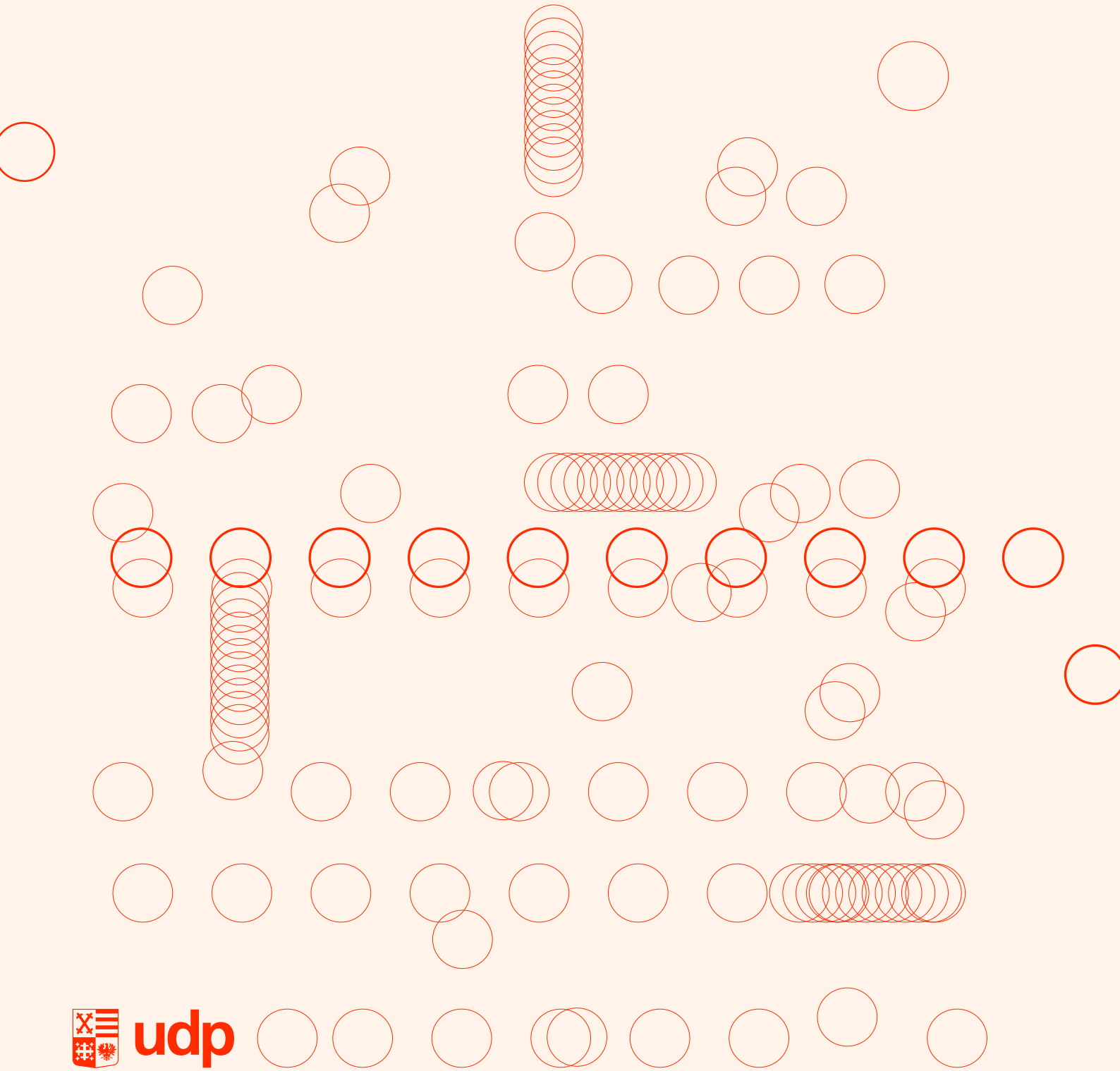
COGENCY

Journal of Reasoning and Argumentation

Vol12 - Nº2



udp

COGENCY
Journal of Reasoning and Argumentation

COGENCY
Journal of Reasoning and Argumentation
Vol. 12, No. 2, Summer 2021

Cogency is a publication edited by the Faculty of Psychology, Diego Portales University, Vergara 275, Santiago, Región Metropolitana, Chile.
Email: cogency.journal@mail.udp.cl; web site: www.cogency.udp.cl
The papers of Cogency are indexed or summarized in: Scopus; Latindex; Dialnet; The Philosopher's Index; International Directory of Philosophy (Philosophy Documentation Center); Elektronische Zeitschriftenbibliothek EZB (Electronic Journals Library); Genamics Journal Seek; NewJour. Electronic Journals & Newsletters; Philosophical Journals on the web; WorldCat OCLC.

ISSN 0718-8285

Correspondence, subscription and sales
Cogency Journal
Vergara 275, Santiago, Chile
E-mail: cogency.journal@mail.udp.cl

Production design:
Camila González S.

udp UNIVERSIDAD DIEGO PORTALES

Contenidos

NOTA EDITORIAL

Elisa Ansoleaga
Universidad Diego Portales
maria.ansoleaga@udp.cl

Julian Goñi
Pontificia Universidad Católica de Chile
jvgoni@uc.cl

In this new issue of Cogency, we present different perspectives that illuminate argumentation, reasoning, and human thinking in novel ways. In this sense, this collection of articles celebrates the diverse set of conversations among philosophy, psychology, and linguistics that enrich our understanding of human thinking and reasoning.

The article "Aristotle's Paradeigma and Husserl's Analogizing Apperception" by Zaitseva (2020) explores argumentation by integrating cognitive sciences, classical philosophy, phenomenology, and argumentation theory. This theoretical integration effort of unlikely sources expands our understanding of the foundations of reasoning.

In his article entitled "Theory of reasoning by goals" D'Alfonso (2020) proposes a new model for reasoning that incorporates the dimension of personal goals into deductive reasoning. This bold idea introduces a psychological dimension into the debate about logic and informal logic, opening up new debates for empirical and theoretical research.

"Sumando límites a la reconstrucción argumentativa: el caso del gusto en la argumentación" [*Adding limits to argumentative reconstruction: the case of argumentation taste*] by Mejía (2020) questions argumentative reconstruction through the application

of concepts from pragma-dialectic and informal logic approaches to argumentation. The author also proposes argumentation taste as a basis for a differential approach to argumentation analysis.

The article "When is it responsible to generalize from a single instance?" by Botting (2020) takes a critical stance on the fallacy of hasty generalization and details logical issues when applying this fallacy. He concludes that applying the hasty generalization is difficult in real argumentation scenarios and seems to implicate insincere reasoners.

"Diseño de un programa de formación docente para el desarrollo de conocimiento pedagógico de contenido de la argumentación" [*Design of a teacher training program for the development of pedagogical knowledge on argumentation content*] by Macedo, Larrain & Gómez (2020) presents design-based research that led to the development of a professional development program for high school teachers to promote learning about argumentation knowledge.

The article "Justification of judicial decisions from a normativist and inferentialist approach" by Caballero (2020) discusses the issue of judicial justification by drawing from Wittgenstein-Brandom's normativist and inferentialist theoretical project. In doing so, the author proposes a new conceptual framework to analyze judicial decisions.

In "Metaphor and parallelism in political advertisements" (Lubis & Purba, 2020) we explore political advertisement in the context of a particular cultural and linguistic form of life. The authors describe phonology, grammatical, lexicosemantic characteristics of the Alas political language, and conclusions relevant to linguistics, politics, and cultural studies.

We want to end this note by thanking all the reviewers that make our job possible and Universidad Diego Portales for sponsoring this publication.

Cogency, Journal of Reasoning and Argumentation
Vol. 12, No. 2, Summer 2021

JUSTIFICATION OF JUDICIAL DECISIONS FROM A NORMATIVIST AND INFERENTIALIST APPROACH

*

Pedro Caballero Elbersci
CONACYT, Mexico
pcaballeroelbersci@gmail.com

The aim of this work is to analyse the notion of justification of judicial decisions. In a nutshell, the analysis is carried out in two directions: firstly, criticising the notion of justification of the deductive model –i.e. one of the most well-accepted theoretical models about judicial decisions; and secondly, proposing a new notion of justification, that has better theoretical performance. The main argument begins by making the deductive model explicit. The argument continues with Juan Carlos Bayón's objection to the deductive model. Bayón argues that this model is implicitly committed to a conception of rules and the application of rules that is afflicted by the rule-following paradox. The argument then shows that this paradox, in its most threatening version, contains two other problems that Bayón did not consider. The argument is further developed by specifying a conception of rules and the application of rules, that is in keeping with Wittgenstein-Brandom's normativist and inferentialist theoretical project, which in itself avoids these philosophical problems associated with this paradox. Finally, this article concludes by proposing a meta-theoretical criterion of justification, based on the avoidance of those problems, which is more rigorous and appropriate to be used in theories about judicial decision practices.

Keywords: Judicial Decisions, Justification, Juan Carlos Bayón, Ludwig Wittgenstein, Robert Brandom.

1. Introduction

The analysis offered in this article starts from the common assumption that underpins much of the investigations on judicial decisions. This point is premised on the assumption that in most modern legal systems there is a norm that requires judicial officials to provide reasons for their decisions. More precisely, in most modern legal systems there are some norms that broadly require: (a) that judicial officials ought to resolve the disputes that reach their courts; (b) that they ought to establish, in order to resolve them, particular decisions; (c) that each particular decision ought to have some reasons in support of it; (d) that judicial decisions, in a general sense, can be controlled and reviewed by other higher courts, except in the last step of the judicial hierarchy.

Having taken these practical demands into serious consideration, some legal philosophers have assumed the commitment to creating theoretical models of two different kinds. On the one hand, models that capture the nature of legal practices in which judicial officials take decisions –i.e. models that propose a descriptive explanation (i.e. a theoretical reconstruction), with a certain level of abstraction and generality, about the structure and functioning of judicial decisions. On the other hand, models that offer some normative or evaluative criteria to determine how judicial officials should substantiate their decisions and when judicial decisions are justified –i.e. models that propose some means to assess whether a particular decision is justified.

It is well known that the expression 'judicial decision', within practical and theoretical legal contexts, suffers from ambiguity. Among other senses, it can be used to refer (i) only to the particular conclusion of a judicial dispute or (ii) both to the particular conclusion and the reasons offered in its favour. This expression will be understood here in the second sense. The term 'justification', even when associated with this notion of judicial decision, also suffers from ambiguity. This term can be used to refer (i) to the reasons presented by judicial officials in favour of the particular conclusions –this notion of 'justification' is descriptive and similar to some meanings commonly associated with the term 'argumentation', 'foundation', 'rationale', 'motivation'– or (ii) to a criterion of correction that is established between the reasons and the particular conclusion –this notion of 'justification' is normative or evaluative and expresses a criterion that serves to determine whether or not judicial decisions are justified. The term 'justification' will be used here, unless it is specifically expressed otherwise, in line with its second sense[1].

1 In this sense, the notion of justification of judicial decisions is defined in terms of its correctness, and the notion of *correctness* is defined in turn in terms of *rationality*.

Considering the practical demands and the theoretical commitment previously mentioned, the issue addressed in this article is precisely the criterion of justification for judicial decision practices. It is argued that the criterion of justification offered by the deductive model, which is the position that is criticized here, has a serious theoretical problem; basically, it suffers from the rule-following paradox[2].

However, in this article it is argued, moreover, that the rule-following paradox is not only composed of a single theoretical problem, as it is usually considered, but of three different and independent theoretical problems: (i) the infinite regress of interpretation, (ii) the gerrymandering, and (iii) the personal or subjective criterion of correction. For this reason, a new and adequate criterion of justification for judicial decisions is offered. This is the challenge faced in this work: to build a new and adequate criterion of justification for judicial decisions which is not committed to any of the problems of the rule-following paradox.

The main argument of this work has the following structure. In the first step, presented in the second section, the deductive model of justification of judicial decisions (that is considered one of the most well-accepted models by legal theorists of the analytical tradition) is made explicit. This model presents a simple and precise criterion of justification of judicial decisions which is based on deductive logic and thus on formal rationality.

In the second step, third section, Juan Carlos Bayón's objection to the deductive model is revisited. The objection suggests that the deductive model is committed to a conception of the nature of rules and the application of rules, through its criterion of justification, that is affected by the rule-following paradox that Wittgenstein outlined in his *Philosophical Investigations*.

In the third step, fourth section, it is shown that the rule-following paradox, in its most comprehensive version, in addition to the infinite regress of interpretation problem, it is composed of two other problems. The second problem has been presented more precisely by Kripke than Wittgenstein in Kripke (1982). This is a problem that is triggered by the "regularist" or "descriptivist" positions about the criteria of correction. The third problem has been presented more precisely by Brandom than Wittgenstein in Brandom (1994). This is a problem that is triggered by the "personal" or "subjective" positions about the criteria of correction.

2 In this article I will not analyse in detail the particular positions committed to this or other models on judicial decisions, which have also been well-accepted; for the simple and only reason that I consider that this task cannot be adequately carried out in the extension of an article. Anyhow, I believe that many of the particular position of those other models also suffer from the rule-following paradox in the most threatening version, that will be presented in this article.

In the fourth step, fifth section, a manner in which these three thorny philosophical problems can be solved is presented. In short, a solution is offered –one that theories about judicial decisions could and should use– in response to what Bayón has discerningly pointed out as a substantial problem, the rule-following paradox. Specifically, the solution is composed of three parts. In the first place, the way in which it is possible, on one hand, to reject the "regulist" or "Platonist" position and, on the other hand, to block the infinite regress of interpretations. In the second place, the way in which it is possible, on one hand, to reject the "regularist" or "descriptivist" restrictions imposed by Kripkenstein's sceptical position and, on the other hand, to propose a technical normative vocabulary to explain the nature of norms. In the third place, the way in which it is possible, on one hand, to reject the "personal" or "subjective" positions and, on the other hand, to explain the social dimension of norms.

In the fifth step, in the sixth and last section, the proposal of this work is presented. A new criterion of justification is offered –i.e. a meta-theoretical notion of justification– that is more rigorous and less problematic, in conceptual and theoretical terms, than the notion with which the deductive model is committed. The idea on which this proposal is based consists of expanding the normativist and inferentialist philosophical project of (the second) Wittgenstein and Brandom –about the conceptual content of intentional actions and speech acts– to the content of the judgments expressed by the judicial official in their decisions. This theoretical project has developed a conception of rules and application of rules –basic elements in the explanation of the justification of a decision of any kind– which is not a victim of any of the three problems of the rule-following paradox. In this way, the hope is to build a new criterion of justification for judicial decisions, based on this conception of rules and applications of rules, which does not imply any of the problems of the rule-following paradox.

2. The Deductive Model

What I call in this article "the deductive model" is a theoretical proposal that offers a simple but precise logical criterion of deduction for assessing the correction of judicial decisions. The central claim of the deductive model expresses that a judicial decision is justified if, and only if, it can be reconstructed as a reasoning in which its conclusion is a necessary consequence of –or is logically implied by– a general legal norm, a description of the facts of the case, and at times certain definitions. One of the most emblematic formulations of the central thesis of this model is the following:

> The justification of a decision consists of reconstructing a logically valid inference or reasoning, among whose premises there is a general norm and whose conclusion is the decision. The rationale of a decision is a general rule of which there is a case of application, i.e. the fact of the judicial case. Between the rationale (a general norm) and the decision there is a logical, not causal relationship. A justified decision is one that follows logically from a general norm (in conjunction with other factual propositions and, sometimes, also analytical propositions) (Bulygin, 1966, p. 356)[3].

According to this model, a judicial decision is justified if, and only if, it can be reconstructed as a deductive and normative reasoning structure composed of two premises and a conclusion. Firstly, a normative premise, called "premise of law", whose content expresses a legal rule that the judge considers applicable to the particular facts of a case. This premise is generally extracted from one or more legal sources. Secondly, a descriptive premise, called "premise of facts", whose content expresses a description of the facts of the case in question. This premise is generally extracted from the evidence offered during the judicial process. The content of this premise expresses a particular action, described by the judge, belonging to the general class of actions provided by the rule. Finally, a normative conclusion, that resolves the judicial controversy, whose content expresses the legal consequence provided by the rule for the general class of actions with which the description of the fact is an instantiation[4].

---

3 The translation has been made by the author of this article. One subsequent but equally emblematic formulation says: "we fully agree with the general approach [of Neil MacCormick] and the main thesis of his article, such as: i) the legal reasoning that aims to show that a decision or a claim are justified according to current law is essentially deductive or, at least, can be reconstructed as a logical inference in which, based on two types of premises, normative and factual, it reaches a conclusion that states that certain legal consequences are applicable to a particular case. This inference shows that the decision to apply those consequences to this particular case is legally justified" (Alchourrón & Bulygin, 1989, p. 303). This position has also been held in other works such as MacCormick (1978, p. 35); Alchourrón & Bulygin (1991, p. 356, p. 303); Moreso, Navarro & Redondo (1992, p. 257); Redondo (1996, p. 251), (1999, pp. 150-151); Rodriguez (2002, p. 252).

4 The problem behind this position is none other than determining whether deductive logic works only with descriptive statements (truth-false apt) or also with normative statements (no truth-false apt). In other words, it is the so-called Jörgensen dilemma (1937, pp. 288-296), which states that: either a logic of norms is not conceptually possible, because the notion of inference and the propositional connectives are defined in terms of truth, and (as is generally assumed) truth does not operate on norms; or a logic of norms is conceptually possible, but then the concepts of inference and logical connectives cannot be defined in terms of truth. However, taking the second horn of the dilemma, considering some general intuitions about the way we actually reason (Cf. Von Wright, 1957, preface; Alchourrón, 1995, pp. 63-64), theoretical foundations for a characterization of logical inferences and their connectives for norms, through an abstract notion of logical consequence, following the rules of introduction and elimination in contexts of deducibility (Cf. Gentzen, 1934, pp. 176-210; Belnap, 1962, pp. 130-134), have been properly developed (Cf. Alchourrón & Martino, 1990; Alchourrón, 1995).

According to this position, for example, for this reasoning to function as a deductive inference, the premise of law should contain a universal normative statement of general classes, whose content expresses a universal and general class norm. The premise of the facts should contain a particular descriptive statement, whose content affirms that there is a particular object that has the property established in the general class. In this way, a normative conclusion that contains a particular normative statement can be inferred deductively, according to the predicate logic vocabulary, starting from a normative premise of law and from a descriptive premise of facts. This last statement prescribes the inclusion of a particular action in the general class of actions established in the universal norm. An example of this kind of reasoning could be the following: anyone who has committed a homicide ought to be sentenced to be in prison for 8 to 25 years; Gianfranco Ferrari has committed homicide; Gianfranco Ferrari ought to be sentenced to be in prison for 8 to 25 years[5].

Therefore, the deductive model offers an almost exclusively normative and evaluative position to assess judicial decisions, to determine whether or not they are justified, by means of a simple yet precise logical deductive criterion, which is committed to a formal conception of rationality[6]. However, for the purpose of the argument to be developed in this article, and according to Bayón's objection as well, the deductive model could be extended to a model that, in addition to a purely logical criterion of deduction, incorporates: (i) the distinction between internal and external justification, (ii) an explanatory reconstruction of some other intermediate decisions involved in judicial decisions, and (iii) a logical criterion of induction for assessing the internal justification of the decision of facts[7].

The well-known distinction between "internal justification" and "external justification" has been drawn by Jerzy Wróblewski, in the following way:

> Internal justification deals with the validity of inferences from given premises to legal decision taken as their conclusion. The decision in question is internally justified if the inferences are valid and the soundness of the premises is not tested. (…) External justification of legal decision tests not only the validity of inferences but also the soundness of premises. The wide scope of external justification is required especially by the paradigmatic judicial decision because of the highest standards imposed on it (Wróblewski, 1971, p. 412)[8].

In Wróblewski's view, the notions of internal and external justifications are related not only to the particular conclusion of the controversy but also with (at least) two other judicial decisions, namely, "the intermediate decision of law" and "the intermediate decision of facts" (Wróblewski, 1971, pp. 412-417). He understood judicial decisions as chains of reasoning, where each link has a series of premises and a conclusion, and where to determine whether a decision is justified, each link should be assessed internally –i.e. the inferential relationship that goes from the premises to the conclusion– and externally –i.e. the soundness of each of the premises that supports the conclusion[9].

Therefore, the central claim of this extended deductive model would be that a judicial decision is justified if, and only if, the following conditions are fulfilled: (i) the particular conclusion is internally justified (i.e. if the inferential relation that goes from the premises to the conclusion is *deductively valid*) and externally justified (i.e. if the premises are sound according to some criterion of correctness)[10]; (ii) the intermediate decision of law is internally justified (i.e. if the inferential relation that goes from the premises to the conclusion is *deductively valid*) and externally justified

5 This is an example of the kind of deductive reasoning called "normative syllogism". However, the standard model position also accepted two other kinds of deductive reasonings, namely, "normative *modus ponens*" and "normative *modus tollens*". An example of the normative *modus ponens* structure could be: a) for all x, if x has committed homicide, x ought to be sentenced to be in prison for 8 to 25 years; b) x has committed homicide; c) then, x ought to be sentenced to be in prison for 8 to 25 years. An example of the normative *modus tollens* structure could be: a) for all x, if x ought to be sentenced to be in prison for 8 to 25 years, x has committed homicide; b) x has not committed homicide; c) then, x ought not to be sentenced to be in prison for 8 to 25 years.

6 I say "almost exclusively" because this model presents a descriptive or explanatory reconstruction of the judicial decisions that is overly simplified and bears too little information about all the characteristic aspects of those practices.

7 In Chiassoni (2007) and Canale (2013) there is an analysis in which the transition from the strict deductive model to the extended deductive model can be observed. In Canale (2013) there is also an analysis of other lines of investigation of non-analytical traditions regarding judicial decisions.

8 Before Wróblewski, some theorists of judicial decisions, such as Perelman 1958 and Toulmin 1958, had entirely rejected the deductive model and developed some other theories that they suggested accounted for other aspects of judicial decisions. In general, the reasons why they had rejected such a model were as follows: a) because they considered that it obscured a large number of other decision-making activities; b) because it obscured a wider variety of reasoning strategies that were involved; or c) because deductive logic does not apply to the inference between normative premises and conclusion as in this kind of reasoning. A detailed analysis of these positions is found in Atienza 1991. Instead Wróblewski (1974, p. 287 and 1975, pp. 119-120) maintains the position that establishes a criterion of logical deduction to assess the correctness of the internal justification of judicial decisions. However, Wróblewski (1986, p. 214) establishes a much less strict criterion, which is based on the requirement of internal coherence, between the premises and the particular conclusion.

9 Wróblewski's proposal stimulated the general interest of most analytical legal theorists vis-à-vis the identification of the relevant intermediate decisions that judicial officials generally adopt explicitly or implicitly; and regarding the incorporation of these decisions into the deductive model to create a model with greater explanatory capacity, and with an adequate criterion of justification regarding this broader picture of judicial decision practices. See, among others, MacCormick (1978); Alexy (1978); Atienza (1991).

10 The issue of the determination of the criteria of correctness for the premise of law and the premise of facts of judicial decisions has been extensively debated without peacefully accepted results. For example, criteria of correctness of very different kinds have been proposed regarding the premise of law, such as legal validity, equity, fairness, justice, etcetera (Comanducci, 1999, pp. 52-58); while criteria of correctness based on different notions of truth, understood in turn according to various conceptions or theories about truth, have been proposed regarding the premise of facts.

(i.e. if the premises are sound according to some criterion of correctness)[11]; and (iii) the intermediate decision of facts is internally justified (i.e. if the inferential relation that goes from the premises to the conclusion is *inductively probable*) and externally justified (i.e. if the premises are sound according to some criterion of correctness)[12].

Therefore, the extended deductive model is committed to a broader kind of rationality, that is, a logical rationality that works with both deductive and inductive reasonings, and not only with *formal validity*, as in the deductive reasoning, but also with *probability*, as in the inductive reasoning. However, for both deductive and inductive reasoning, there is no other rational way than to establish a criterion (or standard) –i.e. deductive validity, on the one hand, and inductive probability, on the other hand– according to which it can be properly argued that a certain case is an instance of that criterion. This is the point that will be analysed in the next section.

