THE NORMATIVITY OF MULTIMODAL ARGUMENTATION

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Objectives

Argumentation is the conversational practice in which people deal with their questions, problems and disagreements by **exploring and critically evaluating divergent answers, solutions and opinions** and the reasoning behind them. At the centre of this practice is the communicative act of giving an argument, in which one puts forward supposedly good reasons in support of a thesis (cf. van Eemeren 2010; Bermejo-Luque 2019). Such interpersonal reasoning for the purposes of inquiry, deliberation and rational persuasion is widely valued in domains as diverse as the sciences, humanities, law, politics, education, and our personal lives. **The normative aspirations of argumentation** and the extent to which they are really met, receive widespread attention in academic and public life, and the interdisciplinary field of argumentation studies has grown steadily since its inception in the 1970s (van Eemeren et al 2021; Dutilh Novaes 2021). The field has long been based on the idea that argumentation is best studied by focusing on verbal language use and textual discourse, and this classical linguistic assumption permeates the various argumentation theories, schools of thought and approaches, such as Argument Mining (Lawrence and Reed 2019); Computational Argumentation (Prakken 2006); (Critical) Discourse Analysis (Wodak 2015); Formal Dialectics (Hamblin 1970; Walton and Krabbe 2011); Informal Logic (Johnson 2003); Pragma-dialectics (van Eemeren 2010); and Rhetoric (Zarefsky 2007; Tindale 2015). But this traditional focus on grammar-based (natural or artificial) languages went hand in hand with **a neglect of non-verbal ways of expressing arguments**, and this neglect has been losing its initial appeal.

We are witnessing a double shift. The online affordances for the expression of sentiments and ideas, such as on Facebook, X or Instagram, have turned images and videos into a prominent and influential factor in, what has now become, fully-fledged multimodal communication (Bateman et al 2017). In addition, advances in semiotic research have led to an increased awareness of the visual and other non-verbal elements inherent in different forms of communication, also outside online forums (Kress and van Leeuwen 2021), such as for example prosody (Kišiček 2014). These shifts have affected argumentative communication and its study alike, and in the last two decades such 'multimodal argumentation' has been explored in a growing subfield with the same label. Progress has been made in identifying and reconstructing arguments expressed in images included in commercial and political advertisements (Tseronis and Forceville 2017), in the journalistic use of photographs (Serafis 2023), and in political cartoons (Feteris, Groarke and Plug 2011). The emphasis has been on making the scientific resources of semiotics and linguistic pragmatics available for the analysis and reconstruction of multimodal arguments. However, this approach has been one-sided. The **normative dimensions of argumentation** have scarcely been taken into account, with has led to the undesirable tendency to regard all attempts at persuasion and bending minds as 'multimodal arguments.' Also, the concepts and tools for **critically assessing and evaluating multimodal arguments** are left largely unexplored. In our research project, we aim to **develop a theory of multimodal argumentation that takes into account the normative aspirations of multimodal arguers**. And we offer **the tools to test these aspirations**.

The ***philosophical aim*** of this project is therefore to **integrate description- and explanation-oriented insights** into argumentation, as developed in *multimodal semiotics* and *superlinguistics*, **with evaluation-oriented theories of argumentation**, as developed in (formal and pragma-) *dialectics* and *normative pragmatics*. This is necessary because an argumentation theory needs to be both descriptively and normatively adequate (cf. van Eemeren 2010), and this fusion has not yet been achieved in the study of multimodal argumentation.

***Normative pragmatics**:* We characterise the 'situated normativity' of multimodal argumentation practices by showing how participants in online interactions actually interpret and mutually evaluate their use of multimodal resources for persuasive and dissuasive argumentation, an approach we adopt from 'normative pragmatics' (Jacobs 2016; Goodwin 2007). Rather than approaching argumentative discourse from the perspective of what the analyst regards as rational, normative pragmatics aims to characterise the often sophisticated ways in which dialogue participants themselves evaluate arguments within their conversational practices, and shape and reshape the norms that govern their interactions (Jackson 2019).

