponsibilises relatives and caregivers with respect to the existential suffering of the patients. Society must not delegate what makes the basis of its foundation – the interpersonal bond. Robots could thus be used in a complementary way as entertainment, but must not be seen as a substitute for the human bond which remains today a dominating criterion for happiness.

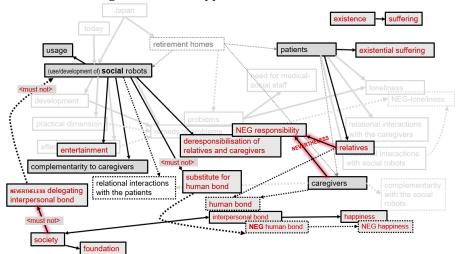


Figure 5. Comment n°3

Unlike the second comment, this one does not rely only on the representation of 'robot', but also takes into consideration other representations from the proposal ('patients', 'caregivers'), while also introducing new ones ('society', 'interpersonal bond', 'relatives'). The comment accepts some of the DDs of 'robot' in the proposal ([robot HENCE usage/complementary to the caregivers/relational interactions]), as well as the phrase 'social robot', which was not the case with the previous comments. In terms of evaluation, it adds a hedonistic orientation to robots ('entertainment') and an unethical one ('deresponsibilisation'). The argumentative association [robots HENCE substitute for human bond] is excluded (*must not be seen as*), since it would lead to unhappiness caused by the absence of human bond. Three DDs can be distinguished for 'society', out of which one is excluded (*must not*) and thus blocks the

conclusion 'use of social robots'. The idea of responsibility is central, and it appears in two argumentative associations: [relatives NEVERTHELESS NEG-responsibility] and [caregivers NEVERTHELESS NEG-responsibility]. These transgressive associations (nevertheless neg-) construct an ethically negative representation of 'patients' and 'caregivers'.

I would like to make a remark related to rephrasing and anaphoric expressions such as *human bond*, that rephrases *interpersonal bond*, or *human warmth* that rephrases *affective dimension* in the comment number 2. They are considered equivalent in my analysis, but actually they are different semantic representations and have a slightly different meaning potential (i.e. a different set of core elements, stereotypes and APs). Rephrasing can also involve an argumentative association taken as a whole, as in the comment number 1: *the human/robot inter-relation* rephrases the sentence *social robots allow for relational interactions with patients* and, therefore, stands for [robot HENCE relational interactions...]. For these reasons, rephrasing and anaphora would need to be discussed in greater detail than I am allowed to do within the limits of this paper.

The following and last comment is the opportunity to make another remark concerning the argumentative orientations that are presupposed, implicit or inferred.

#### Comment n°4

je rappelle que grace a tous leurs robots, le Japon est le pays ayant le plus bas taux de natalité... Un robot ne remplacera jamais le contact, ni l'intelligence humaine.

Be reminded that thanks to all their robots, Japan is the country that has the lowest birth rate... A robot will never replace contact, nor human intelligence.

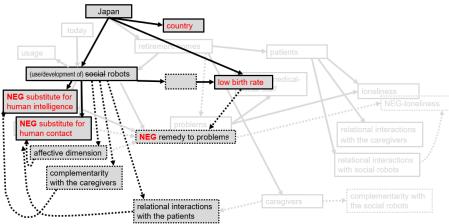


Figure 6. Comment n°4

The diagram identifies three explicit DDs of 'Japan' and another three for 'robots'. However, the DD [robots HENCE low birth rate] is a shortcut, and one or even several intermediary nodes can be added to explain the whole path from the argument 'robot' to the conclusion 'low birth rate': for example, 'NEG-human contact' could fill the gap in between. In the same way, the other two DDs of 'robots', [robots HENCE NEG-substitute for human intelligence/contact], constitute standalone associations, and at the same time, they imply a longer path from the argument 'robot' to the conclusions 'NEG-substitute...', as shown by means of dotted arrows. Finally, there is an implicit orientation 'NEG-remedy to problems' that can be retrieved from the comment as a reaction to the proposal. Moreover, part of the dotted elements in the diagrams simply arise from the context, i.e. the proposal. Presupposition, implicit meaning and inference would deserve an in-depth description that cannot be provided here. I therefore bring this analysis to an end by referring to Galatanu (2018b) for an argumentative approach to implicit meaning.

#### 5. CONCLUSION

In the analysis above, I provided the description of disagreement by looking into the argumentative orientations of the words used in the proposal and comments. This gave insight into the various semantic mechanisms that are used in situations of disagreement at a micro-level. My approach to disagreement is thus only one among many, and needs to be combined with other approaches that focus, for instance, on speech acts, polyphony, linguistic markers etc. It also needs to be integrated into macro-level approaches that consider the context in which the disagreement takes places, since the virtues and vices of disagreement cannot be apprehended outside the implications it has within a particular field of activity.

The illustrations discussed in this paper indicate that disagreement relies on semantic mechanisms of rejection. These are:

- a) the stereotype on which a DD relies is rejected
  - o either the DD is replaced by its opposite ('robots HENCE *NEG*-affective dimension') (Comment 1),
  - or a new one is added that is very close to the negation of the stereotype ('robot HENCE NEG-human warmth' opposed to 'robots HENCE affective dimension') (Comment 2);
  - the negation will spread to the whole argumentative chain based on that stereotype, if there is such a chain ('NEG-affective dimension HENCE NEG-remedy to problems HENCE NEG-neg-loneliness') (Comment 1);
- b) an absent but plausible argumentative orientation is rejected

- the rejection affects an argumentative association that is both absent from the proposal and authorised by it ('caregivers NEVERTHELESS NEG-responsibility') (Comment 3);
- this is based on a particular type of negation: the argumentative association is the same, but its normative form 'caregivers HENCE responsibility' is undermined and replaced by the transgressive form 'caregivers NEVERTHELESS NEG-responsibility';
- c) an implicit argumentation is rejected
  - o for example, by adding a new association that both explicates and negates the implicit association in the proposal ('robots HENCE NEG-substitute for human contact' as opposed to 'robots HENCE affective dimension HENCE substitute for human contact') (Comment 4);
- d) the whole argumentative association is rejected
  - o for example, by means of 'illusion' and 'must not' (Comments 1 and 3);
- e) the axiological orientation is rejected
  - o a new association is added that has an opposite axiological orientation ('job cuts' or 'low birth rate' as opposed to 'remedy to problems') (Comments 2 and 4).

These semantic mechanisms co-occur and their list is likely to be extended.

The texts analysed in this paper are short because this was the only feasible way to fully illustrate my approach. It goes without saying that this approach could not be applied to the same extent to longer discourses. However, I still claim that the view offered by the SAP model, i.e. apprehending discourse in terms of lexical argumentative associations, can be profitably integrated into macro-level approaches of disagreement.

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