3. Juan Carlos Bayón's Objection

Juan Carlos Bayón has carried out an analysis of inestimable importance for the theoretical scenario of the justification of judicial decisions in a brief but powerful article entitled "*Bulygin and The Justification of Judicial Decisions: The Surprising Part*" (2007)[13]. In this work he presents a profound analysis of the conception of rules and the application of rules with which the deductive model is implicitly committed through its criterion of justification. I believe that this work represents one of the best-directed advances in the search for a more rigorous and appropriate criterion of justification for theories about judicial decisions.

According to Bayón, the idea of justification that the deductive model uses in its theoretical proposal can be seen as the corollary of the principle of universality, which

11 It is often held that the intermediate decision of law should be reconstructed as deductive normative reasoning. However, the determination of the criteria of correctness for the premises of this decision has also been extensively debated without peacefully accepted results. For example, Wróblewski has proposed a broad criterion that considers the adequacy of the premises with positive legal norms, fragment of the sources' discourse, interpretative directives, fragments of ideology of the judicial function, ethical-political positions of the judicial officials, etc. (Wróblewski, 1971, p. 132, pp. 413-417; 1975, p. 121; 1989, pp. 240-253; Cf. Perelman, 1978, pp. 425-426); and Alexy has proposed a criterion of adequacy of these premises with the rules of rational practical discourse specifically adapted to the legal field (Alexy, 1978, p. 149 ff.).

12 It is also often held that the intermediate decision of facts should be reconstructed as probative reasoning that is carried out in two conceptually diverse phases. In the first phase, as an abductive reasoning. This is an inductive inference in which premises are composed of particular facts and in which the conclusion is composed of another particular fact that is presented as an explanatory hypothesis, with a certain degree of probability, about the proven facts (Cf. Tuzet, 2006). In the second phase, as a descriptive syllogism or modus ponens. This is a deductive inference. So, according to the extended deductive model, the intermediate decision of facts depends on a deductive inference as well.

13 The original title is: "*Bulygin y la justificación de las decisiones judiciales: la parte sorprendente*". The following quotes of Bayón's article have been translated by the author of this paper.

in turn is assumed to be a basic condition or requirement of a general conception of rationality. This principle plays a central role regarding the possibility of discerning between correct and incorrect judgments in any given field or context.

> Because to justify a judgment requires indicating the rationale of it, giving reasons; and since it is a matter of mere rationality to judge in the same way any other assumption with similar relevant aspects, giving reasons would always imply the need to transcend the particularity of a case: it would imply a commitment to a general rule, to a norm (only in light of which it would make sense to say that the concurrence of a certain property constitutes a reason). From all this, it would finally follow that the idea of a reason as something intrinsically and irreducibly particular would constitute a nonsense (Bayón, 2007, p. 147).

Bayón holds, as the deductive model presupposes, that the justification of a judgment cannot be anything other than the correct application of a general norm to a specific case. However, he argues that the deductive model also incorporates a conception of rational justification (a criterion of correction) that goes well beyond the latter thesis that he called "minimum universalism". This model goes further, he said, in the sense that implies a certain image of the "normative competence" –i.e. a certain image of the nature of norms and the correct application of norms– that should be made explicit and analysed in detail.

However, the substantive conception of rational justification, which incorporates the deductive model, goes well beyond that minimal universalism that is summed up in the assertion that the justification of every judgment depends on norms: what seems to me that also implies –and it is here, not before, where I think it is not plausible any more– a certain image of the norms, of what it is to "follow them" and, consequently, of the way in which it is necessary to proceed to justify a judgment –i.e. to argue that something is or is not a correct application of a norm. According to this image or conception –which Wittgenstein called "platonic", "intellectualist" or "rules as rails"– the normative competence would go through the representation of a propositional content that can be expressed in a formulation and that specifies which applications are correct by articulating a sufficient criterion of application; and to determine what the rule requires –and, therefore, to justify to oneself or to others that something is or is not a correct application of a rule– would involve to use inferentially such a formulation as a major premise of a subsumptive reasoning (Bayón, 2007, p. 148).

So, Bayón does not agree specifically with this conception of the normative competence and his argument is composed of an excellent reconstruction and extrapolation of the infinite regress of interpretations problem that Wittgenstein described in *Philosophical Investigations*.

> To make a judgment, in any context, is nothing more than to classify a particular object, that is, to subsume it into a concept; but it is not possible to articulate and make explicit ("codify") a set of rules that determines exhaustively when the particular is an instance of the universal, because that would be as much as articulating meta-rules for the application of rules, with the consequent reproduction of the problem regarding the application of meta-rules. In short, the judgment is irreducible to an algorithm because it is not possible, without an infinite regress, the complete formulation of explicit criteria for the judgment (Bayón, 2007, p. 148).

Subsequently, Bayón offers a way to avoid the infinite regress problem, in terms that Wittgenstein offered before, and to begin an explanation of our normative competence –upon which an adequate explanation of the justification of judgments of any kind depends on.

> However, from the fact that norms are not exhaustively codifiable, it does not follow that we do not apply norms in our judgments, that we do not have competence to distinguish correct applications of norms from incorrect ones, and that there is no *argumentative way* to justify the correction of our judgments. It follows, simply, that applying norms is not applying *representations* of norms; that normative competence cannot be understood in *computational* terms, but as a practical skill, such as the "mastery of a technique"; and that although a judgment is correct when a rule is applied (and there is no other intelligible sense in which one can say that it is correct), *to show* that it is correct, to justify its correction, consists essentially of giving reasons regarding the relevance or irrelevance of features or properties of the particular object in view of analogies and differences with paradigmatic cases, where recognition of those as significant and of these as paradigmatic is immanent to the "mastery of the technique" that normative competence implies (Bayón, 2007, p. 149).

Bayón's objection affects the conception of normative competence that is found, precisely, at the meta-theoretical explanatory level regarding the theoretical positions of the deductive model about the justification of judicial decisions. This theoretical model implicitly incorporates, through its criterion of justification, this conception

of normative competence that falls into the rule-following paradox. In this sense, the objection is placed precisely at the meta-theoretical explanatory level because it challenges the general conception with which such a criterion of justification –which is a central element of its theoretical normative and evaluative positions– is implicitly committed. In this way, Bayón's objection functions as the touchstone for the construction of a new criterion of justification for theories of judicial decisions. Firstly, it gives us the possibility of clearly identifying a problematic philosophical complexity (i.e. the rule-following paradox). Secondly, it shows the first problem of the following-rule paradox. Thirdly, it shows the solution for this problem. By performing these tasks, it paves the way for successive steps in this explanatory line of thought –as it offers a conceptually more rigorous way to explain the normative competence from which an adequate notion of justification of judicial decisions can be offered.

4. Three Different Problems

In this section, the most powerful version of the rule-following paradox, which includes two other problems, will be exposed. The second problem is the gerrymandering, in Brandom's terminology, and it is triggered by the "regularist" positions. The third problem is the individual or personal criterion and it is triggered by some kind of "subjectivist" positions.

The first problem has already been exposed here, according to Bayón's formulation. In other words, the infinite regress of rules (or interpretations) problem, affects the notion of rules and consequently the application of rules, when they are understood as sufficient criteria of correctness based only on the explicit formulation of a rule. This is "the regulist position".

The problem for this position lies specifically in the case in which it is understood, correctly, that rules are criteria of correctness to particular judgments but, incorrectly, that they are nothing more than explicit linguistic formulations of those criteria. Because to determine the content of a rule (and to identify the rule), we ought to interpret the rule (i.e. its explicit linguistic formulation); but once this is done, the content of the rule that has been determined (i.e. which is another explicit linguistic formulation) can be interpreted again offering a new interpretation or content (and a new explicit linguistic formulation) for the same rule. For this reason, if we understand that a rule is nothing other than a sufficient criterion of correctness based only on an explicit linguistic formulation (or even mental intellection) of a judgment, then this criterion inevitably falls into an infinite regress of the interpretations of linguistic expressions (Wittgenstein, 1953, §191, §198, §201c, §218).

The second problem has been firstly identified by Wittgenstein (1953) and secondly explained more carefully by Kripke (1982). However, while Wittgenstein offered a correct solution to this problem, Kripke did not.

Kripkenstein –as Kripke's sceptical interpretation of Wittgenstein's reflections is often called– has presented the rule-following paradox in a more comprehensive manner than Wittgenstein. In Kripkenstein version, it is possible to see clearly that the theoretical explanation of normativity not only faces the previous problem but also the following one.

> This was our paradox: no course of action could be determined by a rule, because every course of action can be made out to accord with the rule. The answer was: if everything can be made out to accord with the rule, then it can also be made out to conflict with it. And so there would be neither accord nor conflict here (Wittgenstein, 1953, §201a).

Kripkenstein develops his argument from this paragraph through the use of an imaginary example related to the mathematical function "plus" or, in technical terms, "addition". The example shows that there are no past facts that determine whether when we use the word "plus" or the symbol "+", we are applying the rule of addition or another rule. For example,

> In the past I gave myself only a finite number of examples instantiating this function [plus or addition]. All, we have supposed, involved numbers smaller than 57. So perhaps in the past I used 'plus' or '+' to denote a function which I will call 'quus' and symbolize by 'Å'. It is defined by: xÅy = x + y, if x, y < 57; and Å = 5 otherwise. Who is to say that is not the function I previously meant by '+'? The sceptic claims (or feigns to claim) that I am now misinterpreting my own previous usage. By 'plus', he says, I always meant quus. (Kripke, 1982, pp. 8-9).

Kripkenstein's argument demonstrates that there is no past application or use of the alleged rule that really determine a rule, because any past application or use can be made compatible with another rule, as the example of addition shows (Kripke, 1982, pp. 12-21). In other words, the problem that Kripkenstein evidences consists of the predicament that there will always be many different ways of extending the previous behaviour to present or future judgments, or to use Wittgenstein's expression, many different ways of "following in the same way", because any finite number of cases are similar to each other in an infinite number of aspects (and different from each other in infinite aspects).

I consider this argument, together with other authors (Wilson, 1998; Weir, 2007; Brandom, 1994), to be both independent and complementary to the argument of infinite regress of interpretations. It is independent because one might not be committed to the explanation of rules as the explicit formulation of a sufficient criterion of correctness but might be committed to the explanation that what determines the rules is only the past behaviour of the participants of that practice, and vice versa. It is also complementary because even if we try to determine the rule without any explicit formulation, we have to appeal, according to this argument, to some previous application of the supposed rule based on a set of judgments –grouped together in a pattern– which supposedly would determine the relevant behaviour. Nevertheless, any past judgment that is proposed as an instantiation of the relevant behaviour (i.e. the pattern that relates previous judgments with a new one) can be made compatible with other behaviours.

The criteria of correctness adopted by Kripkenstein has two elements. The first consists of appealing to the previous behaviour of participants of a certain community manifested in social practice; therefore, avoiding the infinite regress of interpretation problem. The second consists of appealing to the previous and regular or irregular behaviour of the participants of the social practice to assess a judgment as correct or incorrect; therefore, trying to incorporate an adequate criterion of correctness. In this way, the distinction between correct and incorrect judgment is drawn with regard to a parallel distinction between regular and irregular behaviour, according to some pattern of regularity. This is "the regularist position".

The problem for this position arises specifically in the identification of the pattern of regularity, because in the task of identifying the criterion of regularity a problem known as the "gerrymandering problem" appears. According to this problem, in order to establish any criteria of correctness based on the relevant previous behaviour of a community, we ought to individualise the relevant previous behaviour or, better still, the aspects that comprised the relevant prior behaviour. However, this can only be done by manipulating in some way, arbitrarily, the different aspects that would possibly comprise the relevant previous behaviour[14]. In other words, any behaviour has a large number of different aspects, and to establish the aspects that comprise the relevant one there is no other option than to crop reality in some way, which can

14 The expression "gerrymandering" originally comes from the political practice of the United States of America and is currently widely used in the contexts of science and political philosophy. This term was coined to refer to the action of a North American politician who had manipulated the electoral constituencies of one of the states in order to improve the chances of his party in an election. In the mentioned contexts, this term is generally used to express the disapproval of a manoeuvre that manipulates reality – uniting, separating, dividing, etcetera – with the purpose of producing some desired effect.

then mean it has the potential to be made compatible with aspects of other behaviour. Therefore, the regularist position fails to offer an adequate, non-circular, criterion of correctness (Brandom, 1994, pp. 26-30; McDowell, 1984, p. 341 ff.).

Kripkenstein did not consider the answer that Wittgenstein himself offered to this problem and inferred from the gerrymandering problem some sceptical consequences, that Wittgenstein himself blocked (Wittgenstein, 1953, §201b). According to Kripkenstein, it follows from the gerrymandering that language and communication become unintelligible (Kripke, 1982, p. 62), and that the attributions of meaning themselves become meaningless (Kripke, 1982, p. 83). Kripkenstein came to these consequences, because after identifying and explaining correctly this problem, he did not offer a correct solution to it, because he limited the explanation of normativity to a vocabulary of causal or empirical notions, that allow us to only explain the factual dimension of norms. This is an unnecessary restriction for an indispensable theoretical vocabulary to explain general normativity. Thus, Kripkenstein analysis failed because he did not consider, as Wittgenstein did, the possibility of explaining general normativity through a vocabulary of genuine normative notions, that allows us to explain not only the factual dimension, but also the normative dimension of norms (McGinn, 1984; McDowell, 1984; Boghossian, 1989; Wilson, 1994; Brandom, 1994).

The third problem has been presented also by Wittgenstein. This problem arises when the criterion of correctness for judgments depends only on what one person, individually, considers correct or incorrect. The criterion of correctness cannot appeal only to the personal consideration of someone for assessing a particular judgment as correct or incorrect. This would make the idea of mistake unintelligible. Because what one person considers a mistake ends up being a mistake (Wittgenstein, 1953, §206).

This problem is also independent and complementary of the other two problems. It is independent because it arises even when the problem of the regress of infinite of interpretation is avoided, appealing to its implicit manifestation in social practice; and even when the problem of gerrymandering is avoided, drawing on genuine and non-circular normative notions for the criterion of correctness. This problem arises, even in that case, if the criterion of correctness is not independent of one's own consideration (or assessment) about what is correct or incorrect (Brandom, 1994, p. 37). Therefore, this subjective position –i.e. which reduces rules to individual or personal considerations or assessments– fails to offer an adequate, or intelligible, criterion of correctness.

5. Three Different Solutions

In this section, a way in which every one of these three thorny philosophical problems can be solved is presented. This is Wittgenstein-Brandom's theoretical proposal, which has been developed firstly by Wittgenstein mainly in (1953), and secondly by Brandom mainly in (1994) but also in many other books and articles.

Wittgenstein-Brandom's theory offers, after rejecting the unnecessary restriction implicitly imposed by Kripkenstein to the normative explanatory vocabulary, three conditions of adequacy to explain the nature of social norms and the application of social norms, each of which provides a distinction to deal with one of the problems presented under analysis. Specifically, the theory offers an alternative criterion of correctness (non-intellectualist or non-Platonist, non-circular, non-subjectivist) based on genuine normative notions, namely, *practical attitudes*, *normative statuses* and *social norms* (Brandom, 1994, pp. 18-66)[15].

The first condition establishes a non-circular means to distinguish between correct and incorrect judgments. This condition is constructed from the gerrymandering problem. This problem suggests that we should not be committed to regularistic position, but rather to a normative position, based on a vocabulary of genuine normative notions that allow us to determine, without circularity, whether a judgment has been made correctly or incorrectly. This is the "condition of normativity".

The distinction that is proposed in order to overcome this problem is one that lies between *judgments* – i.e. performed speech acts – and *normative statuses* of the participants towards those judgments – i.e. expressed commitments and entitlements. This allows us to make a distinction between what is done in practice – i.e. the *performance* of a judgment – and what ought to be done in practice – i.e. the *correct* performance of a judgment (Cf. Brandom, 1994, p. 27).

Brandom defines the normative statuses based on the Kantian principle of practical autonomy, which states that the authority of norms over participants is derived from their *attitudes* of *recognition* (or *acknowledgment*) toward the norms that compel them. This means that the binding character of norms comes just from the norms that they recognize or acknowledge.

---

15 Brandom's theory systematizes Wittgenstein's philosophical project. Brandom produces an innovative and radical theory of intentional content (conceptual content, in a broad sense) that begins with a characterization of social practices, in the terms of linguistic and discursive (or argumentative) practices. Then continues with (in contrast to other semantic theories) an explanation of the pragmatic dimension of content (i.e. pragmatic significance) in terms of normative, social and historical interrelations among participants (in contrast to the pragmatic theories which explain it in terms of speaker's intentions). The theory then follows with an explanation of the semantic dimension of content (i.e. semantic content), in terms of inferential relations among pragmatic significances (in contrast to the semantic theories which explain it in terms of representations).

> As natural beings, we act according to rules. As rational beings, we act according to *conceptions* of rules. (…) The rules do not immediately compel us, as natural ones do. Their compulsion is rather mediated by our *attitude* toward those rules. What makes us act as we do is not the rule or norm itself but our *acknowledgment* of it. It is the possibility of this intervening attitude that is missing in the relation between merely natural objects and the rules that govern them (Brandom 1994, 30-31). It must be possible to distinguish the attitude of acknowledging *implicitly* or *in practice* the correctness of some class of performances from merely exhibiting regularities of performance (Brandom, 1994, p. 32).

In fact, the *attitudes* of *recognition* (or *acknowledgment*) of the participants are not only towards the norms that they recognize or acknowledge, but also towards the other participants, who they recognize or acknowledge, as members of the community. According to this view, each participant has the autonomy to be bound by norms in two different ways. On the one hand, each participant *is responsible* or *committed* to the other participants for their performances. On the other hand, when a participant makes a performance, she is granting *authority* to the other participants, because they are the ones who decide whether or not to grant an *entitlement* for that commitment to the participant (Brandom 1994, pp. 159-160)[16].

The second condition establishes an adequate means to discern between correct and incorrect judgements which is not committed to the infinite regress of interpretations problem. This condition is constructed from that problem (Wittgenstein, 1953, §191, §198, §201c, §218). Wittgenstein has taught us, and Bayón has reminded us, that the notion of norms should be characterised as some sort of practical matter which is concretised or manifested in the social practice. It should not be committed to the regulist position about norms, but to a pragmatist position. This is the "pragmatist condition".

> This was our paradox: no course of action could be determined by a rule, because every course of action can be made out to accord with the rule. The

16 Brandom (2000) explains this point by linking it with the rationalist and expressivist principles of his pragmatist project: "It is a *rationalist* pragmatism, in giving pride of place to practices of giving and asking for reasons, understanding them as conferring conceptual content on performances, expressions, and states suitably caught up in those practices. (...) And it is a rationalist expressivism in that it understands *expressing* something, making it *explicit*, as putting it in a form in which it can both serve as and stand in need of *reasons*: a form in which it can serve as both premise and conclusion in *inferences*. Saying or thinking *that* things are thus-and-so is undertaking a distinctive kind of *inferentially* articulated commitment: putting it forward as a fit premise for further inferences, that is, *authorizing* its use as such a premise, and undertaking *responsibility* to entitle oneself to that commitment, to vindicate one's authority, under suitable circumstances, paradigmatically by exhibiting it as the conclusion of an inference from other such commitments to which one is or can become entitled" (Brandom, 2000, p. 11).

> answer was: if everything can be made out to accord with the rule, then it can also be made out to conflict with it. And so there would be neither accord nor conflict here (Wittgenstein, 1953, §201a). It can be seen that there is a misunderstanding here from the mere fact that in the course of our argument we give one interpretation after another; as if each one contented us for at least a moment, until we thought of yet another standing behind it. What this shows is that there is a way of grasping a rule which is not an interpretation, *but which is exhibited in what we call "obeying the rule" and "going against it" in actual cases* (Wittgenstein, 1953, §201b)[17].

The distinction that is proposed as a means of overcoming this problem is that between *normative statuses* –i.e. commitments and entitlements– and *normative attitudes* –i.e. undertakings and attributions.

> Kant's principle that we are the ones who act not only according to rules but according to a conception of them is the claim that we are not merely *subject* to norms but *sensitive* to them. This principle has been taken over here by saying that we are characterized not only by *normative statuses,* but *normative attitudes* –which is to say not only that our performances are correct or incorrect according to various rules but also that we can in our practice treat them as correct or incorrect according to various rules. Using 'assessment' to mean an assignment of normative significance –in the most basic case taking as correct or incorrect– the point may be put by saying that Kant's principle focuses demarcational interest on the normative *attitudes* exhibited by the activity of *assessing*, rather than just on the normative *statuses* being *assessed* (Brandom, 1994, p. 33).

Normative attitudes are presented in two different ways: as *acknowledging* (*or undertaking*) of normative statuses –for example, an explicit undertaking of one's

17 Italics have been introduced by the author of this article. See also Wittgenstein 1953, §199, §202. Brandom said: "The conclusion of the regress argument is that there is a need for a *pragmatist* conception of norms –a notion of primitive correctness of performance implicit in *practice* that precede and are presupposed by their explicit formulation in *rules* and *principles*" (Brandom, 1994, p. 21). "That form is intelligible only against a background that includes norms that are *implicit* in what is *done*, rather than *explicit* in what is *said*. At least the norms involved in properly understanding what is said by rules, or indeed in properly understanding any explicit saying or thinking, must be construed as norms of practice, on pain of vicious regress" (Brandom, 1994, p. 30). The regulist position presupposed the idea that the institution (or constitution) of norms and the application of norms are distinct and sequential phases in a process requiring both. First one fixes the content of the norm, and then one looks to see which applications of them are correct, given that content. The pragmatist position, however, hold that the institution and application of norms should be understood as two simultaneous aspects of the same phenomenon rather than two diverse and consecutive phases. Institution and application of norms are, indeed, two aspects of the same phenomenon, rather than two different phenomena.

own commitment– and as *attribution* of normative statuses (those can be done explicitly or implicitly) –for example, an attribution of an entitlement to one of the other participants[18].

Brandom sometimes uses the adjective "normative" to characterize also these *attitudes*, but rather they are *practical* attitudes – i.e., they belong to social practice, to the participant's activities – which allows to relate a participant's *judgment* with the *normative statuses* that she recognizes to herself and the other participants recognize to her in the course of practice. Practical attitudes are manifested in practice in the way in which participants modify (guide and criticize) their behaviour or they respond differently to a judgment. In other words, practical attitudes are manifested in the way in which the participant who made the judgment treats herself as committed to or in the ways that the other participants treat the participant who made the judgment, explicitly or implicitly, as entitled to the commitment that she signed when she made the judgment[19].

Practical attitudes, unlike normative statuses, belong to the factual and causal order: practical attitudes are both caused and causative. Practical attitudes are manifested in the behaviour of the participants during the course of the social practice, but normative statuses are not manifested in the world or, better said, they are not manifested *independently* of the practical attitudes of the participants.

> Deontic status of the sort to be considered here are creatures of practical attitudes […]; they are not part of the natural furniture of the world. Rather they are social statuses, instituted by individuals attributing such statuses to each other, recognizing or acknowledging those statuses (Brandom, 1994, p. 161).

The institution (or constitution) of norms and the determination of the content of norms is grounded in the factual and causal character of practical attitudes (Brandom, 1994, p. 47, p. 292). There is nothing other than practical attitudes in the course of the social practices of recognizing (or undertaking) and acknowledging commitments and entitlements. As Brandom said: "all the facts concerning normative *attitudes* settles all the facts concerning normative *statuses*" (Brandom, 1994, p. 47).

18 As Brandom said: "The normative house has many mansions. The particular norms of concern in this work are *discursive* normative statuses, the sort of commitments and entitlement that the use of concepts involves. These norms, it will be claimed, are instituted by *social* practices. These are practices that incorporate the distinction of social perspective between two kinds of practical attitudes one can adopt toward a commitment: *acknowledging* it (one-self) and *attributing* it (to another)" (Brandom, 1994, p. 55; pp. 157-166).

19 Practical attitudes of the participants are attitudes of assessment and treatment judgments, that are not necessarily made explicit in the form of linguistic expressions. They are exhibited by the way of assessing and treating judgments as correct or incorrect, according to a norm; however, it is not necessary for a participant to represent the norm in any way (Brandom, 1994, p. 63).

But, although normative statuses are grounded in practical attitudes, the former are not reduced to the latter, because any practical attitude "is itself something that can be done correctly or incorrectly" (Brandom, 1994, p. 52)[20].