***Dialectics**:* We combine this bottom-up case study approach with a top-down conceptual and normative analysis of what is required for any multimodal argument to claim to be argumentatively reasonable and to live up to that argumentative claim, an approach we adopt from dialectics (van Eemeren 2010). Dialectics is based on the concept of a normative dialectical system in which rules that govern speech acts intend to promote conversational goals, such as resolving a disagreement on the merits of the case (cf. Hamblin 1970; Krabbe and Walton 2011).

***Multimodal semiotics**:* The semiotic tools for understanding multimodal meaning-making are extensively studied by Bateman, also with applications to the genre of argumentation (Bateman 2018; Wildfeuer and Pollaroli 2017). His framework enables the analysis of the ways in which authors of multimodal utterances convey coherent messages often by using a mixture of semiotic resources, such as writing, gesture, facial movement, speech, sound and more.

***Superlinguistics**:* In superlinguistics, linguistic pragmatics has been applied to icon-based rather than symbol-based communication (Patel-Grosz et al 2023; Maier 2023; Maier and Steinberg 2022). For example, in the 'logic of conversation' (Asher and Lascarides 2003), the interpretation of textual discourse is enabled by the interpreter trying to maximise discourse coherence on the basis 'rhetorical' discourse relations of 'elaboration' or 'explanation' between for example single assertions. In superlinguistics, this has been applied to iconic forms of narrative meaning-making, such as in cartoons (pace Cohn 2016; cf. Bateman and Wildfeuer 2014). Based on this work, we aim to develop an account of how we can charitably interpret reasoning and argumentation on the basis of multimodal artifacts.

At present, progress in multimodal argumentation is hampered by the lack of engagement with argumentative normativity by semioticians and superlinguists, and by the neglect of the multimodal aspects of communication in normative argumentation theory. In the spirit of Peirce, for whom semiotics was the basis of a both dialogical and normative account of diagrammatic logic (Peirce 1958, p. 421; Ketner 1981; Champagne 2016), we integrate semiotic and superlinguistic insights into a normative theory of multimodal argumentation. As explained below, the research project focuses on a key aspect of multimodal argumentative interactions, namely **the extent to which the argumentative meaning of the multimodal message is sufficiently clear and transparent**. We will describe and explore dialogical strategies that allow participants on **Facebook, X and Instagram** to analyse and critically examine the intelligibility and non-deceptiveness of their multimodal utterances. (If really needed, we can shift to other social media platforms.) The ways in which these

participants integrate their (folk-theoretical) semiosis with their (folk-theoretical) evaluation will inform our scholarly account of the normativity of multimodal arguments.

The outcome will be a characterisation of argumentative normativity that is *situated* in the sense of resulting from and depending on the choices of dialogue participants. We will give a descriptive and a normative account of the ways dialogue participants engage in ***clarification dialogues*** in order to to explore and clarify the meaning of their multimodal acts of communication (cf. van Laar 2010), and in ***metadialogues*** in order to examine whether their multimodal arguments and clarifications are conducive to epistemically good outcomes (cf. Krabbe 2003). The philosophical aim is pursued in both Project A and Project B (see below).

The ***theoretical aim*** of the project is to develop concepts, tools and criteria for (a) **identifying arguments** in multimodal communication, (b) **interpreting and reconstructing the logical and dialogical structure** of multimodal arguments, and (c) assessing and evaluating the **rhetorical persuasiveness and dialectical reasonableness** of multimodally expressed arguments. As explained above, we aim to integrate the insights of those scholars who are sensitive to the semiotic nuances of argumentative meaning-making in context and those who are sensitive to the normative ambitions inherent in the act of giving someone a serious argument. Project A deals with identifying and reconstructing multimodal arguments, whereas Project B concerns their evaluation. Project C (also below) involves the development of software that facilitates especially Project B.