The third condition establishes an interpersonal (social or public) means to discern between correct and incorrect judgments. This condition is constructed from the subjectivist (or personal) criterion of correctness problem. This problem shows that there is a risk that normative statuses of the participants –by means of which the participants individually assess the correctness of judgments– are directly assimilated to norms –by means of which the correctness of judgments is finally determined– and, in this way, whatever a participant considers to be correct ends up being correct. For this reason, a means of being able to avoid that situation wherein the correctness or incorrectness of the judgment depends only on what is individually considered correct or incorrect should be established. The first condition established a distinction that allows us to declare correctness or incorrectness about *judgments*, but the third condition establishes a distinction that allows us to declare correctness or incorrectness about the individual (or personal) *criterion of correctness*. This is the "condition of objectivity".

The distinction that is proposed as a means of overcoming this problem is one that lies between *normative statuses* –i.e. as seen before, commitments and entitlements– and *social norms* –i.e. social criteria of correctness. The claim is that norms are instituted (or constituted) and their content determined at the same time of their application, both from the interpersonal relationships of the participants of the social practice and from the inferential relations between the normative statuses recognized by the participants. From this point of view, the institution of norms and the determination of the content of norms arise from the intersection of the perspectives of the different participants and the interrelation of their normative statuses within this structure that he calls "the structure of reciprocal recognition".

> Focusing on the distinction of social perspective between *acknowledging* (and thereby undertaking) a commitment oneself and *attributing* a commitment to another makes it possible to understand the objectivity of conceptual norms that consists in maintaining the distinction between the normative *statuses* they incorporate and the normative *attitudes* even of the whole community –while nonetheless understanding those statuses as instituted by the practical normative attitudes and assessments of community members. Far from precluding the possibility of conceptual objectivity, understanding the essentially social

20 For the notion of grounding see, among others, Schaffer (2009); Rosen (2010); Wilson (2014).

> character of the discursive practice in which conceptual norms are implicit is just what makes such objectivity intelligible (Brandom 1994, pp. 54-55).

In relation to this point, Brandom draws a distinction between the *force* of norms and the *content* of norms. The force of norms depends only on each individual participant, while the content of norms depends on the other plurality of participants as well. The content of norms is socially determined. The participant who makes a judgment has authority over the force of the norm to which it is binding, but she is not the only one who has authority over the content of this norm; instead, she is responsible for the judgment she made, according to the norm socially determined by all participants. In other words, the status of being bound or not by a norm depends on the participant who recognize some normative statuses through a practical attitude. However, the content of the norm –i.e. what the norm specifically requires– does not depend only on the participant who recognize some normative statuses, but on the social interaction among the participants of the practice, who finally determine the content of the norm. In this way, when a participant performs a judgment, she implicitly authorises the other participants to assess the correctness of the judgment she performed and, thus, she authorises the other participants to administer the content of the norm (Brandom, 1994, pp. 52-53)[21].

The social interaction between participants, the structure of reciprocal recognition, which allows the objective determination of the content of norms, works in the following way. Firstly, a judgment is performed. Secondly, the judgment performed is linked to normative statuses through the manifestation of practical attitudes by the participants. So, when a participant performs a judgment, she explicitly undertakes a commitment for that judgment and, at the same time, she is implicitly authorizing the other participants to attribute to her (explicitly or implicitly) an entitlement for the commitment or to challenge the commitment (and

21 For example, if a participant uses the term 'tellurium', she has committed herself to the concept of tellurium, the subscription of this commitment depends only on her, but the specific content of the concept tellurium does not depend only on her, but also on the other participants. As Brandom (2000) says: "Understanding or grasping a propositional content is here presented (...) as practical mastery of a certain kind of inferentially articulated doing: responding differentially according to the circumstances of proper application of a concept and distinguishing the proper inferential consequences of such application. This is not an all-or-none affair; the metallurgist understands the concept *tellurium* better than I do, for training has made her master of the inferential intricacies of its employment in a way that I can only crudely approximate. Thinking clearly is on this inferentialist rendering a matter of knowing what one is committing oneself to by a certain claim, and what would entitle one to that commitment. Writing clearly is providing enough clues for a reader to infer what one intends to be committed to by each claim, and what one takes it would entitle one to that commitment. Failure to grasp either of these components is failure to grasp the inferential commitment that use of the concept involves, and so failure to grasp its conceptual content" (Brandom 2000, pp. 62-63).

not attribute the entitlement), recognising in this way their *authority* regarding the administration of the content of that norm[22].

Thirdly, the content of the norm is *socially* determined through the normative statuses recognized by the participant (i.e. the commitment), the normative statuses attributed to her by the other participants (i.e. the entitlements), and other collateral normative statuses recognized and attributed by her and the other participants (i.e. other collateral commitments and entitlements) (Brandom, 1994, p. 139)[23].

Fourthly, the norm is not only socially but also *historically* determined. The process of determining the content of norms is always open to the continuous development of social practice. The content of the norm is determined through a selected trajectory of past practical attitudes of the participants of the social practice and through the actual practical attitude regarding to the present judgment. The community is not a closed group, it is open to the incorporation and consideration of new participants. In this way, the community allows a continuous evolution of the content of norms, because any practical attitude is, in itself, susceptible to a further practical assessment. In this way, it is possible to make sense of the idea that the practical attitude of the participants towards their normative statuses might be erroneous, because practical attitudes are acts of assessment and treatment that might be susceptible to a later assessment that determines their correctness or incorrectness. The essential practical opening of the social and historical determination of the content of norms implies that "there is never any final answer to what is correct; everything, including our assessment of such correctness, is itself a subject for conversation and further assessment, challenge, defence, and correction" (Brandom, 1994, p. 647).

Fifthly, the norm is not only socially and historically but also inferentially determined. The performance made is linked to normative statuses and they are inferentially articulated. The kind of inference whose correctness determines the content of norms is called, following Sellars, *material* inference.

22 The commitment of a participant can be challenged by another participant, for example, explicitly, asking for more reasons to grant an entitlement. In this case, the participant will have to produce those reasons, or he can also delegate those reasons to another participant or to another time of the practice. The other participants assess and treat that judgment, through their practical attitudes, to decide whether or not to attribute an entitlement regarding the judgment made according to that norm. When the other participants attribute an entitlement for the commitment or challenge the commitment undertaken by the participant, they are administering the content of that norm (Brandom, 1994, p. 37).

23 Brandom conceives the structure of reciprocal recognition as a social game in which every participant keeps track of her own and each other's commitments and entitlements. They are (we are) deontic scorekeepers. In the scorekeeping practices, i.e. the linguistic practice of asking and giving for reasons, each participant follows the deontic score of the other participants. Each participant keeps the deontic score of the normative statuses of each one of the participants (including themselves) according to each one of their judgments. The content of the norm is determined by the perspective of each one of the participants of the social practice.

> As examples, consider the inference from "Pittsburgh is to the west of Princeton" to "Princeton is to the east of Pittsburgh", and that from "Lightning is seen now" to "Thunder will be heard soon". It is the contents of the concepts *west* and *east* that make the first a good inference, and the contents of the concepts *lightning* and *thunder,* as well as the temporal concepts, that make the second appropriate. Endorsing these inferences is part of grasping or mastering those concepts, quite apart from any specifically *logical* competence (Brandom 2000, p. 52; Cf. 1994, pp. 97-98)[24].

Every judgment performed into the structure of reciprocal recognition is involved in a set of normative statuses (at the beginning just commitment and then maybe entitlements) which are inferentially articulated regarding what follows from it (i.e. inferential commitment consequent), what is incompatible with it (i.e. incompatibility commitment consequent), and what it follows from (i.e. inferential commitment antecedent). Thus, normative statuses are inferentially connected, on the one hand, by antecedent circumstances for an appropriate judgment and, on the other hand, by appropriate consequences of that judgment (Brandom, 1994, p. 117). However, more precisely, the antecedent and consequent relations that encode the content of the norms are of two different sorts: inferential and empirical (i.e. perceptual and practical) relations.

> The consequences of application are always themselves inferentially related to the concept in question (…). The circumstances of application need not themselves be linguistic. (…) The circumstances of appropriate application of a claim can include not only other claims (from which the one in question could be inferred) but also perceptual circumstances (to which one has been trained to respond non-inferentially by endorsing the target claim). The appropriate consequences of application of a claim can include not only the inferential acquisition of further beliefs whose contents follow from the contents of the belief in question but also, in the context of further contentful intentional states, the non-inferential responsive performance of actions, under the descriptions by which they can be exhibited as the conclusions of practical inferences (Brandom, 1994, pp. 119-120).

24 "Inferring is a kind of doing. Acknowledgment of inferential proprieties need not be explicit in the endorsement of rules or principles of inference but may remain implicit in the capacity to take or treat inferential transitions as correct or incorrect in practice. Inferential relations among concepts are implicit in the practice of giving and asking for reasons" (Brandom 1994, 91).

Therefore, according to this theory, the conceptual content of social norms is characterized as a function that pairs two sets of normative statuses: on the one hand, those that constitute antecedent circumstances (inferential and maybe perceptual as well) under which a judgment is correctly performed and, on the other hand, those that constitute appropriate consequences (inferential and maybe practical as well) of performing that judgment. The content of a social norm is in each moment of the practice partially determined by the trajectory of its past applications and its current determination is complemented and completed –although only synchronically– in the actual application by the perspective of the different participants of the practice and the inferential relations among normative statuses undertaken and attributed through their practical attitudes (Brandom, 1994, pp. 182-183).

6. A New and Adequate Notion of Justification

In the previous section it has been presented a complete proposal of how the three different problems of the rule-following paradox can be solved. This proposal also offers a plausible way of explaining, essentially, how social norms are instituted (or constituted) –an ontological position– and how their content of meaning is determined –an epistemological position. More generally, this proposal contains an image of the normative competence that is diverse with respect to the one with which the deductive model is implicitly committed to.

In this section, firstly, the notion of justification that is proposed to be used in the theories about judicial decisions, based on the normative competence explained in the last section, will be made explicit. Secondly, some particular aspects of the image of this normative competence, to which this notion of justification is committed, will be emphasized. This will allow us to distinguish it, clearly, from the image with which the standard model is committed to. Thirdly, the way in which the process of justification of judicial decisions works, according to this notion of justification, will be shown.

In this way, if all the steps of this argument are convincing, a proposal to solve the challenge established at the beginning of this work will have been offered at the end of this section. The challenge established was to build a new and adequate criterion of justification for judicial decisions which does not imply any of the problems of the rule-following paradox[25].

25 Some extensions of Brandom's proposal to the legal theory has been developed before. For example, Canale (2005) offers an extension to some aspects of the legal reasoning. Klatt (2008) offers an extension to some aspects of legal adjudication. Canale (2017) offers an extension to some aspects of the indeterminacy of legal norms. However, none of these proposals follows exactly the argumentative route that has been presented here nor extends the specific conclusions that will be presented here.

The steps of the central argument of this article have initially been developed in the introductory section; others have been presented and substantiated in the previous sections; and the last ones will be explained and defended in this section.

In the introductory section, it has been said that the notion of 'judicial decision' is understood as the conjunction of the particular conclusion (of judicial controversies) and the premises (or reasons) adduced in favour of that conclusion. That is mainly because, as a matter of fact, in judicial contexts, the particular conclusions established by the judicial officials regarding the cases are supported by explicit reasons (or premises), that is, the particular conclusions are presented within the framework of an argumentation. If judicial decisions are reconstructed only as particular conclusions, without considering the premises, this would basically be a false reconstruction or, at best, incomplete with respect to one of its essential parts.

On the other hand, it has also been said that the technical notion of 'justification' should not be understood as the premise (or the set of premises) presented by judicial officials in favour of the particular conclusions. This should not be done this way because the technical notion of 'justification' should not be descriptive (or even explanatory), but rather normative and evaluative. Nothing is justified by asserting, as a matter of fact, that certain reasons have been adduced in support of a certain conclusion. The reasons can, as a matter of fact, have been formulated with the *intention* (or pretension) to justify the particular conclusion; however, this does not imply that the given reasons *justify* the conclusion –in a normative sense.

For this reason, it has been said that a judicial decision, in order to be justified, ought to conform to a criterion of correctness –i.e. a normative and evaluative criterion. Therefore, the technical notion of 'justification' of judicial decisions is understood as a criterion (or set of criteria) that serves to assess the correctness of the particular conclusion with respect to the premises presented –i.e. the essential elements of judicial decisions– and to determine whether or not a judicial decision is justified.

In the third section, following Bayón, two other relevant claims to the central argument have been argued. On the one hand, the justification of a judgment –as the conclusion of a judicial decision, or as one of the premises of this decision that also plays the role of a conclusion with respect to another reasoning connected with the first one– should be understood as a normative and evaluative criterion based on a *general* norm. Because there is no other intelligible way of understanding the justification of a judgment, but through the *normative* consideration that this judgment is an instance of a general norm[26].

26 Cf. Alexy (1978, pp. 177, 239).

On the other hand, it has been argued that the technical notion of 'general norm' should not be understood, in the first place, only as the linguistic formulation that represents the norm. Because this notion would fall in the infinitive regress of interpretations[27].

In section four, two other ways have been shown in which the technical notion of 'general norm' should not be understood. In the second place, the notion of 'general norm' should not be understood as a factual consideration, with respect only to facts. Because this notion would fall into the problem of gerrymandering. In the third place, the notion of 'general norm' should not be understood as personal consideration of correctness of judgment. Because this notion would fall into the subjectivist criterion of correctness.

In the fifth section, a plausible way of understanding the institution (or constitution) of social norms and the determination of their content has been shown. Through the same explanatory path, a plausible way of understanding the *normative competence* of the participants in a community has been presented. The first result of that section –an ontological one– is that we should understand norms as contents of meaning: norms are socio-linguistic entities which are composed of contents of meaning. Rules are, then, normative socio-linguistic entities that, abbreviating the explanation, are grounded in the personal practical attitudes of the participants of the community. The second result –an epistemological one– is that we should understand the determination of the content of social norms in an inferential way, that is, through the inferential relationships between normative statuses that are grounded in the practical attitudes of the participants of the community. In a nutshell, normative statuses are grounded in practical attitudes, and normative statuses determine, inferentially, the content of social norms.

The last two steps are essential for the argument that is being presented, because now the claim that the justification of judicial decisions depends on criteria based on general and social norms can be based on a precise theory that adequately explains: (i) that general and social norms are composed of meaning contents, and (ii) that meaning contents are identified and determined in a normative (social and historical) and inferential manner.

27 In the third section, it has been argued, following Bayón, that the technical notion of 'justification' should not be understood only in deductive terms, as the strict version of the deductive model claims. This is so because the internal justification of the premise of facts cannot be satisfied taking into consideration only a deductive logical criterion, but it also needs an inductive logical criterion, as shown in the second section. There is another reason to reject the strict version of the deductive model, which is not in Bayón's article, but which is based on the idea that deductive logical reasonings are monotonic, while legal reasoning, like many other kinds of reasoning that we develop in our daily life, are non-monotonic. Cf. Brandom (2014, pp. 50-51).

So, for these reasons, the technical notion of 'justification' for judicial decisions proposed here is understood as a criterion (or set of criteria) based on general and social norms, which allows us to assess the correctness of the particular conclusion regarding the reasons or premises presented. This criterion establishes that the assessment of the correctness of the judicial decision should be carried out with respect to a social norm, the content of which has been instituted and determined through the image of the normative competence that has been reconstructed in the previous section. According to this image, the criterion of justification (or correctness) of judicial decisions is based on general and social norms which are instituted and determined through a unique (or momentary) process of a normative (social, historical, discursive or argumentative) and inferential nature.

This notion of justification is committed to a radically different image of the normative competence than the image of normative competence with which the standard model is implicitly committed to. This new image, which we could call normative and inferential, contains a radical and novel change in the way of understanding the correctness of inferences in reasonings such as judicial ones. The fundamental change contains two central movements.

The first movement consists of the claim that the correctness of judicial reasoning not only depends on the deductive validity and the inductive probability of the inferences of the reasoning, but also on the *material correctness* of the inferential relationship with which the reasoner is committed to. According to Sellars and Brandom, the material inference is a kind of inference whose correctness essentially involves the conceptual contents of its premises and conclusions. For examples, consider the inference from "Mexico City is to the South of Guadalajara" to "Guadalajara is to the North of Mexico City", the inference from "Today is Friday" to "Tomorrow will be Saturday" and that from "Sunset is seen now" to "The night will have arrived soon". It is the contents of the concepts *South* and *North* that make the first a good inference, the contents of the concepts *Friday*, *Saturday*, *today*, and *tomorrow* that make the second inference correct, and the contents of the concepts *sunset* and *night,* as well as the temporal concepts, that underwrite the third. See Brandom (1994, pp. 97-98; 2000, p. 52) and Sellars (1953)[28].

From this point of view, our logical reasoning ability –i.e. our ability to draw correct inferences– should not be understood only as a formal capacity –i.e. as a capacity that comes from a formal (Platonic or idealist) conception of rationality–, but also as a material capacity –i.e. as a capacity that comes from an implicit conception in our social activities of developing inferences (socially considered) correct. This conception of logically correct inferences is also derived from the solutions offered to avoid the rule-following paradox[29].

The second movement consists of the claim that the deductive logical validity, which depends on the form (or structure) of the reasonings, should be explained in terms of (or as an explanatory consequence of) the material correctness of the reasonings, which depends on the content of the concepts with which the reasoner is committed to. So, the formal goodness of inferences derives from, and is explained in terms of, the material goodness of inferences.

> Should inferentialist explanations begin with inferences pertaining to propositional form, or those pertaining to propositional content? One important consideration is that the notion of formally valid inferences is definable in a natural way from that of materially correct ones, while there is no converse route. For given a subset of vocabulary that is privileged or distinguished somehow, an inference can be treated as good in virtue of its form, with respect to that vocabulary, just in case it is a materially good inference and cannot be turned into a materially bad one by substituting nonprivileged for nonprivileged vocabulary, in its premises and conclusions (Brandom, 1994, pp. 104-105)[30].

28 As Brandom said: "Endorsing these inferences is part of grasping or mastering those concepts, quite apart from any specifically logical competence. (...) Since neither the premises nor the conclusions of such inferences employ logical concepts, it seems appropriate to distinguish them from inferences whose correctness depends only on logical form" (Brandom, 1994, p. 98).

29 In Brandom's words: "Often, however, *inferential* articulation is identified with *logical* articulation. Material inferences are then treated as a derivative category. The idea is that being *rational* –mastering proprieties of inference and so being subject to the force of the better reason– can be understood as a purely *logical* capacity. (...) Mistakes ensue, however, if the concept *logical* is employed with these circumstances of application conjoined with consequences of application that restrict the notion of the logical force of reasons to *formally* valid inferences. The substantial commitment that is fundamental to this sort of approach is what Sellars calls "the received dogma ... that the inference which finds its expression in 'It is raining, therefore the streets will be wet' is an enthymeme". According to this line of thought, wherever an inference is endorsed, it is because of belief in a conditional. Then the instanced inference is understood as implicitly involving the conditional "If it is raining, then the streets will be wet". With that "suppressed" premise supplied, the inference is an instance of the formally valid scheme of conditional detachment. The "dogma" expresses a commitment to an order of explanation that treats all inferences as good or bad solely in virtue of their form, with the contents of the claims they involve mattering only for the truth of the (implicit) premises. According to this way of setting things out, there is no such thing as material inference. This view –which understands "good inference" to mean "formally valid inference", postulating implicit premises as needed– might be called a *formalist* approach to inference. It trades primitive goodnesses of inference for the truth of conditionals. (...) The grasp of logic that is attributed must be an *implicit* grasp, since it need be manifested only in distinguishing material inferences as good and bad, not in any further capacity to manipulate logical vocabulary or endorse tautologies involving them" (Brandom, 1994, pp. 98-99).

30 Atienza (1997, 2006, 2013) has conceptually reconstructed three different conceptions that have been preciously used in legal theory to explain legal argumentation: formal, material and pragmatic. Atienza's explanatory hypothesis is that these three conceptions should be complemented among themselves to provide an *adequate* explanation of the legal argumentation. Atienza mentions only recently (Atienza, 2013, pp. 288-289) Brandom's theory. However, Atienza classifies Brandom's theory as a contemporary example of a theory committed to "material conception" of

To conclude, I would like to offer an example, albeit a general one, to illustrate the mechanism of justification of judicial decisions. According to what has been said so far, judicial decisions should be justified with regard to a general and social legal norm.

Legal norms are criteria of correctness grounded in the legal practice of a community where they have been manifested by the participants through a selected set of previous practical attitudes regarding previous judgments and a current practical attitude regarding a present judgment. Legal norms are constituted, and their content determined, by the social and historical interrelations among participants of the legal practice (from personal practical attitudes to personal normative statuses) and by the inferential interrelations among the personal normative statuses of each participant (from personal normative statuses to social norms) within the structure of reciprocal recognition –now understood as the legal practice of a community.

On the one hand, legal norms are found in the legal decisions developed until that moment as made by the lawmakers and judicial officials of the legal practice of the community where these norms have been manifested through their creation and application to specific past judgments. However, on the other hand, they are not only found in the legal creation practices and previous judicial application cases of the legal practice, but rather also in the current judicial practice that is being developed, that is, to the present controversy over a certain legal case. Therefore, it is in the context of a particular judicial case that the content of a particular norm is specifically determined by the implicit manifestation of the participants regarding a selected trajectory of past practical attitudes and to the current practical attitude of the judicial official regarding the present case. According to this, the legal norm is determined by the judicial official within the framework of the structure of reciprocal recognition in which normative statuses of the perspectives of all the participants of that particular case are socially and inferentially related.

When the judicial official recognises previous applications of the norm as authorised precedents of the application of that norm, she selects the trajectory of the previous applications and, therefore, of the authorised applications of its content. In a similar vein, when a practical attitude is considered a case of correct application of the norm, it is included in the history of its correct applications. In this way, normative force is given to these applications of the norm. The judicial official exercises her authority over the practical attitudes of the community's previous members,

argumentation, a label that Brandom himself uses. Beyond the fact that Atienza's definition of 'material conception' is too broad, with fuzzy contours (Atienza, 2013, p. 275); Brandom's theory is incorrectly understood as an example of a theory of the material conception of argumentation, because it is rather a rigorous theory that combines systematically the formal, material and pragmatic conception of social argumentation. It is exactly what Atienza is looking for.

considering that a series of applications of the norm is correct; in this way, she also assumes responsibility for future participants for the consideration of that series of applications as correct. In this process, a trajectory of past applications is selected for the purpose of determining the content of the norm that can be considered correct in the present case and projected towards future cases, because past applications of the norm together with the present application of that norm also partially determine future applications of the same norm in future cases (Brandom, 2014, pp. 74-75).

Given that there is not a single possible trajectory, "only one way to follow the rule", the judicial official should select the antecedent practical attitudes that she considers as correct and, doing that, take a decision in the present dispute, in which she claims that the present case is or is not an instance of the same general norm applied in certain previous judicial cases. She should integrate the selection of cases chosen in such a way that they can be synthesized into a norm that might be applicable to the present case that she ought to resolve. In this way, she would propose the current case as another precedent, an instance of correct application of the norm. In doing so, she would determine the content of the norm by selecting the previous legal cases that she treats as precedents, the legal sources, the legal statements, and the factual characteristics of these cases that she takes as outstanding. Thus, the content of the norm is delimited, that is, the contours and limits that explicitly or implicitly have been governed by the entire sequence are specified (Brandom 2014, pp. 76-77).

The structure of reciprocal recognition allows that the content of the legal norm determined by the judicial official is not only dependent on her personal commitment, but dependent on the normative statuses of the other participants as well. The content of the norms does not only depend on the judicial official who recognizes and accepts the force of the norm, but also on the social communicative interaction among all the participants of that legal practice and the inferential relation between the normative statuses of all of them[31].

Finally, the content of a norm is only synchronically determined, because the norm socio-historically and inferentially determined in a time T1 might be erroneous in a time T2. The reason is that the normative statuses are grounded in the practical attitudes of assessment and treatment that are susceptible to a later assessment and treatment to determine their correctness or incorrectness. The selection that the judicial official makes in the present case is an implicit practical attitude. The claim that she makes in the present case saying that it is or is not an instance of the

31 Canale (2017) has carried out a detailed analysis of how inferential relationships between deontic statuses work in the context of judicial disputes.

same norm applied in a certain set of previous judicial cases is an explicit practical attitude. Both normative positions –the retrospective selection and the projective demand– are practical attitudes; and any practical attitude "is itself something that can be done correctly or incorrectly" (Brandom, 1994, p. 52)[32].

In this way, the determination of the norm referring to that particular case continues if the judicial case continues in other more advanced instances of the judicial hierarchy. On the other hand, the determination of the norm –in general, not only referring to that particular case, but to the whole sequence of cases that should be applied– continues when a new judicial case appears to which the norm might or should be applied.

32 Cf. Brandom (2009, pp. 86-87) and Brandom (2002, p. 230).

References

Alchourrón, C., & Bulygin, E. (1989). Limits of Logic and Legal Reasoning. *Pre-proceedings of the III lnternational Conference on Logica, Informatica, Dirittto: legal expert systems, Volume 2*. Firenze: Consiglio Nazionale delle Ricerche, Istituto per Documentazione giuridica.

_____ (1991) *Análisis lógico y derecho*. Madrid: Centro de Estudios Constitucionales.

Alchourrón, C., & Martino, A. (1990). Logic without Truth. *Ratio Juris*, 2, 46-67.

Alchourrón, C. (1995). Concepciones de la lógica: introducción. Méndez Rodriguez J., Alchourrón C., & Orayen R. (eds.), *Lógica*, 11-48. Madrid: Trotta.

Alexy, R. (1978). *A Theory of Legal Argumentation: The Theory of Rational Discourse as Theory of Legal Justification*. Oxford: Oxford University Press.

Atienza, M. (1991). *Las razones del derecho: teorías de la argumentación jurídica*. Madrid: Centro de Estudios Constitucionales.

_____ (1997). *Derecho y argumentación*. Bogotá: El Externado.

_____ (2006). *El derecho como argumentación*. Madrid-Barcelona: Ariel.

_____ (2013). *Curso de argumentación jurídica*. Madrid: Trotta.

Bayón, J. (2007). Bulygin y la justificación de las decisiones judiciales: la parte sorprendente. In Redondo, Cristina and Moreso, José Juan (eds.), *Un diálogo con la teoría del derecho de Eugenio Bulygin*. Barcelona: Marcial Pons.

Belnap, N. (1962). Tonk, plonk and plink. *Analysis*, 22, 130-134.

Boghossian, P. (1989). The Rule-Following Considerations. *Mind,* 98 (392), 507-549.

Brandom, R. (1994). *Making it Explicit: Reasoning, Representing, and Discursive Commitment*. Cambridge, MA: Harvard University Press.

_____ (2000) *Articulating Reasons: An introduction to Inferentialism*. Cambridge, MA.: Harvard University Press.

_____ (2002) *Tales of the Mighty Dead: Historical Essays on the Metaphysics of Intentionality*. Cambridge, MA: Harvard University Press.

_____ (2009). *Reason in Philosophy: Animating Ideas*. Cambridge, MA: Harvard University Press, 2009.

_____ (2014) A Hegelian Model of Legal Concept Determination: The normative Fine Structure of the Judges' Chain Novel. In Graham Hubbs and Douglas Lind (eds.), *Pragmatism, Law, and Language*. New York: Routledge.

Bulygin, E. (1966). Sentencia judicial y creación de derecho. *La Ley,* 124.

Canale, D. (2005). Inferenzialismo semantico e ragionamente giuridico. *Ragion Pratica,* 2/2005, pp. 301-334.

_____ (2013). Il ragionamente giuridico. In Pino G., Schiavello A., Villa V. (eds.), *Filosofia del Diritto. Introduzione al pensiero giuridico e al diritto positivo*. Torino: Giappichelli, 2013.

_____ (2017). L'indeterminatezza delle norme: un approccio inferenzialista. *Analisi e diritto,* 31-60.

Chiassoni, P. (2007). *Tecnica dell'interpretazione giuridica*. Bologna: Il mulino.

Comanducci, P. (1999). *Razonamiento jurídico: elementos para un modelo.* México: Fontamara, 1999.

Gentzen, G. (1996). Untersuchungen über das logische Schiliessen, *Mathematische Zeitschrift"*, 39 (2), (1934), 176-210. Translated into English as Investigations into Logical Deduction, in Szabo M.E., *The Collected Works of Gerhard Gentzen*, North-Holland Publishing Company.

Jörgensen, J. (1937). Imperatives and Logic. *Erkenntnis,* 7 (1), 288-296.

Klatt, M. (2008). *Making the Law Explicit: The Normativity of Legal Argumentation*. Oxford: Hart.

Kripke, S. (1982). *Wittgenstein on Rules and Private Language*. Oxford: Blackwell.

MacCormick, N. (1978). *Legal Reasoning and Legal Theory*. Oxford: Oxford University Press.

McDowell, J. (1984). Wittgenstein on Following a Rule. *Synthèse,* 58 (3), 325-363.

McGinn, C. (1984). *Wittgenstein on Meaning*. Oxford: Blackwell.

Moreso, J., Navarro, P, & Redondo, C. (1992). Argumentación jurídica, lógica y decisión judicial. *Doxa: cuadernos de filosofía del derecho,* Nº 11, 247-262.

Perelman, Ch. (1958). L'argument Pragmatique. *Logique et Analyse*, Nouvelle Série, Vol. 1, No. 1, 14-23, Bruxelles: Peeters.

_____ (1978) La motivation des décisions de justice, essai de synthèse. In Perelman Chaim and Foriers P. (eds.), *La motivation des décisions de justice*, 415-426. Bruxelles: Bruylant, 1978.

Redondo, C. (1996). *La noción de razón para la acción en el análisis jurídico*. Madrid: Centro de Estudios Constitucionales.

(1999). La justificación de decisiones judiciales. *Isegoría: Revista de filosofía moral y política*, Nº 21, 149-163.

Rodríguez, J. (2002). *Lógica de los sistemas jurídicos*. Madrid: Centro de Estudios Constitucionales.

Rosen, G. (2010). Metaphysical Dependence: Grounding and Reduction. In Bob Hale and Aviv Hoffmann (eds.), *Modality: Metaphysics, Logic, and Epistemology,* 109-136. Oxford: Oxford University Press.

Schaffer, J. (2009). On What Grounds What. Manley D., Chalmers D. and Wasserman R. (eds.), *Metametaphysics: New Essays on the Foundations of Ontology,* 347-383. Oxford, Oxford University Press.

Von Wright, G. (1957) *Logical Studies*. UK: Routledge and Kegan Paul.

Weir, S. (2007). Kripke's Second Paragraph of Philosophical Investigations 201. *Philosophical Investigations,* 30 (02), 172-178.

Wilson, J. (2014). No Work for a Theory of Grounding. *Inquiry: An Interdisciplinary Journal of Philosophy*, 57: 5-6, 535-579.

Wilson G. (1994). Kripke on Wittgenstein on Normativity. *Midwest Studies in Philosophy,* 19, 366-390.

_____ (1998). Semantic Realism and Kripke's Wittgenstein. *Philosophy and Phenomenological Research* 58 (1), 99-122.

Wittgenstein, L. (1953). *Philosophical Investigations*. London: Blackwell.

Wróblewski, J. (1971). Legal Decision and Its Justification. *Logique et Analyse*, 14 (53), 409.

_____ (1978). Motivation de la décision judiciare (1975). In Perelman Ch. and Forjers (eds.), *La motivation des décisions de justice,* 110-135. Bruxwlles: Bruylant.

_____ (1986). Livelli di giustificazione delle decisioni giuridiche. In Gianformaggio L. and Lecaldano F. (eds.), *Etica e diritto. Le vie della giustificatione razionale*, 203-226. Roma-Bari: Laterza,

_____ (1989). Problems Relate don the One Right Answer Thesis. In *Ratio Juris*, 2, 240-253.

_____ (1989). Il sillogismo giuridico e la razionalità della decisione giudiziale (1974). Translated into Italian in Camanducci P. and Guastini R. (eds.), *Analisi e Diritto*, vol. I, 277-298. Torino: Giappicchelli.

Sellars, W. (1953). Inference and Meaning. *Mind,* vol. 62, No. 247, 313-338.

Toulmin, S. (1958). *The Uses of Argument*. Cambridge University Press.

Tuzet, G. (2006). *La prima inferenza. L'abduzione di C.S. Peirce fra scienza e diritto*. Torino: Giappicheli.

Cogency, Journal of Reasoning and Argumentation
Vol. 12, No. 2, Summer 2021

WHEN IS IT RESPONSIBLE TO GENERALIZE FROM A SINGLE INSTANCE?

*

David Botting
Independent scholar
davidbotting33@yahoo.co.uk

Although large samples are always better than small samples and always confer greater justification on general claims than small samples, this paper argues for situations where even a small sample can justifiably be thought to be representative of the population and we are justified in believing, or having a pro-attitude towards, a general claim by generalizing from it. It is not fallacious to make inductive inferences in these situations from small samples. I will describe three such scenarios. On the other hand, when it cannot justifiably be thought to be representative of the population then it is always fallacious, irrespective of other considerations. I will describe one such scenario in which generalizing from a small sample has been claimed to be justified on the grounds of cognitive economy and will show that this claim is false unless the scenario reduces to one of the first three. Since generalizing from a single instance is a limiting case of generalizing from a small sample, I will focus on generalizing from a single instance. Whatever can be shown with regard to a single instance follows a fortiori *for all small samples. As it turns out, it is very difficult for a reasoner reasoning in good conscience to commit to a fallacy of hasty generalization, and if a fallacy can only be committed by insincere reasoners and cannot be made by reasoners reasoning in good conscience, then it is not very interesting, as it is not really an error in reasoning. The reason for this is that for the reasoner to have reasoned fallaciously, they must have* knowingly *ignored evidence, and this is something that a sincere reasoner is not likely to have done. Equally, the charge that someone has committed this fallacy is not easy to substantiate and amounts to accusing the reasoner of insincerity.*

Keywords: generalization, the fallacy of hasty generalization, induction, cognitive economy, disagreement.

1. Introduction

I am not offering any new analysis of the fallacy of hasty generalization in this paper. My aim is to show that it is difficult for a reasoner to commit this fallacy, and difficult likewise for a critic to justify an accusation that the reasoner has committed this fallacy. I will show this even for the cases where it seems like such an accusation is most justified, namely where the reasoner has generalized from a single instance. I will show through examples where generalizing from a single instance have been taken as paradigm cases of hasty generalization that the accusation that the reasoner has committed a fallacy of hasty generalization is not justified, provided only that some charity is given to the reasoner's inference and some attention shown to what attitude is being taken by the reasoner to be justified by the inference. I hope to show that these generalizations illustrate epistemically responsible behaviour, despite their being generalizations from a single instance. I will then show that when a critic accuses a reasoner of committing this fallacy, it often turns out that his reasons do not justify making this accusation but instead illustrate a substantive difference of opinion over the evidential basis of the generalization. When two reasoners have such a difference of opinion, neither is justified in accusing the other of generalizing hastily or fallaciously.

In the first section of the paper, I will describe generalization, and the inductive arguments that express the logical form of generalization, in general. I will be making two distinctions: between universal and statistical generalizations, and between probabilistic and proportional claims.

In the second section I will describe the fallacy of hasty generalization and will discuss three examples that have been given in the literature to illustrate this fallacy. These examples all involve generalizing from a single instance. I will argue that these examples only count as fallacious if one uncharitably interprets the conclusion as making a stronger claim than it is really making, and that in fact in all three examples the conclusion, when interpreted charitably, is one that it is epistemically responsible to draw. Although all three are generalizations from a single instance, I will show that none of them is fallacious. I will then give what I think *is* a good example.

Next, I will consider a case where, conversely, it is claimed that what appears to be a hasty generalization is not fallacious because the generalization is the outcome of the cognitively most efficient reasoning process available. I will show that this "argument from cognitive costs" is not sound. Unless the reasoner is in one of those conditions already identified where a small sample can justifiably be believed to be representative, generalizations are hasty and fallacious, irrespective of the cognitive economy. One cannot generalize from what one has no reason to believe is a representative sample and be justified in believing the general claim so inferred just because getting a larger sample is cognitively expensive. Perhaps some kind of pro-attitude towards the general claim can be justified on these grounds, but not belief.

After this, I will describe how our beliefs about the evidence affect what it is epistemically responsible to infer and what needs to be the case for an accusation of inferring fallaciously to be justifiably made by an accuser. I will show that for a charge of fallacy of hasty generalization to be justified the reasoner must be drawing his inference from the wrong body of evidence and be culpable for taking this as his body of evidence; he must be *knowingly* disregarding something he himself takes to be evidence, or to have blinded himself to any such evidence. Knowingly disregarding evidence is not something that a sincere reasoner will ever do, and so this is not a fallacy that a sincere reasoner will ever commit; hence, an accusation against a reasoner that he has committed this fallacy is *ipso facto* an accusation that the reasoner is not sincere, and the burden of proof is on the accuser to substantiate such an accusation. Reasoning fallaciously cannot be attributed to the arguer on the basis of the form of the argument alone. To be interesting, a fallacy must be an error in reasoning that a reasoner could commit in all good conscience. It transpires that the fallacy of hasty generalization is not an error in reasoning that a reasoner could commit in all good conscience.

In short, the evidence must be evidence that the reasoner already has, or be in an epistemic situation where he ought to have it, so that it would be epistemically irresponsible for him not to have it and not to include it among the premises of the inductive argument. If it is not cognitively available to the reasoner and we charge him with fallacy, this is not really justified; rather, we are saying that we have a different body of evidence that leads to a different conclusion, in which case neither of us have reasoned badly, and the task is to convince the other to accept what we have taken as evidence. The matter is settled by a substantive debate on the evidence and making the evidence cognitively available to one another so that the other has it or ought to have it, and not by accusation and counter-accusation.

In the conclusion I will show that the burden of proof that the accuser needs to meet to justify his charge that another has committed the fallacy of hasty generalization is not an easy burden to meet, even in many cases where it seems easiest to meet, namely when the generalization is from a single instance.

2. Generalization

What is a generalization? When do we generalize?

In this section I want to argue that two different kinds of general claim, namely proportional claims and probabilistic claims, can be justified on the basis of instances.

(I will be using a frequentist interpretation of probability here.) Both kinds of claim make presuppositions that the reasoner must be justified in believing in order for their generalization to be justified: for proportional claims it is the claim that the sample is representative of the population, for probabilistic claims it is the claim that the sample has converged on a limit.

This section can be skipped by those readers familiar with the distinctions I am explaining here, or those who are only interested in the question whether proportional claims can be made justifiably from small samples. Its aim is merely to circumvent one apparently knockdown argument against generalizing from a single instance: for a probabilistic claim to be justified, there must be enough instances for the reasoner to believe that the sample has converged, and it is difficult to see how this can ever be justified if the sample consists of only one instance. A sample of one cannot be convergent. But a sample of one can be representative of the population, and there are situations where we can justifiably believe that a sample of one is so representative, and justify our generalizing from that single instance, taking "generalizing" here to mean inferring to a proportional claim.

Does this mean that only proportional claims are justified, and probabilistic claims are not? I do not think so, as the proportional claim can be taken to be evidence for a probabilistic claim: if I justifiably conclude that 80% of the B's are A, I am also justified in believing that the probability of picking an A from the B's is 0.8. However, I also wish to make the technical point that this inference from the proportional claim to the probabilistic claim (and *vice versa*) is inherently risky: the probability may not, in fact, be 0.8. This is not due to the fact that most inductive arguments are imperfect, because there is risk even in the case of perfect inductions.

Those willing to accept these points may proceed straightaway to section 3.

a. Two forms of inductive argument

At its simplest, a generalization occurs when we say that what is true for a sample of A's is true of all A's. To put it symbolically, it is the inferential step between the singular claims of particular A's being B and all A's being B, i.e.,

A_1 is B
A_2 is B
.
.
A_n is B
Therefore, $\forall x.A(x) \supset B(x)$

This is an inductive argument: its conclusion is a universal material conditional, denoted by the universal quantifier. If $A_1 \ldots A_n$ is a complete enumeration of all the A's then we have a "perfect" induction and it is logically impossible for there to be a case where the premises are true but the conclusion false. In a perfect induction, the universal conditional follows conclusively, although not formally.[1]

In the general case of induction, the enumeration is incomplete: the A's referred to in the premises are a sample taken from a wider population. In this case it is logically consistent for the premises to be true and the conclusion false, which is to say that the universal material conditional is not conclusively established to be true and that therefore inferring that it is true is ampliative, i.e., it goes beyond the evidence expressed in the premises.[2] These are "imperfect" inductions. As in all ampliative inferences, there is always a risk involved in imperfect inductions, because you know that what you infer may be false: in the case of inductive inferences this is called the "inductive risk." Despite this risk, we often rightly consider ourselves to be justified in believing that the conclusion is true when the evidence confers strong enough justification while conceding that further evidence could make us change our mind: if we assent to those premises and take those premises to express everything that we know to be relevant to the conclusion, then we are justified in provisionally believing the conclusion.[3] Such arguments are neither semantically nor formally valid, but are often called "inductively valid."

This form of the inductive argument – where the conclusion is a universal material conditional – survived for a surprisingly long time. Probability theory had already been established (though still in its infancy) when DeMorgan noted that the inductive inference was just a special case of calculating the "inverse probability." This led to a widening of the conception of an inductive inference to any inverse probability. In this second, more sophisticated form of the argument we have statistical evidence

---

1 The inductive argument is semantically valid but not formally valid, as there is no case where the premises are true and the conclusion is false.

2 In a sense, though, what we infer is not that it is true but that it has a certain probability of being true given the premises, and this is not ampliative — the probability in question must, as a matter of necessity and deductive certainty, have the value that it has. Only if we miscalculate what this probability should be can there be an error in an inductive argument, as will be explained later.

3 May there be cases where the epistemically responsible thing to do is to have no beliefs either way? A conclusion that is made highly likely relative to one set of premises may be made highly unlikely relative to other premises, where either we do not know what those other premises are, or we know what they are but do not know whether they are true or false. Since we know of this possibility, we must be careful about drawing inductive inferences from premises, even when they do confer high justification on the conclusion, since we do not know that there is not another argument that confers high justification on the conclusion's falsity. Referring to the justification conferred as "strong enough" is to be understood as saying that it is strong enough despite these issues, strong enough to justify provisional belief and not just a waiting game of having no beliefs.

of the probability distribution of an attribute in a sample which is expressed in the premises, and we infer that the probability distribution of that attribute will be approximately the same in the population from which the sample was drawn as in the sample itself. It is not necessary that the attribute belong to *every* member of the sample or the population, or to put it another way, that the probability be one or zero; we conclude with a general, but not universal, claim.

Here is an example of the second form: suppose that in a sample of n A's there are m A's that are B and n-m A's that are not B. We can express this new inductive argument this way:

A_1 is B
A_2 is B
.
.
A_m is B
A_{m+1} is not B
.
.
A_n is not B
Therefore, p(A,B) = m/n

The conclusion effectively states that the probability of an A being B in the population is the same as its probability in the sample.[4]

In a sense, the first form of inductive argument is just the special case of the more general form where m=n. However, we must be careful. Despite superficial appearances, $\forall x.A(x) \supset B(x)$ does not mean the same thing as p(A,B)=1.0; the universal quantifier makes a general claim about everything it quantifies over (i.e., A's), where this set may be finite or infinite, whereas the probability claim is a singular claim about the set of events in which a B is selected and the set of events in which an A is selected, where these are infinite sets. To be more specific, it claims that the frequency of selecting A's that are B is in a particular ratio to the frequency of selecting A's *simpliciter*. The claims do not mean the same thing and talk about different sets.

Nor can either one be inferred conclusively from the other. However, the truth of either claim can be used as evidence for the truth of the other. Let us go back again to the perfect induction. Here the universally quantified conclusion is established

4 This argument might describe sampling with replacement or sampling without replacement. Relatedly, the conclusion may be read either as a probability claim or as a proportional claim. Despite their similarity, and the fact that there appears to be no difference in terms of logical form, the differences are significant, as will be explained in detail shortly.

conclusively, but p(A,B)=1.0 is not established conclusively. The reason for this is that to establish p(A,B)=1.0 conclusively what we need to completely enumerate is not A's but selectings (with replacement) of A's, and this cannot be completely enumerated because it is by definition an infinite set. There is always a risk then in making a probability claim, since it can never be conclusively established or verified, even by a perfect induction (by selecting without replacement), whereas a claim that a particular proportion of A's are B *is* conclusively established by a perfect induction without any risk.[5]

Can we not say that, supposing that we have established conclusively the proportional claim that all A's are B, it is simply impossible to select an A that is not a B (since there are none), and this establishes the probability claim conclusively? This follows only if we can assume that the A's that are B will always be B and cannot become not-B.[6] So, a complete enumeration is the strongest evidence we may have that p(A,B)=1.0, and certainly justifies making this probability claim, but it is still an ampliative inference that does not establish the probability claim conclusively. Similarly if, in the complete enumeration of n A's, m are found to be B's, this is strong evidence for the probability claim p(A,B)=m/n but it does not imply it conclusively. If the enumeration is imperfect then the evidence is weaker, but otherwise it works in the same way.

Hence, it is possible for the universal material conditional to be true but the probability claim to be false. Equally, it is possible for the probability claim p(A,B)=1.0 to be true while the universal material conditional $\forall x.A(x) \supset B(x)$ is false. The reason for this is that the value of the probability is a point of convergence, that is to say, the frequency ratio in the long run, and this in itself does not rule out selecting an A that is *not* B. For example, take the prime numbers $\{prime_1, prime_2, \ldots, prime_\infty\}$. There is an infinite number of prime numbers, but the frequency of their occurrence is a decreasing function of the natural numbers. Since the denominator in the frequency series is just an incrementation function of the natural numbers, from the facts that for some natural numbers, namely the prime numbers, in the corresponding selecting the attribute does not occur, but that for all non-prime numbers, in the corresponding selecting the attribute does occur, it follows that the probability will still be one. Consider the frequency series
1/1, 1/2, 1/3, 2/4, 2/5, 3/6, 3/7, 4/8, 5/9, 6/10, 6/11, 7/12, 7/13, . . .

5 This is the only time a conclusion is established non-provisionally in an inductive argument — whether or not the conclusion is universal does not make our belief any more or less provisional.

6 For essentialists, there are some A's and B's for which this *is* a safe assumption to make. Although we may disagree with them, it seems justified to accuse them of reasoning badly only if we can find some *internal* inconsistency in their position.

Whenever the denominator is non-prime (1, 4, 6, 8, 9, 10, 12) there is a positive instance, e.g., a B has been selected from the A's. Whenever it is prime (2, 3, 5, 7, 11, 13) there is a negative instance, e.g., a not-B has been selected from the A's. Early in the series there are roughly as many prime numbers as non-prime numbers, just as in the above the ratio after 13 selectings is near 0.5. After 1000 selections the ratio would be close to 1.0, due to the relative infrequency of primes among higher numbers. In the limit, then, the ratio will converge on 1.0. (It is worth noting, though, that however far we actually continue the frequency series, the final value will always be less than 1.0, that is to say, less than the value on which the series converges.)

For this reason a probability claim "All philosophers are bearded", meaning here p(Philosophers, Bearded)=1.0, may be true while as a universally quantified claim it may be false. So, the inference from the probability claim to the universally quantified claim is also defeasible, although the circumstances under which the universally quantified claim does not follow are clearly bizarre and do not much undermine our justification for making such a claim; clearly, if we have already encountered a negative instance, we will not infer that the universally quantified claim "All philosophers are bearded" is true but rightly conclude that it is false.

When we sample *without* replacement, we tend to make a proportional claim. Suppose that there are ten philosophers in the room, and eight of them are found to be bearded. We can then conclusively infer the proportional claim that 80% of the philosophers *in the room* are bearded (having completely enumerated the philosophers in the room), but if we take this as a representative sample of philosophers *simpliciter* and infer the proportional claim that 80% of philosophers are bearded, this inference has an inductive risk. This is no different from the case of making a universal claim.

If necessary we can infer the probability claim from the proportional claim, where the probability claim is effectively a (counterfactual in this instance) claim about what we would have observed had we sampled *with* replacement. Just as I showed earlier that there is a difference between a probability of one and universal quantification, the probability claim does not mean the same as the proportional claim, though any proportional claim has a probability claim corresponding to it: on the basis of the proportional claim, a frequency claim is made that says something analogous to "Put all the philosophers into a room. Mix them up and then choose one at random. If it has a beard, make a mark "B". Replace the philosopher and repeat. The relative frequency of "B" in our pickings will converge around 0.8. It will not be exactly 0.8, but its variation from 0.8 can be made arbitrarily small by increasing

the sample size." What is being made is a singular claim about two infinite classes (and about the whole of those classes and not about a proportion of them); it is not, strictly speaking, a general claim, though general claims concerning the members of the classes can be made on their basis.