The conceptual part of our method for developing a well-integrated theory of multimodal argumentation, is to start from a radical, **'hyper-dialectical' concept of argument** (cf. Finocchiaro 2006). A single, simple argument, in our approach, is the expression of a dialogue sequence consisting of a proponent's statement of a thesis (e.g. 'Let's dine at this restaurant'), an opponent's critical challenge to this thesis ('Why? How about their desserts?'), and the proponent's statement of a reason that, by responding to the challenge, is supposed to support the thesis ('They serve excellent desserts'). This is the basis of our account of the identification, reconstruction and evaluation of multimodal arguments.

On questions of **identification**: Images and other communicative devices can be used in argumentative acts if only the arguer **makes their argumentative intention to rationally persuade mutually manifest** and thus transparent to the addressees of the message (cf. Grice 1957; Sperber and Wilson 1986; Forceville 2020). There are plausible **indicators of non-verbal argumentation.** Of primary importance, here, is the ostensive nature of the communicative use of an image. An image only really communicates an argument if the argument is made overtly to the addressee, so that it becomes mutually manifest that the communication counts as an attempt to convince the addressee on reasonable grounds. This requirement is clearly met in typical cases of gesticulation or facial expressions, but also in cases where an orator argues their case by overtly directing the addressee's attention to an image or sound, e.g. by pointing in court to the visual evidence within a photograph (Dove 2012), or by holding one's index finger close to one's ear so as to warn for a nearing thunderstorm (cf. Marraud 2018; de Oliveira Fernandes and Oswald 2022). Ostension makes it easy to understand **how non-verbal means can succeed in expressing complete propositions**. The requirement of ostension is not trivial, and we expect it to lead to a more restrictive extension of 'multimodal argument' than is common (Groarke 2015; Champagne and Pietarinen 2020), and to provide an alternative to accounts where any multimodal exchange of information is seen as a means of influence and, for that reason alone, as argumentative (Marchon, Silva and Garcia 2023).

On questions of **interpretation and reconstruction**: Similar to performative verbs, there are **non-verbal indicators for the structure of argumentation**. Recent work has shown how 'non-verbal speech act devices' (Abdel-Raheem 2023) allow communicators to mark non-verbal communicative acts. For example, highlighting the contrast or incongruity between different elements of an image (Tseronis and Forceville 2017) can act as a **'rhetorical stimulus'** (Blair 2015), leading the addressee to identify and reconstruct a logical argument from the non-verbal artefact. Others have argued that the

only way to visualise argumentative connections is to depict or suggest a movement from the premises to the conclusion (Champagne and Pietarinen 2020). We, however, will look at reconstruction from the **distinctive angle of dialogue**. We conceptualise an argument as a dialogical sequence in which a proponent of a thesis encounters an opponent who critically challenges the thesis, and in which the proponent responds to this challenge by offering an allegedly rationally persuasive reason that supports the thesis by answering the challenge (van Laar 2024; cf. Finocchiaro 2006). We hypothesise that there are non-verbal indicators of critical challenges, which in turn mark multimodal arguments. An example is a public campaign against drinking and driving, where the harmful and deadly effects of drinking and driving are visualised (by showing a car crash), but where there is also a visualisation of a critical challenge by showing someone who is visibly enjoying a glass of champagne: "Why wouldn't I drink and drive? How about the joy of a glass of champagne?" In our reading, the visualised deadly effects respond to this critical challenge: "Because it is far too dangerous". In short, challenges can be shown in a non-verbal way and allow a complete argument to be visualised (pace Champagne and Pietarinen 2020). (Note that typically, challenges remain implicit in visual arguments, and are only salient in context.)