Mutatis mutandi, sampling with replacement justifies a probability claim from which we infer a proportional claim that says what would have been observed had we sampled without replacement. Suppose that we make a probability claim that the probability of selecting B's from A's is 0.8. From this we can infer that, had we not replaced the A's that we selected and continued this until there were no A's left, there would have been found to be (roughly) 80% of B's.

This probability claim, made by sampling with replacement, is a frequency claim. The grounds of claims about infinite sets is evidence about finite sets, namely, the relative frequency in the sample so far observed—the so-called 'practical limit'. The limit in the finite sample we have observed so far may not be the limit in the infinite series; the grounds support the hypothesis only on the assumption that the sample has converged on its final limit. The evidence itself says nothing about this assumption, so the probability claim presupposes something about the future for which evidence is lacking. Thus, although inductive generalizations have semantic content concerning the future, there are no grounds – inductive or otherwise – for that content; they are corollaries of the assumption that the world is predictable.[7]

We see from this that asking someone to make a probability claim is to ask a question that whoever answers the question can only answer with confidence either when they take themselves to be justified in believing that the point of convergence has been reached (and, that this is not likely to be due to bias, e.g., the selectings from the population are not genuinely random), or when they are justified in believing a proportional claim from which the probability claim can be inferred. If the answerer does not believe that the frequency series will converge, or that the point of convergence has not been reached in the sample, then he cannot answer, and a questioner who insists on an answer can hardly complain when the answer gotten in return involves hasty generalization. A charge by the questioner that the answerer has committed a fallacy would not be deserved — it would wrongly imply

7 This is often put as the claim that induction can be shown (mathematically) to work if anything does. What has not been shown, however, is that it is true that anything does. This is an assumption, made largely on the basis of pragmatic reasons, namely that we do best, or at least not worst, when we make this assumption. Also, the Straight Rule of Induction is not the only rule that can be shown to converge in the limit, and although in the long term they will all give the same value for the limit, in the short term (in which we must operate) different rules will give different values as practical limits. It is well outside the scope of this paper to discuss these complications.

epistemically irresponsible behaviour. In fact, it is the questioner who by insisting on an answer is committing a fallacy, namely the fallacy of complex question, because the question contains a presupposition that has not been established, namely that there is convergence.

Reichenbach says that the correct answer to such a question is the practical limit, that is to say, the final value of the frequency ratio in the frequency series so far, and as long as there is one member of the frequency series (though not prior to then) there is a practical limit. In fact, there is one case, which we have already seen, in which the practical limit does better than the actual limit for making a proportional claim, even if we knew what the actual limit was: this is where the actual limit is one or zero but in which there are both positive and negative instances, since if there is a negative instance the practical limit will be and will always remain less than one, and we can conclude that it is not universally true that all philosophers are bearded. We can never *in fact* get back to one once there has been a negative instance, since we cannot in fact have an infinite sample. It should be noted in passing that we would, however, make the wrong probability claim, the correct probability claim giving the probability as 1.0, and hence always greater than the practical limit. However, this is a special case: normally the practical limit can be taken as an estimate of the probability, so that if the practical limit is 0.98, for example, we would normally and justifiably take this, and not 1.0, to be the probability. We would need to have very specific information to decide that it was not a safe inference to take the practical limit as an estimate of the probability.

b. Generalizing from a single instance

Sometimes we inductively infer a general claim (of one of the two types) from a single positive instance, i.e.,

A_1 is B	A_1 is B [a B has been selected from the A's]
Therefore, $\forall x.A(x) \supset B(x)$	Therefore, p(A,B)=1.0

Since we have a single positive instance, in this case the practical limit can only be 1.0. So, A_1 is B is very weak evidence that p(A,B)=1.0. Normally, it would be said to be very weak evidence also for $\forall x.A(x) \supset B(x)$. However, I will try to argue that this is not always the case, and sometimes making the universally quantified claim is justified, and when a universally quantified claim is not justified, nevertheless a proportional claim can still often be validly inferred, and when it is, so also will be the probability claim we infer from the proportional claim. A single instance can justify a proportional claim, and that proportional claim can justify a probabilistic claim.

3. Hasty Generalization

When we criticize the generalization as being "hasty," we are saying that making a general claim about the whole population, whether in the form of a proportional claim or a probability claim, is not justified by the evidence given in the premises. Usually, our ground for saying this is that the sample size *n* is too small. This is especially so when we generalize from a single case — this is a hasty generalization if anything is, and so a perfect test case for discussion.

Here is an example from Engel (1976, p. 69): "I had a bad time with my former husband. From that experience I've learned that all men are no good." Johnson and Blair (1994, p. 70) give an example of someone concluding that Calgary is not a friendly city from a bad experience at Calgary Zoo. It is easy to see how such experiences can prejudice the one who has a bad experience against a whole of which the offender is only a part. These are inductive arguments based on a single instance. Groarke and Tindale (2004, p. 287) note that one good experience, such as a carpet cleaning company doing a good job of cleaning a carpet, may convince us that that company always does a good job. In such cases the evidence is usually anecdotal.

However, I am tempted to think that these examples make straw men of the reasoners accused. Granted: a *belief* that all men are no good is not justified on the basis of a single experience of a single man, or even many experiences of a single man, for that would show only that that particular man is no good and not that all men are no good. But is this what the argument is actually saying here? Rather, I think that what is being concluded is that, although there certainly are counter-instances out there, and therefore that the general claim *could* be false, this provides no particular reason to think that some instance will be one of them, and so it would not be wrong to draw the same inference for that particular person as one would if the universal generalization were literally true. Just because something might be true – the next man may be the source of a more positive experience – does not mean that one should behave under the assumption that it is. It follows that "Men are no good; therefore, Derek the man is no good" is a perfectly good inference when interpreted charitably and supposing that we have not suppressed any information that we know about Derek, and not, as it is often accused of being, a fallacy of sweeping generalization (i.e., that of drawing a conclusion about a particular from a generalization that has exceptions). Equally, the general claim licensing this inference is justified as an assumption and as a general rule to be applied.[8]

8 I deal with the fallacy of sweeping generalization in another paper (Botting, 2017).

It would be a fallacy if the woman concluded that all men are no good as an exceptionless generalization, which is not the case here, but it is not necessarily a fallacy to generalize from a single instance when the generalization concluded is one that has exceptions. Taking "all men are no good" as this kind of generalization, I think that it might be quite justified to draw this conclusion, and equally justified for the woman to draw the conclusion that some different man (other than the woman's husband) is also no good on the basis of this generalization. My general point is that, assuming the exceptions are in the minority, there is good reason to think that a randomly selected individual is not an exception, and if there is no further reason to think that they are an exception (e.g., we do not know anything more about the individual other than his being male), the inference to and from the generalization are just as justified as they would be if, in fact, the generalization were exceptionless. The mere possibility of exceptions does not make us reason differently (from when we reason with exceptionless generalizations) and does not mean that we are unjustified when we reason that way. Moreover, if we *do* know that the individual is an exception, then we simply do not apply the general rule (i.e. the generalization). If we know that Derek is an exception to "All men are no good" then this amounts to knowing that Derek is good, so we would not then reason "(With exceptions) all men are no good; but, Derek is an exception; therefore, Derek is good". This would be circular as the premise that Derek is an exception and the conclusion that Derek is good mean the same thing here. Hence, in the cases where we do reason using a generalization with exceptions, the generalization justifies the same inferences as it would if it were an exceptionless generalization, and this means that it is no fallacy either to generalize this way.

Now, it might be claimed that it is unjustified to make even a weak generalization with exceptions on the basis of a single bad experience—taking the generalization as having exceptions should not be taken as an excuse for a free-for-all in which there are no standards applied whatsoever, as I would not be the first to point out. This should not, though, lead us to dismiss the woman's argument too quickly, especially when the attitude the woman takes is not belief but some kind of practical attitude. When it is a practical attitude, whether it is justified to have it depends in the end on a utility calculation: if the good experience is potentially good enough and the bad experience not too bad then one may be more prepared to give "the benefit of the doubt," though without necessarily *expecting* a good experience or *believing* that it will be one; one is prepared to look for counter-instances, so to speak. Contrariwise, if the bad experience is bad enough then one will act under the assumption that the universal generalization is true, without believing that it is literally true, and one certainly will not go looking for instances either to confirm or falsify the generalization

but simply avoid those situations altogether as far as possible. I do not see how this is irrational; if it were, word-of-mouth recommendations would be next to worthless, and I would be no more justified in using the same carpet cleaning company next time in preference to any other I may choose at random from the phone book. Without some kind of idea of these utilities, these cases are under-described. To put it another way, "all men are no good" is a figure of speech that is not charitably interpreted as asserting literally that all men are no good or as justifying a belief that all men are no good, even taking the latter as a generalization with exceptions; it is a signal instead of her unwillingness to give the benefit of the doubt to some arbitrary instance of manhood that she knows nothing more about, and I think it presumptuous to suppose that she is wrong to do so or that doing so involves some kind of cognitive error. It is, then, justified for her to draw a general conclusion from a single instance, provided that she does not overstate it. A similar analysis applies to the case of the zoo visitor. Neither of these cases are fallacies, because their conclusions are not to be interpreted as expressing justified beliefs, although they are attitudes that it is rational to have in the circumstances and having taken the utilities into account.

I am not entirely convinced by the carpet cleaning example either, although for different reasons: with some things, any arbitrary instance can be considered to be average, and likewise whatever is true of the average will be true of the great majority of the population. At this point the phenomenon known as reversion to the mean might be mentioned. Consider the carpet cleaning company again. Suppose that one in ten of their cleanings is below average, one in ten is above average, leaving eight in ten as average. Suppose your carpet is cleaned and they do a good job. You do not and cannot know, on the basis of a single instance, whether their performance is above, below, or just average on this occasion, and it would certainly be wrong to believe that *all* of their carpet-cleanings are good. But again, this seems to interpret the conclusion of the argument very strongly.

Put it this way: does your knowledge that there are things that you do not know, and perhaps could know if you had a bigger sample, mean that you should not, in the sense of its being epistemically irresponsible, generalize now? That you should not generalize until you have been able to determine what an average performance is and what is below and above average for their standards? I do not think so. Most of the time performances are average because this is what it means to be an average performance, so any arbitrary instance is justifiably believed to be average. That we could be even more justified if we had a bigger sample does not mean that we are not justified now or that it would be fallacious to generalize from a smaller sample or even a single instance. Whether it is epistemically responsible to generalize now or

to wait depends mostly on how important it is, how quickly you need to act, etc. But as far as beliefs themselves are concerned (which do not depend on utility calculations),[9] generally it is epistemically responsible to generalize now. If it was an above average performance and you generalize from this then obviously you will suppose a higher average than actually applies and your generalization will consequently be false, but not faulty. The next time you get the carpet cleaned it is not as good as the first time. You are disappointed with the carpet cleaning company and with your own inferential performance—"serves me right," you might think, "for generalizing from a single instance." Such disappointment, though understandable, is not really justified. The carpet company's performance is simply reverting to its mean; similarly, your inferential performance was, in this particular instance, below average in so far as you inferred a generalization that is false, but this does not mean that generalization from a single instance is fallacious, since on its average performance generalization from a single instance (in these kinds of cases) will lead to true generalizations, generalizations that can then be justifiably applied to randomly selected instances. An above average clean (or one that is below average) will bring about a below average inference.

In such kinds of distributions, it does not seem fallacious to generalize from a single instance. This also applies, with some caveats, to any attribute that should be normally distributed in a population. Height, for example, is an attribute that, relative to specific genders and races, is normally distributed, which is to say that the great majority of the population are within one standard deviation of the mean. Obviously, it would be unjustified to make a *universal* claim on the basis of what is true only in this region around the mean, but one is justified in making generalizations with exceptions of a kind such that, if one were to consider a single arbitrary instance of the population about which one knew nothing else about, one would be justified in believing that his height, for example, was in this region, and if one were to measure the height of this single instance, one would be justified in provisionally taking this to be the average, because knowing that the great probability is that this height will be near the average.[10]

What is common to both performances and normally distributed attributes is that the great majority of the population is 'heaped' around the average. However, caution

9 Our willingness to assert such beliefs may be different and require higher justification because of the utilities and risks involved, just as our willingness to make an assumption required lower justification. Here I am only concerned with the question of whether believing itself is justified.

10 Perhaps not every normal distribution is like this, as such a distribution with an extremely large standard deviation would not allow us to assume that a randomly selected individual is close to the average. Apart from made-up examples, though, most things normally distributed in the real world are not like this.

must be taken here. The generalization is not justified if we combine attributes. An "average man" will be described as one who has average height, weight, etc., yet there will be comparatively few average men as so described in the population; in other words, we have to take the attributes singly and be careful that they do not combine several things into one. One can also imagine scenarios where what we expect to be a normally distributed attribute is not. Suppose that the population of the world were wiped out except for giants and midgets: the average would still be somewhere in the middle, and yet there would be no men of average height at all. Unless we have reason to think that we are in such an outlandish, artificial situation, the inference from the single instance to the population is justified. Although we cannot always assume that the biggest proportion of the population is on or near the average, this assumption is generally safe for all simple normally distributed attributes, and consequently the general claim will be justified so long as we have not suppressed any evidence that we are in one of these kinds of abnormal situations. Again, our average inferential performance is better for making these inferences than if we did not, and we know this and can provide arguments that justify it. The fact that our inferential performance would be even better had we a bigger sample or more cognitive resources does not mean that we are not justified without them.

The bigger problem with generalization from a single instance is in knowing what exactly you should generalize with respect to. In the case of the disappointed zoo visitor, it should be noted that he does not conclude from his experience that all zoos are unfriendly, or that all Canadian cities are unfriendly, but that Calgary is unfriendly. We can only guess at his reasons for picking on Calgary,[11] but we may hypothesize that he had experiences that falsified the alternative generalizations. He may have had experiences that falsified a universal generalization with respect to Calgary also, but not to the extent of being prepared to give a Calgary tourist attraction the benefit of the doubt, especially when the cost of finding out is potentially another negative experience. Because of the costs, he is justified in making the assumption that Calgary is unfriendly and applying it as a general rule.

These, then, are two scenarios in which it is not fallacious to generalize from a single instance, that is to say, where it is justified to make a proportional claim about the population and taking this in turn to justify a probability claim.

11 A larger sample would make it easier for us to discern the reasoner's reference-class, but the reasoner himself does not need a larger sample in order to generalize, although a larger sample would obviously be preferable for the reasoner too and make his justification for the general claim stronger. The reasoner knows his own reference-class—it is not something he has to hypothesize from the sample.

Here is a third. The general claim that water boils at 100°C is not a claim that is made on the basis of a single sample of water (or so we may presume). But let us suppose that, after considering several different chemicals, we have found that all samples of that chemical have the same boiling point. We can inductively infer on this basis that a chemical that we have not hitherto tested will also have a constant boiling point, and therefore that one measurement of the boiling point will suffice to make the general claim. We therefore make a general claim on the basis of a single instance and treat any putative counter-instances by inferring instead that the sample is not of the same chemical.

Admittedly, this is only superficially induction from a single instance; rather, it is what Reichenbach calls a "concatenated induction" (and we should include the general claims about the tested chemical substances among the premises).[12] I am assuming here that the only justified reason one may have for believing something like chemicals' having the same boiling point is through *a posteriori* means. Others may claim that this is justified on the basis of *a priori* metaphysical assumptions. Let us suppose that you generalize on the basis of a single instance because accepting such an assumption and that I accuse you of hasty generalization. Is this accusation justified? I have a substantial disagreement with you over the truth of your assumption and may not consider your reasons for holding this assumption to be good ones. But to justify the accusation the burden of proof is on me to show that these are unreasonable assumptions for *you* to hold—the fact that I would not consider them reasonable were *I* to hold them implies no fallaciousness in your reasoning. Were I to succeed in showing that you have reasoned badly in this instance, it would be by showing you that you had failed to notice some internal inconsistency, that is to say, that your assumption conflicts with other claims that you endorse. This amounts to claiming that you were not actually justified in the first place, but only thought that you were.

12 It is true that the other cases I have mentioned, e.g., normally distributed variables, also depend on background conditions. I am not so sure that the reasoner needs to know those backgrounds conditions in order for their generalization to be a good one. Would reasoners be epistemically irresponsible if they generalized while in ignorance of this and/or did not include this fact about normal distributions among the premises? Or is the generalization justified anyway, and the truth about the distribution just explains why it is justified? I am not really committed on this issue either way, although I will suggest in a moment that we do need reasons for believing that the attribute in question is normally distributed. There is no doubt that it is better if we do.

What I certainly would deny is that including this knowledge about the distribution in the premises makes this generalization a concatenated induction too. It *would* be a concatenated induction if we had inferred something about this particular normal distribution from what is true about other normal distributions, but that is not what we have done here. In fact, since boiling point is plausibly a normally distributed attribute (albeit, as it turns out, with a standard deviation of zero, but it is assumed that we do not know this) we could generalize from a single instance even without the additional knowledge about the boiling points of other chemicals. A weaker general claim is justified by this generalization than by the concatenated induction, as we do not justifiably believe that the boiling point is *constant* (i.e. has a standard deviation of zero) but are assuming only that it is distributed normally and with a small standard deviation.

So far, I have been arguing that several cases that have been accused of being fallacies of hasty generalization, and even used as examples to illustrate the fallacy, are not justly accused except for reading the conclusion in uncharitably strong ways. I am now going to discuss an argument that claims to show, for different reasons, that we do not err when we generalize from just a few instances, but that this is what reasoners like us ought to do, and therefore no fallacy. I will argue that, as far as this argument says anything interesting, it is unsound. I will call this the "argument from cognitive costs."

4. The Argument from Cognitive Costs

This issue is usually raised in relation to a particular model of our cognitive lives. There are two cognitive systems: System 1 and System 2. System 2 is "quick and dirty" — it is highly fallible but cognitively cheap. It is our default system, the one in general use, and guides us well enough most of the time. System 1 is stricter and holds our cognitive behaviour to a higher standard, but is cognitively expensive. For reasoners like us of bounded rationality and limited cognitive resources, System 2 is usually the better one to use, and this allows generalizations to be drawn from smaller samples than would be considered sufficient for a System 1 process. The argument, then, is that the accusation of "hasty generalization" is (at least sometimes) actually holding our inductive inference to a higher standard than is appropriate, viz., a System 1 standard, and that generalizations that would be hasty were they inferred by a System 1 process and would imply some kind of malfunction in a System 1 process, are inductively valid when inferred by a System 2 process.[13]

In the case where we make an *assumption* on the basis of a small sample, I agree that we may do so on the basis that further sampling would be cognitively costly, just as we did when we thought that further sampling would be emotionally costly. If this is what the objection amounted to then it would be true but not very interesting; it would be the charitable (re-)interpretation of the general claim itself that is doing all the work, and cognitive costs would be just one kind of cost among others.

I take it, then, that it is not just "making an assumption" that is being taken to be justified, but belief as such. Now, the argument runs something like this: you know that by generalizing from a small sample you might draw as a conclusion a general claim that is false. But enough 'hasty' generalizations of this System 2 type succeed to make belief justified, so unless there is a particular reason to justify the additional

13 Gabbay and Woods (2006) give arguments like this. The details are unimportant as I only want to make clear here the general structure that such an argument would take.

cognitive costs of System 1 and invoke the stronger standards of System 1, it is not fallacious to generalize, even from small samples, and in extreme cases from a single instance. This might seem to be of the same pattern as the argument I made earlier that our inferential performance will be right more than not when we make inferences from a single instance of a carpet-cleaning company's performance, and that our inferences revert to a mean just as the cleaning does, and this mean will generally be sufficient to justify belief in a general claim, even though we know that we will be wrong a certain proportion of the times that we make this inference. But there is a significant difference between that argument and what is argued here: in the former, the justifiability of this generalization depends on the nature of what the instance is an instance of, while in the latter it makes no difference, but a simple counting up of the number of generalizations made by the System 2 process and the proportion of those that are inductively valid, which is to say, it is a second-order induction.

Now, clearly there are cases, already discussed, where 'hasty' generalizations can be shown to succeed in a large enough majority of cases to justify outright belief. Consider again the case of a normally distributed attribute. Clearly, it is better to have a greater sample size, and when we do, we can calculate the inverse probability with greater confidence. Even so, if the attribute is normally distributed, then, within a certain margin of error depending on the standard deviation, our conclusion is likely to be true to the extent that our believing it (and not just our making an assumption) is justified. Provided that we have reasons for thinking that the attribute is normally distributed in the first place, we are justified. We have a good reason for thinking that the sample, though small, is representative within a certain margin of error. We may or may not consider the additional cognitive expense of further sampling worthwhile, but it is not the prohibitive cognitive cost of further sampling, but simply the nature of the case, that justifies our generalizing from a small sample.

In order to be claiming anything interesting, then, the claim must be that, *even when we have no reason for thinking that we are in one of these situations*—that is to say, when we have no reason to think that the sample is representative (and even, arguably, when we have reason to think that the sample is *not* representative)—we should follow the general policy of hasty generalization simply on the basis of an unfavourable comparison of the relative cognitive costs and perhaps the importance of the question we are trying to answer. While I am quite prepared to say that we may be justified in making an assumption on this kind of basis, I am unwilling to say that we may be justified in *believing* a general claim on this basis. In so far as an argument from cognitive costs says anything interesting, then, it must say that *belief* itself is justified, and this, I think, is false.

I think the argument from cognitive costs falters on a distinction between a particular reasoning process being the right process to go through and the outcome of the process being the right thing to believe. It is not inconsistent to suppose that some general claim is the right thing to believe but that the process by which we would have that belief is not the right process to go through, or that a process that is the right process to go through leads to a belief that is not the right belief to have. Suppose that a System 2 process of generalization is the best process, in terms of cognitive economy, to go through, and the result of going through it is the general claim that all A's are B. Yet we also know that this generalization was made on the basis of a non-representative sample. Should we believe that all A's are B? I do not think so. In fact, I think that in this situation we should not generalize at all, and surely doing nothing is cognitively cheapest of all. If for some reason we are forced to reason one way or the other (through System 1 or System 2), then all we can offer is a best guess, and not a belief. A belief that all A's are B is not justified and not epistemically responsible, even on the hypothesis that a process of generalization is epistemically responsible (which I doubt it is).

Is the matter different if we suppose only that we do not believe that the sample is representative, without necessarily believing that it is non-representative? I do not think that this matters much. The fact remains that we know that the outcome of the process is one that we have no good reason to think is actually true, and this conflicts with truth being the aim of belief. As before, this follows even if we concede that the process is one that we ought to – or that it is epistemically responsible to – go through.

We can effectively run the same argument the other way too. Suppose that we know, never mind how, that 9 A's out of 10 are B's, and that this is what the outcome of a System 1 generalization would be, whereas the outcome of a System 2 generalization would be as before that all A's are B. Which generalization are we justified in believing? It depends on how you evaluate the counterfactual. If we think that we are justified in believing that 9 A's out of 10 are B's, where the only way we could have come to have that belief is through a process in System 1, then evaluating this claim as a 'backtracking' counterfactual seems to suggest that we ought to go through System 1, irrespective of its cognitive cost. In short, we ought to go through whatever process leads to the belief that we are justified in believing and ought to believe. However, if we treat believing that 9 A's out of 10 are B's as a 'local miracle', then it does not follow that we ought to go through System 1; in fact, it seems that if we go through any system at all we should go through the cognitively cheaper System 2 while still remaining the case that believing that 9 A's out of 10 are B's is justified and

that believing that all A's are B—the outcome of the System 2 process—is unjustified. The second 'local miracle' approach seems to me the correct one when considering what we ought to believe; just as it does not follow from the fact that I ought to go through process X that I ought to believe whatever the outcome of X is, so also it does not follow from the fact that I ought to believe something that would be the outcome of X that I ought to go through process X.

It could be objected that this is a cheat because I built into the example that we know, and are therefore justified in believing, that 9 A's out of 10 are B's. Let's choose a more modest example, then, and suppose only that we believe that we have no good reason to believe that the sample is representative. In such a case what we ought to believe about the ratio of A's to B is: nothing. In this counterfactual circumstance we should have no belief. Again, if we evaluate this as a 'backtracking' counterfactual then whatever it is that we ought to do, one thing that we ought *not* to do is generalize, either through System 1 or System 2, since the outcome of both is a generalization. If we treat failure to have the belief as a 'local miracle' then nothing follows about which process we ought to go through. But, once again, it is strange to see failure to have a belief as any kind of miracle—to see it as a miracle implies that doing nothing is not an option, and doing nothing is cognitively cheapest of all. Moreover, the conclusion that we ought to do nothing is one that we have reached completely rationally by reasoning.