On issues of **evaluation**: This is a largely unexplored area in multimodal argumentation, which makes it all the more urgent for us to limit our attention to one class of key problems and fallacies of multimodal argumentation. We focus on the multimodal counterpart of what, since Aristotle, have been called the 'language-dependent fallacies' (Walton 1996), which we more generally call **'meaning-dependent fallacies'**. Part of our methodology is to approach these problems by determining the ways dialogue participants can deal with them themselves. By what dialogical moves can they, step by step and in mutual interaction, **clarify the meanings** of their multimodal utterances and thereby influence the future course of their conversations? By what dialogical moves can they expose problematic, misleading or deceptive multimodal utterances, and how can they deal with these issues productively in meta-dialogue?

Project A Multimodal reasoning

How can we **legitimately identify and reconstruct reasoning in multimodal arguments**? Project A is concerned with the concept of argument in relation to multimodal communication, and aims to analyse how participants in online interactions develop, express and clarify their argumentative reasoning by making use of the multimodal resources available. Normative pragmatics is a theory of argumentation that bridges the gap between analysis and evaluation by examining how interlocutors interpret and evaluate each other's arguments, and how this affects the course of their conversation (Goodwin and Innocenti 2017; Jacobs 2016). This approach avoids normative universalism (pace van Eemeren 2010; Siegel 2023) by examining arguments in different conversational contexts and the often quite local norms that govern them, such as specific forms of critical discussion, negotiation dialogue, inquiry dialogue, and deliberation dialogue (cf. Goodwin 2007; Walton 1998; Krabbe and van Laar 2007). Multimodality research encompasses a mix of approaches, of which we use both semiotics, which studies meaning-making processes in context (Bateman 2018; Kress & van Leeuwen 2021; Wildfeuer 2014; Wildfeuer & Pollaroli 2017), and superlinguistics, a generalisation of formal semantics and pragmatics so as to make them applicable to images, videos and other forms of iconic meaning (Patel-Grosz et al. 2023; see also Wildfeuer 2014). By drawing on both the descriptive context sensitivity of semiotics and the formal tools of iconic semantics, we seek to transform normative pragmatics, currently primarily focused on speech and text, into a theory for the analysis and evaluation of multimodal arguments. To maintain a realistic level of ambition, we focus on a key aspect of online argumentative interaction: how participants deal with **the clarity and transparency, or lack thereof, of multimodal arguments**. Project A addresses three problems.

A1. Multimodal propositions

The first problem concerns the issue of whether propositions, i.e. content that can be shared between dialogue participants and that can be evaluated as acceptable (unacceptable) and worthy

(unworthy) of belief, can be expressed non-verbally. Our research questions are: **Can we express full propositions using communicative devices that are predominantly iconic rather than symbolic in nature?** Do the propositions that can be expressed go beyond the expression of basic, atomic propositions to include negative, disjunctive and conditional propositions? Can multimodal communication help participants to express what might be considered verbally 'ineffable' content, such as specific emotions ('how I love this dessert') or the depth or importance of specific values ('how much our friendship matters to me') (Fabb 2021)? We expect to benefit from the rather extensive work on these issues in the recent literature on philosophical semiotics and its application to argumentation (Champagne 2016; Stjernfelt 2015), by combining it with the concept of 'precization' and the idea of interpreting messages at a low 'level of intended meaning', both developed by Naess (1966). Our main task involves the **application of these ideas to visual and non-verbal means** of engaging in online discussions, such as posting photos, animations (memes) and videos (reels) in the context of public controversies.

A2. Multimodal indicators

The second problem concerns the multimodal equivalents of the ostensive performance of speech acts. Our questions are: Can a speaker or writer: in the role of proponent **advance a thesis** (standpoint)?; in the role of opponent critically **challenge the thesis**?; and in the role of proponent ostensively respond to the critical challenge with **a reason that is meant to support the thesis**? The roles of proponent and opponent can be played by two people, in which case we speak of a *multimodal exchange*, or by one person who anticipates the expected criticism, in which case we speak of a *multimodal address* (e.g: "We should go to that restaurant. You may be wondering why that would be a good idea. Well, they have great desserts", or shortly "We should go there, because they have great desserts"). Our concept of argument is similar to the pragma-dialectical idea of a complex speech act, but ours is more 'hyper-dialectical' by **including the opponent's challenge in any complete argument** (even though a writer or speaker may leaves the challenge implicit).

Next, A2 addresses the **multimodal markers and other kinds of indicators** of multimodal argument (Bateman 2018; Tseronis & Forceville 2017). Our question is: how can we use our hyper-dialectical account of multimodal argument to develop a list of markers and other indicators of the multimodal expression of argumentative reasoning? We expect the list to include: (a) non-verbal yet symbolic devices for expressing logical operators (e.g. a cross for denials, an arrow for conditionals, diverging lines for disjunctions, etc.); (b) symbolic and near-symbolic ways of posing challenges such as showing one's questioning eyes; (c) non-symbolic means of posing challenges such as visually providing information that contrasts sharply with the other components of the image, as in the drinking and driving campaign poster discussed above. In addition to such markers, communicators take advantage of the fact that some issues and questions are salient in the context. For example, the issue of who to vote for in an upcoming election makes it more plausible that a campaign poster includes a multimodal argument. This **top-down** conceptual approach will be combined with a **bottom-up** investigation, following the examples of normative pragmatics (Jacobs 2016), of the ways in which arguers in online forums mark and indicate their argumentative contributions (van Laar and De Cock 2023). This requires the availability of a number of **extensive case studies** (which we regard as preparation for qualitative and quantitative empirical research – not part of the current proposal), and to that purpose we will select from Facebook, X and Instagram publicly available exchanges that with some plausibility include multimodal arguments and discussions about them (Abdeh-Raheem 2023). The case studies will inform the development of our theory of multimodal arguments.

A3. Multimodal clarification

The third problem concerns the **dialogical management of propositional commitments in light of the underdeterminacy of meaning** in multimodal arguments (Belleri 2016). In dialectical theories of argument, conversational rights and obligations enable discussants both to develop, refine, and justify their positions and to keep their contributions to the dialogue within the bounds of what is

helpful for an epistemically correct outcome (van Eemeren 2010; Walton and Krabbe 1995). A central subset of these rights and obligations concerns participants' commitment to propositions. In some language-oriented dialectical systems, special devices have been developed to deal with the vagaries of linguistic speaker's meaning, e.g. by specifying rights and obligations concerning, for example, the proponent's right to choose the words for expressing a thesis or a reason (Mackenzie 1988; van Laar 2010). These devices also include the opponent's right to point out that a phrase used by the proponent is **vague, general, ambiguous or unclear** in a way that may be detrimental to the continuation of their dialogue. Finally, they make 5rthe proponent responsible for responding to such criticisms by defining, specifying, or disambiguating the expression, or by disputing the need for any such clarification. Such regimented clarification dialogues help us understand how dialogue participants can **obtain a sufficient degree of clarity** about the propositional commitments of the interlocutor and thus about what is exactly at issue (Walton 1996).

In A3, we study on the clarification of the meaning of multimodal utterances in sofar as their intended ***explicit content*** is concerned. Such multimodal analogues of an 'explicature' (cf. Forceville 2020) can be seen as the proposition that the interpreter can retrieve from the multimodal communicative act by attenting to the semiotic features of the utterance (e.g. the different parts and aspects of an image) and to contextual information (who is the author, what is the context of utterance, who is the addressee?), and which is minimal by merely completing the (multimodal analogue of) the logical form of the utterance (cf. Sperber and Wilson 1988). (In project B, we examine the possible *implicit content* of multimodal arguments, such as what is suggested by them.) Similar to A2, we approach this problem both **top-down**, by making existing normative models suitable for multimodal communication, and **bottom-up**, by studying a selection of real online interactions on Facebook, X and Instagram in order to test and adapt models for clarification dialogue, and to arrive at a sufficiently realistic and applicable one.

Overall, the outcome of Project A is a conceptual and analytical toolbox for identifying and reconstructing the structure of multimodal reasoning and argumentation, tailored to online social media interaction.