At best, an argument from cognitive costs can tell us that we ought to go through one system or another, and not that we ought to believe their outcomes. In those cases where they do produce justified beliefs, that is to say, beliefs that we ought to believe, it is not their cognitive costs that are relevant. Obviously, there is always a sense in which we are more justified when the belief has been produced by a System 1 process than by a System 2 process—this is a truism. When this extra boost in justification is not worth the extra cognitive expense, we are content to have a more weakly justified belief. However, it would be wrong to call such a generalization hasty or fallacious in circumstances where there is some reason to think that the sample is representative, and this could even be true, as we have seen, when the sample is a single instance. In circumstances where there is no reason at all to think that the sample is representative, no appeal to cognitive savings is going to justify belief in the general claim. The standards for a belief's being justified are not context-dependent in the sense that the standards for assuming, or accepting, or asserting, clearly are; if the outcome of a System 2 process is not a justified belief (e.g., because the sample is not believed to be representative), arguing that it was the correct process to go through given the cognitive resources available will not make the belief any more justified. Cognitive costs simply cannot have this kind of effect on what we ought to believe.

A better example of the fallacy of hasty generalization, then, is one not involving anecdotal evidence, given that we can usually make justified general claims on the basis of such evidence provided that we have no evidence of being in one of the exceptional situations, and if we did have such evidence, that evidence ought to be included in the premises. Therefore, I think that the examples of arguments given by Engel, Blair and Johnson, and Groarke and Tindale, which do not have such premises, describe perfectly reasonable examples of reasoning, provided their conclusions are interpreted charitably as not literally making universal claims but stating a rule that, when applied universally, will produce better inferential behaviour on average than if we refused to draw the inference because of a mere possibility of being wrong, where a bad inferential outcome is identified either with drawing an inference that leads to a false belief (when belief is the issue, as in the cleaning example) or with leading to an assumption that incurs negative experiences or other costs (as in the "All men are no good" and "Calgary is an unfriendly city" examples). By following the rule, we should have on average fewer false beliefs and fewer negative experiences than if we did not.

We have already encountered a better example of the fallacy of hasty generalization:

All the philosophers in the room have beards.

Therefore, all/most philosophers have beards.

This seems fallacious, and we can safely assume that there are no utility considerations. As before, the problem seems to be that, even if we have no direct knowledge of any philosopher that is not bearded, the sample is not large enough to justify the generalization, or any proportional or probabilistic claim about the population. In such cases, is it justified to charge a reasoner with reasoning fallaciously?

Occasionally, other grounds than sample size are appealed to. For instance, the sample might be biased. This could be quite innocent and due to the fact of what evidence is available to us, or it could be that we have the sample we do because we have gone looking for confirming instances and avoided areas where falsifying instances are more likely to be found.[14] "A sample," Groarke and Tindale (2004, p. 290) say, "must be sufficiently large to give us confidence that its characteristics are not due to chance . . . [and] must also avoid bias." Is it justified to charge a reasoner with reasoning fallaciously in this case?

---

14 In the testing of a scientific hypothesis, for example, experimental results must be replicated, not only by different scientists in different labs, but the experimental conditions must be varied.

I do not think so. When we criticize the generalization, often we are criticizing the methods of data collection used rather than the inductive inference itself; since the inference draws a conclusion relative to a certain body of evidence, the inference itself will be valid provided only that there is no mathematical mistake in performing this calculation,[15] which is not a fallacy.

The point I am making is that accusations that a reasoner has actually committed a fallacy of hasty generalization are very hard to substantiate; when we look at the details, the criticism aimed at the generalization do not justify an accusation of having inferred fallaciously but of inferring at all from inadequate evidence or having inadequate methods of gathering evidence. Charges that a fallacy of hasty generalization has been committed is usually motivated by beliefs about the evidence. For example, I would suggest that what makes Johnson and Blair criticize the generalization that Calgary is an unfriendly city is evidence that they have that it is not an unfriendly city—evidence, however, which may not be available to the reasoner they are criticizing. It is to this that I now turn.

5. The Evidential Basis of Generalization

Let us recap. Assume that anything that a reasoner takes as evidence is included in the premises of the argument. Since the generalization always makes a claim relative to the evidence, an argument like

A_1 is B
A_2 is B
.
.
A_m is B
A_{m+1} is not B
.
.
A_n is not B
Therefore, p(A,B) = m/n

will always be inductively valid. If we were to add further evidence, we would quite simply have another argument.

If we charge the reasoner with hasty generalization, then, we effectively accuse of him of suppressing a premise. Such a suppressed premise might be simply that

15 For example, if from the earlier example the reasoner inferred p(A,B)=0.9, where this equals m/n+1instead of m/n, then he has simply miscalculated and not committed a fallacy.

the sample size is too small. If the reasoner knows this then he ought to add it to his premises, and if he generalizes despite knowing this then this amounts to generalizing from what he does not believe to be a representative sample. It is difficult to see how a reasoner, when reasoning sincerely, could actually commit this fallacy; one would have to suppose that the reasoner chooses to ignore, or momentarily forgets, something that he himself takes to be evidence or knows about the evidence, that is to say, something that he takes to undermine the inference which he notwithstanding proceeds to make.

Now, in most cases when the sample size is small, believing that the sample is *not* representative is the safest default assumption to make and the one that is epistemically responsible. I have explained cases where this is *not* the case and where even a single instance may be taken to be representative, viz., attributes that belong to all of a natural kind (or is constant for all instances of such a kind, like the boiling point), normally distributed attributes and attributes like performance where reversion to the mean applies. If the reasoner justifiably thinks that in this particular case one of those situations obtains then he can equally justifiably overturn this assumption.

When, then, is a charge of hasty generalization justified? We cannot justifiably accuse the reasoner of an inductively invalid inference, since, as we have already said, it is not invalid. We cannot accuse the reasoner of ignoring evidence when the reasoner is not aware of the evidence. We can criticize the data-collection techniques and experimental design, and perhaps find evidence of bias. We can argue that the reasoner, having found this evidence, should have known better and that his performance was below acceptable standards for making general claims of the kind the reasoner was trying to make.

However, as accusers we must beware of making an accusation of fallacy when what we really have is a substantive disagreement about evidence. Suppose that the accuser, having different evidence (and thus different premises) draws a conclusion contrary to that of the accused. Both arguments will be inductively valid, and neither accuser nor accused can justifiably blame the other for bad reasoning. In effect, the accuser is claiming that her evidence is the better evidence, that it is a more representative sample. If the accused accepts this as evidence and yet refuses to take account of it in his argument, then he is ignoring evidence that is available to him. This is what a fallacy of hasty generalization amounts to, when justified, and since it involves knowingly ignoring evidence, it does not seem very plausible to attribute such a mistake to a minimally competent reasoner who is reasoning sincerely and who is not deliberately putting forward an argument that he himself does not believe to be a good one in a conscious effort to deceive.

What, however, if the accused does not accept the counter-evidence? Then what we have is a substantive disagreement about the evidence and not a fallacy. A reasoner may have a number of principled reasons for rejecting a putative piece of evidence. In fact, there are principled reasons for which we do this as a matter of course in certain situations (as we saw in the previous section): if someone suggested that a particular sample of pure water did not boil at 100°C or a particular piece of iron was not magnetic then we would not accept this as counter-evidence to the general claims involved but as evidence that the samples are not of pure water and iron respectively.[16]

6. Conclusion

This paper has described a number of cases in which it is epistemically responsible to generalize from a single instance and to believe the general claim inferred, that is to say, where a single instance can be taken to be representative of the population sufficiently to justify a generalization with exceptions: a) performances and other cases where one justifiably believes that "reversion to the mean" applies, as it is reasonable to suppose in such cases that the single instance is representative of the mean; b) cases of attributes that one justifiably believes are normally distributed in a population (and have small standard deviations); c) cases of attributes that one justifiably believes belong always (contingently) or essentially (necessarily) to the population. When there is no reason to believe that a single instance can be taken to be representative of the population, it is fallacious to generalize from it, and issues of cognitive costs do not suffice to overturn the default assumption that the sample is not representative. In the cases of (a) and (b) the conclusion is only probable and the conclusion should be stated accordingly, since in these cases we are only saying that the attribute in question is 'heaped' around the average, and so there is always a mathematical possibility, even in large samples, that the sample is not representative, though clearly the larger the sample the more likely it is of being representative. Arguably, all generalization is justified in this way: it is because the ratio of representative samples to non-representative samples increases with the size of the sample that we are justified in thinking that the probability distribution in the population is the same as what we have found in a large enough sample. Thus, denying the justifiability of the kind of inferences in (a) and (b) would amount to casting the whole process of inductive generalization into doubt. In the case of (c) a stronger, universal

16 The case is the same as in analogies: what one person considers to be a relevant difference (and thus takes the instance as being outside of the reference class and so as not part of the statistical evidence), another may not.

claim seems to be justified too, and the sample size is irrelevant, a single instance being as good a sample, and as representative of the population, as many instances.

These beliefs may be false. Suppose, for example, that you believe that height is normally distributed among the population of all men. This is false, because it ignores racial and other relevant differences between men — it is the wrong reference class, and as long as you have encountered other races this is something that you ought to know. It is difficult to think of an excuse for your failing to know this, so were you to believe on the basis of a sample of men that their height should be near such and such a number, an accusation that this commits the fallacy of hasty generalization seems justified in these circumstances.

But let us suppose further that you belong to a bygone age where encounters outside of one's immediate community are rare, and that you encounter an explorer who tells you of pygmies and what you would consider to be giants over six feet tall. You may or may not believe the explorer's fantastic tales. Before your encounter, you were justified in believing that what is the average height of all the men in your own community is the average height for all men, period. Depending on how credible you find the explorer, you may still be justified in this belief after the encounter.

Now, the explorer knows better — he knows that this belief is false by the evidence of his own senses. But would the explorer be justified in accusing you of bad reasoning? Have you committed a hasty generalization?

I do not think so. Instead, there is a substantive disagreement over a premise or assumption — the explorer has evidence that you do not. If the explorer is to convince you that you have actually committed a fallacy, he must do so by appealing to evidence that you already have but have somehow ignored. But if there is such evidence, this amounts to claiming that, in fact, you were not justified in the first place, but only thought that you were by failing to take some piece of evidence that you already had into account. To justify an accusation of fallacy the accuser must attribute to the reasoner knowledge of undermining evidence and disregard of that undermining evidence simultaneously. This is possible: you may not know your undermining evidence under that description, just as you do not know all the deductive consequences of your beliefs, that is to say, although you know it you have not appreciated that it undermines your inference. If you simply have no knowledge of the undermining evidence, though, there is no fallacy, but only an inference drawn from a false, but justifiably believed, premise.

Further, if one is presented with a new piece of evidence, one may have reasons that justify rejecting that evidence; e.g., a piece of iron that is not magnetic, a piece of metal that does not conduct electricity, may be justifiably rejected by the essentialist

or even by the non-essentialist (since even *a posteriori* laws may become so well-entrenched as to be virtually unfalsifiable), it being both preferable and epistemically responsible to believe that the sample provided is not iron or metallic. To justify the accusation of fallacy, the piece of evidence must be such that the reasoner has no excuse for not knowing it or for failing to appreciate its relevance to the inference. If the reasoner does know that a piece of evidence undermines his inference and yet simply chooses to ignore it and draws his conclusion anyway, then he is not reasoning sincerely anymore.

The result? The fallacy of hasty generalization, as knowingly ignoring evidence, is not one that is easy to make, and the charge that someone has made it is not easy to substantiate. To substantiate it amounts to accusing the reasoner of insincerity. What is normally found, instead of bad reasoning, is substantive disagreement over the premises.

Lastly, I would restate my disagreement with the examples of Engel (1976), Johnson and Blair (1994), and Groarke and Tindale (2004) — these are only hasty generalizations if we interpret their conclusions in an unnecessarily strong way; otherwise, the inferences they describe, although obviously fallible and known to be so, are not epistemically irresponsible, even though all draw general conclusions from a single instance. Even in these supposedly paradigm cases, an accusation of committing a fallacy of hasty generalization is not justified.

References

Botting, D. (2017). The fallacy of sweeping generalization [Paper presentation]. In C. Winkler. *Networking Arguments: Selected Papers from the 20th Biennial Conference on Argumentation*, Alta, Utah, U.S.A.: Routledge

Engel, S. M. (1976). *With good reason*. New York: St. Martin's Press.

Groarke, L. and Tindale, C. (2004). *Good reasoning matters!* 3rd edition. Oxford and New York: Oxford University Press.

Harman, G. (1965). Inference to the best explanation. *The Philosophical Review*, 74(1), 88-95.

Johnson, R.H. and Blair, J.A. (1994). *Logical self-defense*. New York: McGraw-Hill.

Reichenbach, H. (1968). *Experience and prediction.* Phoenix Books. Chicago: The University of Chicago Press.

Gabbay, D. M., & Woods, J. (2006). Seductions and shortcuts: fallacies in the cognitive economy.

Cogency, Journal of Reasoning and Argumentation
Vol. 12, No. 2, Summer 2021

METAPHOR AND PARALLELISM IN POLITICAL ADVERTISEMENTS OF ALAS LANGUAGE

*

Tasnim Lubis
Universitas Sumatera Utara, Jalan Dr. T. Mansur No.9, Padang Bulan, Kecamatan Medan Baru, Kota Medan, Sumatera Utara, 20222, Indonesia
tasnimlubis@usu.ac.id

Anita Purba
Universitas Simalungun, Jalan Sisingamangaraja Barat, Bah Kapul, Siantar Sitalasari, Kota Pematang Siantar, Sumatera Utara, 21142, Indonesia
anitapurba@usi.ac.id

Political advertisements are used to persuade the public in one area to choose a particular candidate. This paper described various source domains, kinds of metaphor, and parallelism in political advertisements of Alas language in Aceh Province. The aim of using metaphor and parallelism in political advertisements as poetic function able to attract the public's attention toward the beauty of language and emphasize the intended meaning. Data were taken from banners and pamphlets that consist of Alas language's political advertisement in Kutacane, Southeast Aceh. Both metaphor and parallelism are related to human cognition in expressing the idea, thought, and feeling. They are used to perform to attract attention and be achieved by the voters. They covered the level of phonology, grammatical, lexicosemantic, and meaning that able to deliver the intended message. Political advertisement of Alas language emphasizes and distinguishes the candidate based on as native and non-native toward chosen the intended candidate.

Keywords: metaphor, parallelism, political advertisement, Alas language

1. Introduction

Political advertisements use language to persuade people (the voters) to be attentive to their content. The aim is to persuade the voters to choose the intended candidate. The language used in the advertisement is imperative because it concerns the readers to follow the speaker's intention. However, it could be appeared in declarative and interrogative too. To make it to be achieved, it is important to use the local language; hence the readers familiar with the text (language) and understand the intended meaning. The language used in political advertisement text usually easy to remember, shorter (but represent the entire meaning of the content), and sometimes uses the local language to engage the readers. Lubis (2017) states that the meaning of a sign (in this case, speech), which an individual achieves, relies on his/her knowledge, memory, and understanding of its language. Vaičenonienė (2006) concluded that to capture attention, convey the message, and persuade the consumer, advertising texts use various manipulative language devices. Moreover, different cultures may have different expectations about stylistic choices, language use, and other preferences in the same genre.

Formerly, the political advertisement in Aceh uses Bahasa Indonesia only. However, since MoU between Aceh and Indonesia in Helsinki, Finlandia, on August 15th, 2005 and followed by the inception of the Aceh constitution, some Aceh parties arose. Then, almost all political advertisements use the local language. This phenomenon could be seen in a political advertisement in Southeast Aceh in 2013 for candidate elections for DPRK or DPRI (legislative candidate). This research was expanded research from Hasrul (2015) from his thesis entitled Translation of Political Advertisement from Alas Language into Indonesian. The data in his research were being used at the political advertisements in 2016 to choose the regent or major in Kutacane, Aceh. This research was concerned about using the poetic function in the political Advertisement of Alas Language to describe a linguistic device that can deliver the message.

The ninth of Seminar Nasional Bahasa Ibu (SNBI) in February 2016 in Bali with the theme "Strategy to prevent the distinction of local languages as Indonesia heritage" remains the researcher especially linguists to study local Indonesian languages because language not only used to communicate but also conveys pieces of knowledge. Each language expresses the specific and uniqueness of its area. It is related to the using of specific metaphors based on their environment and local knowledge. Using the local language in political advertisement tends to engage the voters to be familiar with the advertisement and convince them that the local candidate belongs to them.

A good stanza and the word choice also have an important role in attracting the voter's attention due to familiarity with the word and its indexicality. The use of a pantoon makes the community more attractive and easier to understand because using figurative language before the non-figurative language is used to emphasize the situation formally. This usage is related to politeness and to be achieved in the community. The pantoon consists of two first-line of metaphor and two last lines the goal. Nevertheless, not all political advertisements in Kutacane used pantoon, but they still used metaphor and parallelism of the language used. For example, the political advertisement of Golkar (one of the famous party in Indonesia) stated: "*Suara Golkar Suara Rakyat*" (the voice of Golkar, the voice of community). It only consists of two phrases but still using metaphor and parallelism to be more interesting and easy to remember. Parallelism covered the rhyme, alliteration, and assonance in getting harmony. As an advertisement, the political advertisement is also part of the poetic function that concerns the phoneme of language itself, showing parallelism in phonology (*u-a-a o-a* and *u-a-a a-a*). From the lexical, using the word "*suara*" express the goal of the text is to vote. The word "*suara*" is a metaphor that refers to a vote as a target domain. Both metaphor and parallelism are often used to emphasize meaning and intension.

Besides, metaphors are often used in the advertisement to cover up the intension of literal language into figurative language. Metaphors are used for many purposes. They are often used to both ordinary and talented people. In politics, people use metaphors to build familiarity and also to create the beauty of the text. Metaphors appear in language based on the speaker's cognitive and mind. They will be used to cover up the content, and when speakers cannot express the literal one to get the equivalent effect as metaphor did. For example, in Aceh, Hasan Tiro, known as a phenomenal leader in Aceh who fights for Acehnese freedom, used metaphor to catch audiences' attention and persuade them by using many metaphors. Lubis (2019) states that in the political speech of Hasan Tiro, the metaphors were used to persuade the followers and audiences to engage and convince them to fight with him to get the Aceh freedom. He attracted their attention by using conventional metaphors and ontological metaphors because he knew already the audiences. In this case, the use of metaphor has an important role in attracting the audience's attention because it has exact indexicality.

As politicians, the leaders need to produce language that persuades their audience. They can use metaphors to convey the meaning related to culture. Consequently, they could be known as a phenomenal leader. Mulyana (2005) states that many speakers and politicians use a figure of speech for changing the messages of their speech in a

speech. Lakoff & Johnson (2003) found that, in particular, the school of cognitive metaphor analysis has produced ample evidence that "metaphors play a central role in the construction of social and political reality. A leader commonly uses metaphor to describe the nation, the revolution, and opposition in political metaphor. Lubis (2014) found that the use of metaphors dominated Hasan Tiro's speech in delivering his intention to persuade and evoke the listener (audience) to join with him in his organization, namely Free Aceh Movement (GAM).

Political advertisements perform language to have special attention toward communicative with the readers as a human action domain. This special attention to the form of the message is what Jakobson (1960) called the poetic function. With criteria of poetic function, the political advertisement could be studied through its language related to the cognition and language device.

2. Political Advertisement in Alas language

Southeast Aceh is one of the Kabupaten in Aceh Province. It is located in highland and famous for Gunung Leuser National Park. Soravia (2002), in his book (The Alas Language: Northern Sumatra), states that the Alas language is spoken in a small area of Northern Sumatra, more precisely in the district of Aceh Tenggara (Southeast Aceh), Autonomous Province of Aceh. The main town of the area where the language is spoken is Kutacane as the capital of Southeast Aceh. The town consists of a double row of houses along the main road, which comes from Kabanjahe and continues towards Blangkejeren northwards and thence, when weather conditions permit, reaches Takengon in Aceh Tengah.

Political advertising includes communications that appear in pamphlets, circulars, flyers, billboards, other signs, bumper stickers, or similar written communication forms. Advertisement deals with persuasive language and metaphor. Political advertising includes supporting or opposing a candidate for nomination or election, either a public office or an office of a political party (including county and precinct chairs). Political advertising includes communications supporting or opposing an officeholder, a political party, or a measure (a ballot proposition). In Southeast Aceh, political advertisements exist in banners and pamphlets.

3. Conceptual Metaphor

Humans express their idea, feeling, and though based on their surroundings. What has been planted in their mind will store vocabularies in one's cognition. In Bahasa Indonesia, people tend to say *menimba ilmu* to express their knowledge. The word *pelite* (the light) belongs to the past tool to light up the night. *Pelite* is a light that used

oil and cotton or a wick stove. The interesting phenomenon is that the Alasnese uses the word *pelite* to refer to the native candidate.

Meanwhile, the candle is used for the non-native candidate. The use of the word *pelite* is familiar to the community because formerly, they used it for lighting at night, and they know exactly the benefit and the strength of it. Besides, they can make it by themselves because they have the knowledge to do that. Meanwhile, the candle does not belong to them, and it is a new product that they can buy only. Using of source domain refers to explain the target domain. Based on Kovecses (2010), a metaphor that compares one entity to another entity (A to B) is known as the source domain (A) and the target domain (B).

Lakoff & Johnson (2003) state that metaphor is for most people a device of the poetic imagination and the rhetorical flourish a matter of extraordinary rather than ordinary language. Moreover, metaphor is typically viewed as characteristic of language alone, a matter of words rather than thought or action. Kovecses (2010) explains that metaphor is defined as understanding one conceptual domain in terms of another conceptual domain. Understanding the pattern of understanding one concept to another, he divided two conceptual domains into the source domain and target domain. For example, the political advertisement by using metaphor as below:

Telot pelite (if there is a light)
Kae gune lilin (why should using a candle)
Delot si bante kae (if there is our man)
Tuso kalak laen (why should choose outsider)

The phrase first two lines are metaphor, which refers to the native candidate. It describes that the native candidate is stronger than the outsider. As a light comparing with a candle, the light is lighter and more durable than a candle. The two first-line has strong meaning and indexicality to convince the voters that they can use light during the night because they know already and familiar with it. It means, by voting for the native candidate, they all already know the capacity of the person. Consequently, the native candidate is believed able to lead them in every situation than the outsider.

In Kovecses book entitled Metaphor in Practical Introduction, there is thirteen source domain. They are the human body, health and illnesses, animals and plants, buildings and construction, machine and tools, games and sports, money and economic transaction, cooking and food, heat and cold, light and darkness, forces, movement, and direction. The target domain consist of thirteen also, they are emo-

tion, desire, morality, though, society (nation), politics, economy, human relationship, time, communication, life and death, religion, and events and activities.

Furthermore, kinds of metaphors by Kovecses (2010) divides into four. They are the conventionality of metaphor, the cognitive function of metaphor (there are three parts; structural metaphors, ontological metaphors, and oriental metaphors), the nature of metaphor, and the level of metaphor's generality.

a. The Conventionality of metaphor. In conventionality, conceptual metaphors concern with manifestations. The metaphors, both conceptual and linguistic, are conventionalized. English speakers use them naturally and effortlessly for their normal purposes when they talk about such concepts as argument, love, social organizations, life, etc.

b. The Cognitive function of metaphor. Cognitive function has a clearer exposition. Cognitive function is divided into three general kinds: structural, ontological, and orientation. (a) Structural metaphor concern to understand time in terms of some basic elements: physical objects, their locations, and their motion. There is a background condition that applies to this way of understanding. (b) Ontological metaphor, people deliberate their experiences in terms of objects, substances, and containers, in general, without specifying what kind of object, substance, or container is meant. The ontological metaphor can be understood as personification in its form. In personification, human qualities are given to nonhuman entities. (c) Oriental metaphor derives from the fact that most metaphors that serve this function have to do with basic human spatial orientations, such as up-down, center-periphery, and the like. It would perhaps be more appropriate to call this type of conceptual metaphor "coherence metaphor," which would be more in line with the cognitive function these metaphors perform. By "coherence," we mean that certain target concepts tend to be conceptualized uniformly.

c. The nature of metaphor. It is based on both knowledge and image. Most of the metaphors are based on basic human knowledge of concepts. In them, basic knowledge structures constituted by basic elements are mapped from a source to a target. In another kind of conceptual metaphor that can be called *image-schema metaphor*, however, it is not conceptual elements of knowledge (like the traveler, destination, and obstacles in the case of the journey) that get mapped from a source to a target, but conceptual elements of image-schemas.

d. The levels of generality of metaphor. Conceptual metaphors can be classified according to the level of generality at which they are found. As already discussed, image-schemas are structures with very little detail filled in. For example, the "motion" schema has only an initial location, movement along a path, and final location. This highly generic motion schema gets filled in with more detail in the case of the concept of a journey: we may have a traveler, a point of departure, a means of travel (e.g., a car), a travel schedule, difficulties along the way, a destination, a guide, and so on. Another property of such generic-level schemas as "motion" is that they can be filled in not just one but in many ways.