Project B Multimodal Evaluation

How can we distinguish between strong, weak and fallacious multimodal arguments? In Project B, we use the **normative pragmatics approach to argumentation as a lubricant to integrate descriptive accounts (in semiotics and superlinguistics) and normative dialectics**.

Like all forms of communication, messages in online forums can be **propagandistic, manipulative and deceptive** (Stanley 2015; Nettel and Roque 2012). The affordances of the platforms offer particular opportunities for multimodal versions of forms or error and deception that are well studied from linguistic perspectives. On the one hand, images can be used to influence people's minds in less than ideally transparent ways, for example by deflecting critical engagement with the message, actively discouraging such engagement, or even persuading in actively deceptive ways. A commonly used device is to appeal to one's social credit and exploit the addressee's deference, a strategy easily leading to visual versions of the *ad verecundiam* fallacy. Other forms of manipulative persuasion can be found when writers evoke emotions that cloud the addressee's judgement. Such appeals to pathos are common, for example, in the use of photographs or political cartoons that trade on the indignation at the self-serving strategies or lack of moral concern of competing politicians. Pernicious examples of the exploitation of positive emotions can be found in photographs of lynchings of black people in the 1930s, where well-dressed and politely smiling white families in the background suggest to the viewers that these lynchings were events to be condoned or even applauded (Medina 2018). Contemporary examples of the exploitation of negative emotion can be found in photographs of refugees that evoke fear and disgust of asylum seekers (Serafis 2023).

The recognition of the power of multimodal argumentation should be balanced with an effort to develop the concepts and tools to **critically evaluate both the content and the form** of multimodal arguments, and we will also be interested in both verbal and non-verbal ways of calling out the argumentative abuse of deceptive imagery. In Project B, we focus on three problems, and our responses to them form our situated and dialogical account of the normativity of multimodal arguments.

B1. Evaluation of multimodal arguments

First, there is the problem of how to **evaluate multimodal arguments**. Some work has been done in this area, and we expect to build on and benefit from it (Tseronis 2018; Tseronis and Forceville 2017). One area that has been relatively under-explored, however, is the evaluation of photographs. We will focus on the **evidential value of photographs** when used in arguments as a particularly interesting example. How should we draw the line between sound and unsound uses of images (Dove 2012), also in light of the increasing technical ease with which photo-like images can be artificially created? B1 a first step towards the development of a theory of meaning-dependent fallacies.

B2. Underdetermination

Second, there is the problem of **underdetermination of meaning**. We adopt a dialectical approach to this phenomenon, which, while also rampant in verbal communication (Ludlow 2014), typically haunts multimodal argumentation to an even greater extent. Any evaluation of an argument is based on some reconstruction of the argument, but in typical cases of multimodal arguments, even when all kinds of contextual and co-textual evidence is taken into account, there remain many ways of interpreting the utterance, both in terms of the direction the interpretation takes and the depth and specificity of the intended meaning (Naess 1966).

Project B2 focuses on the **multimodal analogues of 'implicatures'** (Sperber and Wilson 1988; cf. Forceville 2020). These multimodal implicatures are messages that can be retrieved in ways that are not limited to minimal propositional completion, but include the full plethora of pragmatic enrichment, depending on the perceived conversational needs and contextual relevance of the information. For example, a campaign poster showing the face of a competing politician (or: the favourite politician) may merely *suggest* that the depicted person is an untrustworthy (trustworthy) person (cf. Macagno and Walton 2019). Of particular interest is the multimodal analogue of **"(not-)at-issue content"** as initiated in superlinguistics (Patel-Grosz et al. 2023). For us, it is crucial to note that proponents can use these implicit meanings strategically, for good argumentative purposes as well as to trick opponents.

In B2 we aim to explore this boundary. Our dialectical method of exploring the boundary is indirect, namely by developing normative models that enable the opponent to raise the issue of implicit meaning ("you seem to suggest that ..."), to demand clarification ("is that intended?"), to demand accountability ("do you stand by that?") and justification ("how can you defend that?"). In return, the proponent must have the right to withdraw ("I retract that"), dismiss ("That's beside the point") or deny ("That is not what I said") any such meanings and commitments ascribed to them. Rather than trying to formulate and impose a criterion for deciding such issues, we will develop **a model for clarification dialogue in which participants can try to resolve such issues of implicit meaning and implicatures on reasonable grounds themselves** (cf. Hamblin 1970; Mackenzie 1988; Walton 1996; Krabbe 2003; van Laar 2010). How can a balance be struck between giving opponents the right to hold proponents accountable for the implicit meanings they multimodally convey, and giving proponents the right to deny or reject propositional commitments attributed to them?

I give two **examples** of online posts where the author of the post can plausibly be accused of committing a **meaning-dependent fallacy**. First, a campaign poster posted on Instagram for a Dutch far-right political party with the text "Stop Woke" printed on a photo of two adults in S&M clothing,

both kneeling and addressing a young girl with a rainbow flag - implicitly suggesting that woke people are likely to intimidate or even abuse vulnerable children. Second, an online news item on X with the text "Racist language with the Dutch police", illustrated with a picture of a police station with a tractor carrying an upside-down Dutch flag, which is the sign of farmers' protests - implicitly and falsely suggesting, according to one commentator, that there is a link between farmers' protests and racism.

Rather than approaching the issue of meaning determination only from a **top-down** normative perspective of dialogue modelling, we interweave these conceptual explorations with **extensive case studies** on a sample of argumentative exchanges on **Facebook, X and Instagram** revolving around **controversial uses of images or videos**. The two examples above have been thus discussed online. These will then function as rich case studies that will allow us to tailor the conceptual and normative proposals to the needs and demands of real-life online discussions, and also prepare us for future empirical research of a qualitative or quantitative kind (not part of the current proposal).

B3. Normative guidance

Thirdly, there is the problem of how to design online discussions in such a way that participants are **best equipped to deal critically with the consequences of multimodal meaning underdetermination**. The normative guidelines developed in B2 need to be specified and tested in real conversational settings, so as to develop well-grounded recommendations for engaging in multimodal argumentation practices. We will use a **software application**, to be developed in Project C (see below), that allows us to experiment in a controlled, online environment with a variety of self-designed discussion procedures, and thereby with different implementations of the normative guidelines for the responsible and critical use of non-verbal discussion moves. In particular, we will focus on experimenting with **different procedures for clarification dialogue** that help participants to keep their multimodal utterances 'within the bounds of reason.' These will be philosophical experiments in which we explore various options for implementing the results of Project B2, and they aim at developing normative guidance for users of online forums (in the wild) that are tailored to the kind of meaning dependent fallacies they face.

Overall, in Project B we develop an account of **how participants can address the potential misuse of the multiplicity of multimodal meanings**.

Project C Multimodal Discussion Design

Project C is a revision of existing software, so we will keep the description brief. The aim is to further develop the software application *Deliberative Debate* to accommodate multimodal arguments. Deliberative Debate was developed by the main applicant in a previous project and released in 2022. It allows researchers (and teachers – see the impact section; van Laar 2022) to design and implement online discussion procedures and to observe the effects of design choices on the behaviour of those engaged in a discussion following such a procedure. Deliberative Debate only covers written discussion moves. In Project C, Deliberative Debate will be adapted to include also multimodal arguments, such as those involving emoticons, images and sounds. The **new software application**, *Multimodal Discussion Design*, allows us to carry out part B3 of Project B, and to **design and test procedures for clarification dialogues about multimodal arguments**. The experiments can help to explore questions such as: What design choices promote high-quality argumentation, avoid meaning-dependent fallacies, and enable participants to respond to alleged instances of such fallacies? These will be philosophical experiments in which we explore different options for implementing the findings of B2 in an online setting, and they aim to develop normative guidance for users of online forums that is tailored to their needs. The application will have a Creative Commons license.

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