The motion schema can be realized as a journey and as a walk, a run, a hike, or mountain climbing. These are specific-level instances of the generic motion schema. These would instantiate the schema differently, but they would have the same underlying generic-level structure of the motion schema. Now conceptual metaphors can be generic-level or specific-level ones. The previous ones are all specific-level metaphors: life is a journey, an argument is a war, ideas are food, and so forth. Life, journey, argument, war, ideas, and food are specific-level concepts.

Schematic structures underlying them are filled straightforwardly, as we have seen in the case of a journey. In addition to these, there are generic-level metaphors: events are actions, generic is specific, and what is known as the great chain metaphor. As can be seen, concepts such as events, actions, generic, and specific are all generic-level concepts. They are defined by only a small number of properties, which means that extremely skeletal structures characterize them. For example, in events, an entity undergoes some change typically caused by some external force.

There are many different kinds of events: *dying, burning, loving, inflation, getting sick, freezing, the wind blowing, and more*. These are all specific instances of the generic concept of the event. Unlike the generic-level concept of the event, the specific cases are filled in with specific detail. For example, in death, there is an entity, typically a human, who gets old or gets sick due to which he or she ceases to exist. Notice that the characterization of the event does not mention any of these elements. However, the general structure of death shares the generic event's skeletal structure: in death, an entity undergoes some change as a result of some force (time-age or illness).

Generic-level metaphors are designed to perform special jobs—jobs that are different from those of specific-level metaphors. The events are actions metaphor, for example, accounts for many cases of personification. The generic is a specific metaphor that helps us interpret proverbs and other clichéd phrases. Proverbs often consist of specific-level concepts. Take the proverb, "*The early bird catches the worm.*" "Bird," "catch," and "worm" are specific-level concepts.

The interpretation of the proverb is facilitated by the metaphor generic is specific. It tells us to interpret the proverb at a generic level: the early bird is anyone who does something. First, catching is obtaining something, and the worm is anything obtained before others. Thus, the generic meaning of the proverb is something like, *"If you do something first, you will get what you want before others get it."* Given this generic-level interpretation, the proverb can apply to a wide range of cases that have this generic structure. One such case is when you go and stand in line early for a ticket to a popular Broadway show, and you do get a ticket, while others who come later do not. This example shows how the generic is a specific metaphor that can understand the generic level interpretation of a specific-level proverb and then allows us to apply the generic interpretation to a specific case with the appropriate underlying generic structure.

Metaphor in political advertisements resembles in language style like a euphemism to catch audiences' understanding of one's intended meaning. Political advertising includes communications supporting or opposing a candidate for nomination or election to either a public office or an office of a political party (including county and precinct chairs). It also includes communications supporting or opposing an officeholder, a political party, or a measure (a ballot proposition). Therefore, Alas's use of the native language has intended meaning to contrast the native and non-native.

4. Parallelism

Parallelism deals with the linguistic phenomenon that explained the relationship between phonetics, words, phrases, and sentences. The relationship builds harmony and an understanding of a text. A text can be seen in a stanza, a line, or a bait. Short (1996) noted that the language style-focused describes the language to get the meaning (interpretation). In general, parallelism links structure and idea that appeals in synonym, repetition, opposition, and other forms. Lubis (2016) found that in do'a (pray) of *wirid yasin*, parallelism in the imperative sentence is expressed in poetic form to explore the beauty of language to wrap the requesting expression.

Khader & Kullab (2016) concluded that parallelism means alignment, meeting, and symmetry that requires two things or more having the relations of proportionality (similarity and correspondence). Because the poetic structure stands for the

principle of proportionality among its linguistic parts, the parallelism principle gets one of the crucial necessities of the poetic language's artistic formation. For example, the political advertisement in Golkar and Demokrat Party says:

> ***Suara*** *Golkar* ***Suara*** *Rakyat* (Golkar Party)
> *Yang kami berikan* ***bukti****, bukan* ***janji*** *dan akan meningkatkannya* ***lagi***
> (Demokrat Party)

To see the repetition, the word *suara* in Golkar's political advertisement has two words of repetition (*suara*) to emphasize the meaning. Meanwhile, the Demokrat party used the repetition of three words with the sound /i/ at the end of the word to create the beauty of sound and parallelism. Parallelism plays a role in phonetics, lexical and grammatical levels. The aim of parallelism also to present poetic function. To answer the criteria of the question 'What is Poetry?' Müller-Zettelmann (2000) stated that Poetic texts tend to

- relative brevity (with some notable exceptions)
- dense expression
- express subjectivity more than other texts
- display a musical or songlike quality
- be structurally and phonologically overstructured
- be syntactically and morphologically overstructured
- deviate from everyday language
- aesthetic self-referentiality (which means that they draw attention to themselves as art form both through the form in which they are written and through explicit references to the writing of poetry)

5. Method

The data were taken from six political advertisements of candidate election to DPRK and DPRI in 2014. The data were found in Banner and Pamphlet in 16 districts in Southeast Aceh. Then, the data also were taken from the political advertisement of the regent candidate in 2016. The six data of political advertisement of candidate election were:

> *(a) De lot O Khang Te, kae pilih kalak lain*

(b) Telot pelite kae gune lilin. Delot si bante kae tuso kalak lain

(c) Ulang kenin lupe saudakheku, pilih Kenin Bang Ngah Ndin

(d) Saudakheku Ulang ndauh ni peandung andung Si Ndohokh Ndak Kengkade

(e) Mis Ulang Segere Ni Telan

Pahit ulang segere ni buang

Manis jangan cepat ditelan

Pahit jangan cepat dibuang

(f) Saudakhe, saudakheku, kekhine

(g) Ende si tuhune

The two political advertisements of the regent candidate were:

(a) Sepakat segenep, ulang mesesagi

Lepas ni hambat, tadhing ni ulihi

(b) Pilihan nemu mebede

Kite mesaudakh

The data were classified into source domains to find out the dominant source of the domain used. They are also classified into metaphors to determine the intended meaning of the political advertisement. The data were identified through parallelism toward three-level. They were phonological, grammatical, and lexicosemantic. The phonological level describes the rhyme, alliteration, and assonance to describe the dominant phoneme in a political advertisement. Then, the grammatical level would explain the pattern of political advertisements of Alas language and lexicosemantic.

6. Findings and discussion

The analysis was divided into two main parts, and they were metaphor and parallelism. The analysis of metaphor concerned to find out the dominant source domain and kinds of metaphor was used. The parallelism analysis analyzed the political advertisement in three-level, which were phonological, grammatical, and lexicosemantic.

7. Metaphor

a. Source Domain

1. Source domain human body

   (1) *Te lot **kite kai** tuso **kalak lain** te dak sendah akhi demi kemajuen daerah te* (It is better to choose our leader from our own area than the others). The concept (domain) *kite kai* refers to the particular person (body). The phrase *kite kai* explains the character of the chosen leader.

   *(2) De lot **O Khang Te**, kae pilih **kalak lain.*** It is better to choose our leader from our area than the others. The source domain is O Khang Te and kalak lain. It is also referred to Alas generation.

   (3) *Telot pelite kae gune lilin. Delot si **bante** kae tuso **kalak lain*** (It is better to use an oil lamp than a candle. It is better to choose our group leader than the others).
   *Ulang kenin lupe **saudakhek**u, pilih Kenin Bang Ngah Ndin*
   Remember, my brothers, all of you choose Bang Ngah Ndin. The word saudakheku refer to the Alasnese to persuade them to choose Bang Ngah Din

   ***(4) Saudakheku** Ulang ndauh ni peandung andung Si Ndohokh Ndak Kengkade.* (my brothers, it is not wise to choose the candidate from a distance (distance means non, meanwhile the closer is ignored).

2. Source domain light

   (1) *Ende si **tuhune**. (*This is the real one). The word *tuhune* refers to right or wrong as opposition like light and dark.

   (2) *Telot **pelite** kae gune **lilin**. Delot si bante kae tuso kalak lain. (*It is better to use an oil lamp than a candle. *Pelite*, and *lilin* as source domain of light. They were used to compare the lighter ones. Pelite refers to Alasnese, and candle refers to the other group (Non-Alasnese).

3. Source domain food

   ***(1) Mis** ulang segere ni telen. **Pahit** ulang segere ni buang. Mis* (sweet) *and pahit* (bitter) refer to the source domain food.

4. Source domain movement and direction

   (1) *Mis ulang segere **ni telen**. Pahit ulang segere **ni buang.** Ni buang* refer to the action to be discarded and *ni telen* refer to the action to be swallowed.

   (2) *Saudakheku Ulang ndauh ni **peandung andung** Si Ndohokh Ndak*

Kengkade. *(*my brothers, it is not wise to choose the candidate from a distance; meanwhile, the closer is ignored). The word *peandong-andong* refers to an action to be glorified; meanwhile, *Kengkade* refers to be ignored.

(3) *Saudakheku Ulang* ***ndauh*** *ni peandung andung Si* ***Ndohokh*** *Ndak Kengkade. (*my brothers, it is not wise to choose the candidate from a distance; meanwhile, the closer is ignored). The word *ndauh* dan *ndohokh* refers to near and far in direction. The target domain refers to a relationship.

(4) Ende *si tuhune.* (this is the real one). The word *ende* refers to the this and that.

The source domain was the human body (41.66%), movement and direction (25%), food (8.33%), and light (16.66%). The dominant source domain was the human body. It showed that the subject or person was the important thing. The comparison between Alasnese as native and non-native appeared in every political advertisement through metaphor, both conventional and cognitive.

b. Kinds of Metaphor

The political advertisements of Alas language were analyzed through kinds of metaphor. It can be seen as follows:

1. Oriental metaphor

   (1) ***Mis*** *Ulang Segere Ni* ***Telan, Pahit*** *ulang segere ni* ***buang.***

   (2) *Saudakheku Ulang* ***ndauh*** *ni* ***peandung andung*** *Si* ***Ndohokh*** *Ndak* ***Kengkade***

   (3) Ende si tuhune

The name "orientational metaphor" derives from the fact that most metaphors that serve this function have to do with basic human spatial orientations, such as up-down, center-periphery, and the like. The word *mis* (sweet) with *pahit* (bitter) and *telan* (swallow) with *buang* (waste) show the opposite. It is also expressed in *ndauh* (far) with *ndohokh* (dekat) and *peandung-andung* (glorified) with *kengkade* (ignored). Then, the word *tuhune* (the right one) shows the opposite with the others directly.

2. Conventionality of metaphor

   The conventionality of metaphor expressed the metaphor which is used in everyday purpose.

   (1) *De lot O Khang Te, kae pilih kalak lain*

(2) *Telot pelite kae gune lilin. Delot si bante kae tuso kalak lain*

(3) *Ulang kenin lupe saudakheku, pilih Kenin Bang Ngah Ndin*

(4) *Saudakhe, saudakheku, kekhine*

The use of the word *saudakheku*, *bante*, express the source domain that refers to Alasnese as native. These words are used metaphorically because they have the intended meaning or target are Alasnese. These words are also used in their daily conversation. Therefore, these are also used in the political advertisement to emphasize the Alasnese as native.

3. Level of generality of metaphor

   (a) *Mis Ulang Segere Ni Telan, Pahit ulang segere ni buang*

   (b) *Telot pelite kae gune lilin. Delot si bante kae tuso kalak lain.*

The level of the generality of metaphor deals with the proverb that can be used generally. In Kutacane, the (1) proverb is also used in wedding ceremonies when the traditional leader and parents advise the bride and groom to face their new life as a couple. The (2) proverb belongs to the highland area. Formerly, Alasnese went to the mountain to do farming, and when they had harvest moon-like durian, they brought *pelite* to have light in the night.

The level of the generality of metaphor deals with the proverb that can be used generally. In Kutacane, the (1) proverb is also used in the wedding ceremony when the traditional leader and parents advise the bride and groom in facing their new life as a couple. The (2) proverb belongs to the highland area. Formerly, Alasnese went to the mountain to do farming, and when they had harvest moon-like durian, they brought pelite to have light in the night.

Political advertisement of Alas language used 90% opposition item. The use of metaphor in political advertisements in Alas language deliberate euphemism also. The euphemism was used to soften the opposition's meaning. Euphemism is usually defined as "the substitution of an agreeable or inoffensive expression for one that may offend or suggest something unpleasant. The origin of this word is Greek euphēmismos, from euphēmos auspicious, sounding good, from *eu* and *phēmē* speech, from *phanai* to speak." Therefore, it may be natural to assume that euphemizing serves good purposes and the speakers use euphemisms with honest intentions when their aim is not to hurt or offend someone. However, this paper will show that using euphemistic expressions is much more complicated than that.

The formation of euphemism is also available in semantic change related to the metaphorical transfer; for example, the cavalry phrase *has* come to replace the word *menstruation*. Consequently, using metaphor to deliver the passage to the audience can be done toward euphemism. For the political advertisement of a regional candidate, the language used was literal. The poetic function appears in parallelism only.

8. Parallelism

Like Dunkin Donuts, Coca Cola and many advertisements agreed to use parallelism to reach the parallel form. In terms of its natural formation, the structure of parallelism is based on artistically and creatively organizing the text's linguistic ingredients, which results in the rise of literariness of the text and exposure to the various interpretive energies (Khader & Kullab, 2016). The level of parallelism was explained below:

a. Phonological

The phonological analysis consists of rhyme, alliteration, and assonance. All languages make use of rhythm, and poetry exploits these rhythms to create additional meaning. Rhythm generally is "a series of alternations of build-up and release, movement and counter-movement, tending toward regularity but complicated by constant variations and local inflections." Alliteration is derived from Latin's "*Latira*". It means "letters of the alphabet." It is a stylistic device in which several words, having the same first consonant sound, occur close together in a series. Assonance occurs when two or more words close to one another repeat the same vowel sound but start with a different consonant.

From the six political advertisements, four of them shows the identical rhyme. Identical rhyme appears when the two rhyme words are the same: *delot/telot, lilin/lain*. The rhyme appeared at the beginning, in the middle, and at the end of clauses. The dominant was at the end of the clause.

(a) ***Telot*** *pelite kae gune* ***lilin***. ***Delot*** *si bante kae tuso kalak* ***lain***

(b) *Sepakat segenep, ulang* ***mesesagi***
Lepas ni hambat, tadhing ni ***ulihi***

Alliteration and assonance quite the same, where alliteration was 50% meanwhile assonance were 62.5%. Sometimes, alliteration and assonance appear together in the same line, such as the example ***Sepakat segenep****, ulang mesesagi*. The consonant /s/ and vowel /e/ are appear together.

b. Grammatical

In Folley's book (1997), it is stated that Hyme's understanding of ethnopoetics introduces the idea of grammatical parallelism, recuring morphological or syntactic patterns in a text. Grammatical parallelism is often mixed with phonological parallelism. In the political advertisement of Alas language, the prefix *me* is used before the use of verbs such as *me-bede* (to distinguish), *me-sesagi* (to make a/some group), and *me-saudakhe* (to have a relationship) to express active verb. Prefix *me* means to make or to form. Almost all of the sentence pattern was an imperative sentence. There was only one declarative sentence. The pattern was covered by a persuasive form to persuade the readers to do what the speakers said. An imperative sentence is a sentence which is contained commands, requests, prohibition and soon addressed by the speaker to the addressee to do something.

There was 44.44% request of imperative, 33.33% of prohibition, and 11.11% of command in the imperative form. Alas language of political advertisements used kinds of imperative requests, prohibition, and command to express politeness in delivering the messages and show close relationships as native. The use of pantoon also appears in two political advertisements through metaphor to attract and sure the reader of whom to choose. The passive sentence was also dominated. It referred to the word *ni* to show the passive.

c. Lexicosemantic

Khader & Kullab (2016) state that the lexical parallelism embodies mentioning the words repetitively, synonymously, or in the opposite way to show their importance in the language construction, to identify their denotative and aesthetic values. The poetic language consists of lexis moving along the text according to distribution and arrangement under the control of the poetic requirements, which shows the importance of the lexical parallelism structure.

In Alas language's political advertisement, word repetition is emphasized in contrasting native and non-native. All of the political advertisement in election candidate for DPRD and DPR-RI drew the opposition such as:

O khang te versus kalak lain (ours versus others)
Bante versus kalak lain (ours versus others)
Saudakheku (my brothers)
Sepakat segenep versus mesesagi (unity versus grouping)

The use of synonyms that stand for native express the intended meaning that the candidate from the local area (native) more important than non-native. Besides,

they emphasized the meaning through the figurative word, in this case, metaphor, for instance, *pelite* versus *lilin*. *Pelite* (torch/oil lamp) is lighter than *lilin* candle. *Pelite* refers to the native; meanwhile, *candle* refers to non-native. Steen (2010) noted that one of the important points about deliberate metaphor concerns a communicative property. It has to do with a certain degree of awareness on language users that they are using metaphor as a specific means of communication.

The word *ulang* referred to prohibition and was often used to remind the readers to choose only Alas as native in Tanoh Alas. *Ukhang Alas* or *khang Alas* or *kalak Alas* (the native in Alas) live in Alas valley a long time before the Netherland government came to Indonesia. The situation was narrated in a book by Deutch named Radermacher (1781). Alas was a name for a person or group of ethnic; meanwhile, the area is *Tanoh Alas*. Kreemer (1922) states that the word "Alas" belongs to a son of a leader of Alas ethnic (he is also the grandchild of Raja Lambing) who lived in the oldest village in Tanoh Alas named Desa Batu Mbulan. Iwabuchi (1994) wrote that the first king who lived in *Tanoh Alas* at Desa Batu Mbulan was Raja Lambing. Raja Lambing was an ancient of klan Sebayang in Tanah Karo and Selian in Tanah Alas. Then he moved to Karo with his followers of klan *Sebayang*. In the 12 century, he moved back to *Tanoh Alas* at Desa Batu Mbulan. His generation was *Selian*. In 2000, his generation in Tanah Alas reached the 26th generation, and they spread on *Tanoh Alas* (Effendi, 1960; Sebayang, 1986).

Based on the story of *Tanoh Alas*, the leader from the Alas generation should be maintained, and it is a status quo statement that is related to their motto "*Sepakat Segenep*" (one word one community). It means what they (ancient) had been decided/agreed in the past should be obeyed and maintained by the community). In each of their political advertisements, they were always aware of choosing the "Alas generation" as native and not the "other clans" that refer to non-native.

Consequently, based on the motto, the language device in political advertisement always remind the readers (people who lived in Tanoh Alas) to choose the native. Therefore, they run every aspect of their lives as a family because they belong to the same clan. Above all, the language choice is related to Southeast Aceh's motto "*Sepakat Segenep*." It means one the Alas people should stay in unity (Alasnese), perform it, and obey what they have been agreed together.

9. Conclusion

In Alas language's political advertisements, the source domain used were a human body, light, movement, direction, and politics. The dominant source domain was a human body that expressed the contrast between native and non-native in this area. It is also related to their slogan *Sepakat Segenep* (unity) that deals with the unity of Alasnese as native. There were three kinds of metaphor used for kinds of metaphor, and they were a conventional metaphor, oriental metaphor, and level of generality of metaphor. The oriental and conventional metaphors had the same goals of comparing or contrasting the Alasnese as native and non-native (the other clans) in choosing the particular candidate from their area. The parallelism appeared through the identical rhyme, imperative function (that resemble through request (the dominant), command and prohibition), and repetition of specific lexical to the person as Alasnese as native deals with the creation of maintaining their clan and expressed their unity that belongs to their motto "*Sepakat Segenep*".

References

Effendi, U. (1960). *Dalam "Kenang-kenangan Musjawarah Masjarakat Alas ke I*. Kutacane.

Foley, W. (1997). *Anthropological linguistics: An introduction*. Oxford: Blackwell Publishing.

Gerard J. Steen. (2010). When is metaphor deliberate? In N.-L. Johannesson, C. Alm-Arvius, & D. Minugh (Eds.). In *Selected Papers from the Stockholm 2008 Metaphor Festival* (pp. 43–63).

Giulio Soravia. (2002). *The Alas Language (Northern Sumatra)*. Bologna: Università di Bologna.

Hasrul, S. (2015). *Translation of Political Advertisements from Alas Language into Indonesian*. Universitas Negeri Medan.

Iwabuchi, A. (1994). *The People of the Alas Valley*. Oxford: Clarendon Press.

Jakobson, R. (1960). Closing Statement: Linguistics and Poetics. In Thomas A. Sebeok (Ed.), *Style in Language* (pp. 350–377). Cambridge: MIT.

Jurgita Vaičenonienė. (2006). The Language of Advertising: Analysis of English and Lithuanian Advertising Texts. *Studies about Languages*, 9, 43–55.

Khader, Y. S., & Kullab, S. M. (2016). The Structure of Parallelism in Sa'adi Yusuf's Poetry. *International Journal on Studies in English Language and Literature*, 4(2), 39—51.

Kovecses, Z. (2010). *Metaphor in a Practical Introduction*. Oxford: University Press.

Kreemer, J. D. (1922). *Atjeh Algemeen Samenvattend Overzicht van Land en Volk van Atjeh en Onderhoorighedeh Jilid I. N.V.* Retrieved from Boekhandel en Drukkerij Voorheen E.J. Brill, Leiden:

Lakoff, G., & Johnson. (2003). *Metaphors We Live By*. Chicago: University of Chicago Press.

Lubis, T. (2014). *Metaphor in Hasan Tiro*. English Applied Linguistics Study Program Postgraduate School, State University of Medan.

Lubis, T. (2016). Parallelisme dalam Wirid Yasin. In *SEMINAR NASIONAL: Kearifan Lokal dalam Perspektif Bahasa, Sastra, dan Budaya* (Vol. 1, pp. 93–98). Medan. Retrieved from https://doi.org/10.17605/OSF.IO/RBTWS

Lubis, T. (2017). Indeksikalitas dalam Perspektif Antropolinguistik. In *Seminar Antarbangsa Kajian Linguistik dan Kearifan Lokal* (pp. 128–134). Medan: Sekolah Pascasarjana USU Kerja Sama dengan Persatuan Linguistik. Retrieved from https://doi.org/10.31227/osf.io/dwa7p

Lubis, T. (2019). Kinds of Metaphor in Hasan Tiro Speech. In *International Seminar on Languages and Cultures in Asia* (pp. 211–218). Medan: USU Press.

Mick Short. (1996). *Exploring the Language of Poems, Plays and Prose*. London: Longman.

Müller-Zettelmann, E. (2000). *Lyrik und Metalyrik: Theorie einer Gattung und ihrer Selbstbespiegelung anhand von Beispielen aus der englisch-und deutschsprachigen Dichtkunst*. Heidelberg: Winter.

Mulyana, D. (2005). *Ilmu Komunikasi Suatu Pengantar*. Bandung: PT Remaja Rosdakarya.

Sebayang, R. K. (1986). *Sejarah Sebayang Mergana*. Medan: Outhor.

Cogency, Journal of Reasoning and Argumentation
Vol. 12, No. 2, Summer 2021

ARISTOTLE'S PARADEIGMA AND HUSSERL'S ANALOGIZING APPERCEPTION

*

Natalia Zaitseva

Leading Researcher, Department of Philosophy of Language and Communication
Faculty of Philosophy
Lomonosov Moscow State University, Russia.
zaitseva.nv@philos.msu.ru

A motive for this paper was a series of papers by Vittorio Gallese (Gallese, 2014; Gallese, 2016). While developing his Embodied Simulation Theory, Gallese argued in favor of paradeigma (example, rhetoric argument based on parallel cases) as a naturalization of embodied simulation. In my opinion, this rhetoric argument is based on a fundamental cognitive procedure best understood in terms of Husserl's analogizing apperception.

In an introductory section, I briefly characterize the motivating ideas of Gallese and introduce the conception of neurophenomenology that I adhere to. The second section describes Aristotle's interpretation of paradeigma and a related conception of first principle grasping presented in Prior and Posterior Analytics. The third section contains an examination of the logical structure of paradeigma as a non-deductive argument. In the forth section, I propose a novel reconstruction of both paradeigma and underlying fundamental cognitive procedure involved in first principles grasping based upon the phenomenological conception of apperceptive transfer of sense. The conclusion recaps on the work done and indicates prospective avenues of future research.

Keywords: Paradeigma, rhetoric example, phenomenology, non-deductive argument, analogizing apperception.

1. Introduction

The motive for this paper is twofold. Firstly, it can and should be considered to form another stage in the development of our recent approach to cognitive activity to be depicted briefly in this section. Secondly, there were several papers by V. Gallese, which became an impetus for producing a string of articles, including the present one.

Vittorio Gallese, a prominent cognitive neuroscientist and neuropsychologist, one of discoverers of mirror neurons, is also known as the author of the Embodied Simulation Theory (Gallese, 2005; Gallese, 2014). The pivot of the theory is an interpretation of sense-formation process via simulation as reuse, when some cognitive procedures initially employed in one way are reused in a different way. Quite predictably, this simulation-as-reuse is in turn explained with the help of mirror resonance mechanisms thereby appearing embedded and automatic. In so doing, Gallese exposes close connections between simulation and Aristotelian rhetoric paradeigma (see e.g. Gallese & Cuccio, 2014; Gallese, 2016). According to Aristotle, example (paradeigma) is reasoning from like to like, "of part to part" in his own words. It allows an inferring of a general rule from particular cases. In the next section, I will consider paradeigma in more detail, however, at the moment I will confine myself to this brief description. Gallese's hypothesis is that "embodied simulation allows us to naturalize the notion of paradigm, anchoring it at a level of sub-personal description, whose neural correlates we can study" (Gallese, 2016, p 136). In other words, embodied simulation-as-reuse can be viewed as paradeigma because a cognitive agent uses previous personal experience as an example for understanding other ones. "The analogy with the cognitive mechanism subtended by paradigmatic reasoning appears evident. Indeed, in the case of Aristotle's paradeigma, an example, a particular case, is understood because it is close to our feeling, our experiences, and our baggage of knowledge" (Gallese & Cuccio, p. 16).

Thus, the main characteristic of the paradeigma is that it is based on agent's simulation of past actions and events, due to which reactivation of the agent's interaction with the non-linguistic essences occurs. In this process, linguistic expressions are bestowed with meaning, reflecting an agent's specific linguistic activity. The paradeigmatic transfer connects a linguistic expression with its meaning, rooted in a bodily embodied experience. Surprisingly, while developing ideas of embodied simulation, Gallese directly refers to Husserlian phenomenology while concurrently passing over an obvious cognitive phenomenological interpretation of rhetoric example via a concept of analogizing (analogical) appresentation (apperception). Below, I attempt to explore the cognitive role of analogizing apperception, thereby closing the gap by suggesting a novel reconstruction of paradeigma.

The above interpretation of cognitive activity in a phenomenological manner has much in common with our ideas developed in (Zaitsev & Zaitseva, 2016; Zaitseva & Zaitsev, 2017). In short, it can be introduced through the following key provisions.

First, we consider intentionality to be a universal fundamental characteristic of cognition shared by animated bodies of various kinds. It means that intentionality is no longer associated solely with human consciousness; it becomes a fundamental characteristic of embedded and embodied cognitive faculty aimed at adaptation.

Second, this interpretation opens a possibility to consider intentionality as functional relations between stimuli, interpreted as intended objects, and recognized, and thus meaningful individuals. Intentionality transforms a stimulus into an ideal intentional object thereby performing the meaning-bestowal function.

Lastly, construed that way, intentionality may be considered as a concept function from stimuli into recognized objects. In particular, as a consequence of this approach in (Zaitsev & Zaitseva, 2016) a categorization process was modeled via analogizing apperception-like function. Moreover, I am of a strong opinion that analogizing appresentation (apperceptive transfer) is one of universal and fundamental cognitive abilities forming the basis for different intellectual procedures including paradeigma as a telling example.

In accordance with these guidelines, the paper is structured as follows. In the next section, I will consider Aristotelian conception of paradeigma (example) and show its connections with the problem of grasping first principles. Subsequently, in the third section, I examine paradeigma from the logic perspective as a mode of non-deductive argument. The last section is aimed to clarify the role of appresentation in underlying paradeigma cognitive activities.

2. Paradeigma and First Principles

Following Gallese, I will start with the Aristotelian interpretation of paradeigma as a kind of rhetorical argument. However it is worth noting that a) Aristotle did not pioneer the invention of and exploiting this rhetorical device, and b) a hasty interpretation of paradeigma as rhetoric-specific is superficial, this argument gains its persuasive power from a deeper underling cognitive procedure to be considered in the next section.

Before addressing Aristotle's vision of paradeigma, here are some introductory remarks concerning pre-Aristotelian roots of this vision: it was Isocrates, an Attic rhetorician, who was one of the first thinkers (but hardly a pioneer, too) to use arguments based on parallel cases under the name of paradeigma (παράδειγμα). In his writings, he primarily refers to examples from past experience not as a kind of

the background that shadows the basic claim; rather, he makes paradeigma one of methods of speech invention. Despite all differences, Aristotle was influenced by Plato, and the interpretation of paradigm is among those issues that make both philosophers akin. Paradeigma in Plato's Sophist and Statesman is an important subject in itself; it is worth a separate exploitation, and at this point, I just refer to Moor's paper (Moore, 2016) as the most recently published one.

At the opening of Rhetoric, Aristotle introduces two modes of argument, namely, an enthymeme and an example. The latter "is neither the relation of part to whole, nor of whole to part, nor of one whole to another whole, but of part to part, of like to like, when both come under the same genus, but one of them is better known than the other" (Rhet A2 1357b). These abstract considerations are illustrated as follows. "For example, to prove that Dionysius is aiming at a tyranny, because he asks for a bodyguard, one might say that Pisistratus before him and Theagenes of Megara did the same, and when they obtained what they asked for made themselves tyrants. All the other tyrants known may serve as an example of Dionysius, whose reason, however, for asking for a bodyguard we do not yet know. All these examples are contained under the same universal proposition, that one who is aiming at a tyranny asks for a bodyguard." (Rhet A2 1357b)

In Book II of Rhetoric, he distinguishes two kinds of examples: examples from the past and imaginary examples. Touching upon the peculiarity of paradeigma as a persuasive method, Stagirite recommends using examples for evidence when there is no enthymeme at hand, or reinforcing the enthymeme with examples as evidence. At the same time he observes: "Wherefore also it is necessary to quote a number of examples if they are put first, but one alone is sufficient if they are put last; for even a single trustworthy witness is of use". (Rhet A2 1394a)

Aristotle put more emphasis on example (paradeigma) in Prior Analytics, where he devotes a whole chapter to this subject matter *APr* B24. He explains the nature of example (paradeigma) as a specific kind of argument.

> For example let A be evil, B making war against neighbours, C Athenians against Thebans, D Thebans against Phocians. If then we wish to prove that to fight with the Thebans is an evil, we must assume that to fight against neighbours is an evil. Conviction of this is obtained from similar cases, e.g., that the war against the Phocians was an evil to the Thebans. Since then to fight against neighbours is an evil, and to fight against the Thebans is to fight against neighbours, it is clear that to fight against the Thebans is an evil. (B24 68b40-69a5)

Hereinafter I will follow the modern tradition and in my reconstructions, I am going to use low-case letters for singular terms preserving capital letters for predicates (e.g. *d* instead of *D* for "Thebans against Phocians" and *A* as it is for "evil"). In fact, this argumentative fragment contains two separate arguments, that is, a standard categorical syllogism being the second step of the complex argument

(2)
To fight against neighbours is an evil
To fight against the Thebans is to fight against neighbours

To fight against the Thebans is an evil,-and the preceding argument needed to justify (develop a conviction of) the major premise, presented below in my reconstruction:
(1)
The war against the Phocians was an evil
The war against the Phocians is similar to the war against Thebans
(*in the sense they are the wars against neighbours (B), and thus are B-similar*)

The war against neighbours is an evil

Formally the latter argument can be presented in the following way: d is A, c is B-similar to d / (All) B are A.

This argument looks odd at a glance. Instead of concluding by analogy from two premises, namely, "The war against the Phocians is similar to the war against Thebans" and "The war against the Phocians was an evil", that "To fight against the Thebans is an evil" Aristotle constructs a complex two-step argument, where the first step (in the logical order) is at least bizarre. I will save my interpretation of this paradeigmatic argument for the next section, and am now turning to a cognitive procedure of grasping first principles as it was presented in Posterior Analytics, because I think that it is closely connected with the paradigm.

Thus, in *APo* B19, Aristotle examines the way a knower may gain non-demonstrative knowledge of first principles (*archai*). Being a kind of explanatory primitives, these principles cannot be demonstrated. The process of acquiring such knowledge is described as a consequent move from perception via memory and experience to the capture of first principles. It is *nous* that is the cognitive state responsible for getting to know *archai*. I would argue that there is a sticking similarity between the problem of grasping first principles and justification of a major premise in syllogistic

argument as it was presented in *APr* B24 in terms of paradeigma. Consider several quotations from *APo* B19 which, in my opinion, speak in favor of this suggestion[1]:

> We must therefore possess some sort of capacity… And this is clearly true of all animals: they have an innate discriminatory capacity, which is called perception. (99b32–35)
>
> But those (animals) that do (retain what they have perceived) still have (it) in their soul even after perceiving. When many such things are (retained) there is then a further difference: some animals come to have reason (logos) from the retention of such things, and others do not. (99b36–100a3)
>
> And so from perception there arises memory, as we say, and from memory (when it occurs often in connection with the same thing) experience; for many memories form a single experience. And from experience, or (rather) from the entire universal that has come to rest in the soul (the one apart from the many, whatever is one and the same in all those things), (there arises) a principle of craft or science. (100a3–9)
>
> When one of the undifferentiated things makes a stand, there is for the first time a universal in the soul; for although you perceive particulars, perception is of universals — e. g. of human being, not of Callias-the-human-being. And again a stand is made among these, until something partless and universal makes a stand — for instance 'such-and such an animal' makes a stand, until 'animal' does; and likewise with 'animal.' (100a15-100b5)

To recap, I would like to use the following bullet points to underscore the most important points in the Aristotelian considerations:

- innate discriminatory capacity shared by animals;
- the role of undifferentiated things in gaining knowledge of first principles.

Paradeigma is closer to knowledge mining and finding regularities rather than to empirical generalization, and it is exactly what makes it a good candidate for grasping first principles. General conclusion of paradeigmatic example clearly demonstrates the machinery of comprehension of first principles and thereby – the way to tap into Nous as a specific cognitive state. Thus paradeigma as a linguistically expressed reasoning receives its convictive force from the underlying cognitive faculty common for all animate beings. My interpretation of the faculty's nature will be detailed in the forth section below.

1 For APo, I follow (Barnes, 1993).

3. Paradeigma and Non-Deductive Arguments

As argued above, Aristotle places paradeigma in a broader context of a certain cognitive situation, in which it is accompanied with a syllogism. More precisely, paradeigma is needed to justify the major premise of an appropriate syllogism. The vast majority of Aristotle's commentators (Bronstein, 2012; Gasser-Wingate, 2016, etc.) claim in unison that a reasonable answer to the question as to how we grasp first principles lies in doing it by induction (more precisely, by inductive generalization). However, from my point of view, this answer is one-dimensional and inaccurate. As I see it, this cognitive activity is undoubtedly connected with induction in a broad sense as an alternative to deduction, where the former provides only an evidential support to a conclusion. At the same time, it essentially differs from induction in a narrow sense, meaning an argument from singular propositions about elements of a certain set to a conclusion about this set as a whole. Let me discuss the issue in more detail.

Pushing the situation into complications, Aristotle affords a ground for different interpretations of paradeigma. To mention but a few, in Rethoric, Aristotle literally asserts that the example is induction. "Accordingly I call an enthymeme a rhetorical syllogism, and an example rhetorical induction". (Rhet A2 1356b). At the same time, in Prior Analytics one comes across the following passage: "It [example] differs from induction, because… " (B24 69a19). Some three decades ago, the interpretation of paradeigma evoked discussions among philosophers, with polar perspectives formed by Hauser (1968) and Bonoit (1980). There are three possible (and referred to in the literature) candidates for formalization of paradeigma – induction (inductive generalization), analogy, and abduction.

In an attempt to keep in line with the Aristotelian idea as we see it paradeigma is an argument from two premises, where one premise is a singular proposition (a is P), and the other states the X-similarity between two objects, one of them denoted by the subject of the first premise. Furthermore, a general conclusion of paradeigma connects the similarity term (X) with the predicate (P) of the first singular premise, asserting that all members of category X are included into the category P. It is evident that this scheme differs essentially from inductive generalization (incomplete enumerative induction). The latter presupposes an inference from a number of singular premises about members of a sample to the conclusion about the whole population (target group). In our terminology, these premises must be of the form "a_1 is P", "a_2 is P", "a_n is P", where S={ a_1, a_2,… a_n} is a sample. A relevant conclusion is supposed to look like "all G are P", where G is a population, S $\subseteq$ G. It certainly is not the case with paradeigma whose premises are different and play different role in drawing a

conclusion. Roughly speaking, in the case of paradeigma there is no generalization (as a transfer from the sample to the population)!

Paradeigma more often is interpreted as an analogical argument. However, analogy in the Aristotelian case is closely connected with likeness (homoiotes). In *Topics,* we find the following explanation of argument from analogy.

> "Try to secure admissions by means of likeness; for such admissions are plausible, and the universal involved is less patent; e.g. that as knowledge and ignorance of contraries is the same, so too perception of contraries is the same; or vice versa, that since the perception is the same, so is the knowledge also. This argument resembles induction, but is not the same thing; for in induction it is the universal whose admission is secured from the particulars, whereas in arguments from likeness, what is secured is not the universal under which all the like cases fall". (*Topics* 156b 10–17)

Indeed, the above mentioned X-similarity is not a symmetric relation of likeness. For that matter, I agree with the author of SEP entry "Analogy and Analogical Reasoning": "The argument from likeness (homoiotes) seems to be closer than the paradeigma to our contemporary understanding of analogical arguments" (Bartha, 2013).

Abduction is typically understood as a form of explanatory reasoning aimed at generating or justifying a hypothesis. According to Charles Sanders Peirce, who coined the term, "(a)bduction is the process of forming explanatory hypotheses." (Peirce, 1974, 5.172). Schematically it can be presented as an inference from two premises and the best way to capture the idea of abduction is to follow Pierce and compare it with deduction (in syllogistic form) and (incomplete enumerative) induction:

Deduction

Rule:	All the beans from this bag are white.
Case:	These beans are from this bag.
Result	These beans are white.

Induction

Case:	These beans are from this bag.
Result:	These beans are white.
Rule:	All the beans from this bag are white.

Abduction

Rule:	All the beans from this bag are white.
Result:	These beans) are white.
Case:	These beans are from this bag.

At the first glance abduction in Piercean sense and Arestotelian paradeigma are similar – in both cases the reasoner arrives at a general conclusion. However, a more close examination reveals a dramatic difference between these two modes of argument. While paradeigma allows inferring general conclusion from particular cases, in abduction, to generate explanatory hypothesis for a particular case one employs an already established rule. Hence, abduction cannot be interpreted as a cognitive procedure for justification of major premises of a syllogism.

Thus none of non-deductive arguments considered in this section can be regarded as a formalization of paradeigma. All the above allows to make a tentative assumption that in the case of paradeigma we face a new kind of non-deductive argument.

4. Paradeigma and Apperceptive Transfer of Sense

To make my reconstruction of paradeigma self-contained I would like first to briefly recall the Husserlian concept of analogizing apperception and then to present my phenomenological interpretation of paradeigma in terms of the cognitive procedure.

In fact, Husserl addresses (sometimes without mentioning the exact term) the appresentation (analogizing apperception) already in Logical Investigations, and some years after in an unpublished in his lifetime Thing and Space: Lectures of 1907 (Hua XVI) and Analyses Concerning Passive and Active Synthesis: Lectures on Transcendental Logic (Hua XI). He deeply and meticulously studies this cognitive procedure in close connection with the theory of part-whole, so that later, when necessary, to return to its presentation in a condensed form. In the context of this paper, it seems appropriate to follow Husserl and without getting into details come to the point.

A direct reference to apperceptive transfer (analogizing appresentation), appears when Husserl runs into a problem of Alter Ego in the Fifth Cartesian Meditation while trying to avoid charges of being prone in solipsism. Literally, "appresentation" means making something "co-present", and Husserl introduces this concept through an analogy with ordinary perception and recollection. Operating analogizing apperception, he demonstrates that the Other is always a projection of one's very self. Not only the other self but any object in the world is typified "by analogy" to a model

object which the cognitive agent has experienced earlier. Zooming in, the apperceptive transfer is based on a more fundamental bottom procedure of pairing. Pairing appears to be, as Husserl notes in §51, a primal form of passive synthesis designated as "association". The idea behind the pairing association is that two objects are given in pure passivity in a phenomenological unity of similarity, which constitutes a pair (if there are more than two objects they are constituted into “phenomenally unitary group”, which again forms a pair with the model object). Pairing association leads to an overlap between each component of the pair with the objective sense of the other, which results in a “mutual transfer of sense”, that is, an apperception of one object according to the sense of the other.

Broadly speaking, the meaning of an analogizing apperception (appresentation) lies in the transfer of sense characteristics (type) from the model object to a new object (stimulus in perceptive case) on the basis of identity parts, moments or sides of those objects. At this point, it would be relevant to cite Husserl’s famous example with the scissors and the child who has finally grasped the idea of scissors (understood “the final sense of scissors”), and henceforward he/she “sees scissors at the first glance as scissors” (Husserl, 2013b, p. 111).

It is critical to underscore that apperceptive transfer is neither an inference from analogy (and not an inference at all), nor a thinking act. It is “a universal phenomenon of the transcendental sphere”, an embedded and embodied fundamental cognitive mechanism[2] that forms the basis of cognitive faculty as a directed interaction between a subject and an object. In Husserl’s words: “Even the physical things of this world that are unknown to us are, to speak generally, known in respect of their type. We have already seen like things before, though not precisely this thing here. Thus each everyday experience involves an analogizing transfer of an originally instituted objective sense to a new case, with its anticipative apprehension of the object as having a similar sense” (Husserl, 2013b, p. 111).

As far as the development of Husserl's analogizing appresentation by his followers is concerned, it is usually associated by phenomenologists with the study of the problem of Alter Ego, thereby undergoing certain changes. In particular, Merleau-Ponty offers his solution by shifting the emphasis from bodily similarity to an intentional object. According to (De Preester, 2008), Merleau-Ponty interprets pairing in a different way: for him the mediating term between Ego and Alter Ego is the intended object to which both of them are equally directed. Thus "the Merleau-Pontian intentional transgression differs radically from Husserl's conception, basically because Merleau-Ponty's interpretation of the pairing no longer seems to presuppose the Husserlian analogous appresentation" (De Preester, 2008, p. 133).

2 Though Husserl himself does not use the expression 'cognitive mechanism' for analogizing apperception or appresentation, nowadays it is customary to apply this word combination with that connotation in cognitive phenomenological context. So hereinafter I will use it as a convenient notation.

With that in mind, we can circle back to paradeigma and first principles. As suggested before, paradeigma is not an analogical argument, nor is it an inductive generalization, either. A distinctive feature of paradeigma lies in one of its premises asserting the X-similarity of two cases. The similarity is as a result of the recognition a side or part X of one object, say, d, which was experienced earlier and stored in memory in a new object c. These two objects, c and d, form a pair and are experienced in ‘a unity of similarity'. It becomes possible thanks to the fact that a rational agent discovers their common part or moment X and for that matter forms a new set (or category) X based on the recognized similarity. This way, a basis for a further transfer of sense from a model object to a new object is formed.

The salient feature of the apperceptive transfer is that whichever new object falls into the sphere of perception, if it forms a pair with the model object (that is, an agent finds a side or a moment X in it), it automatically receives the meaning from the model. This possibility of a multiple transfer of meaning is expressed verbally in argumentative form through connection of the previously captured moment of the identity and the pragmatically significant property P of the model object. Linguistically, this connection is formulated as a general conclusion "All Xs are P".

The following hypothetical example illustrates the universality of apperceptive transfer as a cognitive mechanism. Having encountered a hunter for the first time, a wild animal obviously does not perceive him as an immediate threat to its life and does not ‘understand’ the source thereof. However, lucky to survive the potentially deadly rendez-vous, the animal has gained some experience in which the object it met will be associated with an adverse consequence. Facing a man next time and smelling the smoking shotgun’s odor, our smart beast will flee without waiting for a shot. The rationale for it is that both the first hunter and the second one are identified on the basis of the same smell of gunpowder. The beast has never experienced the second hunter – yet it recognizes the smell, which triggers reaction to a new man similar to the first-time one. Such a reaction has already led it to success. Focusing attention and thereby objectifying the smell, the animal reacts to the smell, which is actually perceived of as dangerous. Henceforth, whatever object with the smell of gunpowder (man, gun, bag, etc.) it runs across, the reaction to it shall be the same. Definitely, so long as animals are concerned, all these cognitive activities are not linguistically formed and occur on the built-in pre-reflexive level, receiving an experiential support as the most effective response to the stimulus.

All these considerations make connection between apperceptive transfer and paradeigma evident. Husserl emphasizes that the analogizing appresentation is not reasoning; rather, it is a built-in cognitive mechanism, probably inherent to both people and other living beings. In Cartesian Meditations, he does not describe the principle of this mechanism in detail but just sketches it out by illustrating with the telling examples with scissors and the directly seen front of a physical thing which "always and necessarily appresents a rear aspect and prescribes for it a more or less determinate content" (Husserl, 2013b, p. 109). Aristotle, on the contrary, describes a special mode of reasoning, which is expressed linguistically and consists of two connected parts – argument on the basis of an example and a syllogism, in which the conclusion of the first argument appears as a major premise. In my opinion, the connection between representational transfer and rhetorical reasoning lies in the recognition of the fact that the basis of Aristotelian reasoning is the cognitive mechanism described by Husserl. To recap, I would argue that cognitive procedure of appresentation including (1) pairing and (2) appresentative transfer of sense on the level of reasoning and argument appears as (1) example accompanied by (2) an ad hoc syllogism.

Interestingly, in a newly translated into English appendix to the Krisis (Beilage XXIII – Husserl 2013a), Husserl provides some important comments on the relationship between phenomenology and natural science by citing biology as a fundamental example in regard to biological life, consciousness, empathy, and sense-bestowal. He postulates biology's proximity to sources of evidence (Quellen der Evidenz) that provides "a proximity to the depths of the things themselves (Tiefen der Sachen)" and to the true a priori. In the footnote on the first page of Beilage XXIII he clarifies this idea:

> Naturally one always has a biological a-priori starting point from the human being: here we have the a-priori of the body's instincts, originary drives (Urtriebe), which bring to fruition (eating, mating, etc.) the a-priori itself. Of course, this holds for animals, to the extent that animality is actually experienced through empathy. Thus we have a generative a-priori. (Husserl, 2013a, p.8)

I am of opinion that the mechanism of transcendental appresentation can be categorized as generative a priori. It is important to note, that Husserl considers universal generative a priori, senses and cognitive procedures that underlie cognition-as-typification of not only humans but also other animals. Whereby the human umwelt appears as one of the umwelts of the animal world. Thus, Husserl emphasizes human rootedness in the common animal body world. In additional support of this claim, I invoke the words of Husserl in Phenomenology on Intersubjectivity (Hua XV, p. 180).

> "We can only say this much: there is, in the human environment (Umwelt) and in the human being itself, as its subject, a layer that can be abstractly discriminated – a layer of animality (das Tierische), that is to say, that which is shared with the animal (and whose unearthing requires a more in-depth examination)." (the translation from Gaitsch & Vörös, 2016, p. 213)

Husserl, as a successor to the transcendental tradition, focuses on *a priori* conditions for cognition in general. He comprehensively explores and develops the concept of intentionality (*aboutness,* or *directedness to*), which, being a fundamental a priori cognitive structure, makes possible the transformation of a thing into an object for me, meaningful this or that way. Exploring cognition from the side of intentionality, Husserl discovers various fundamental cognitive a priori, providing the very possibility of cognition, including reflection. In this new context, the question that Husserl explored throughout his work namely, the question of the *sense of being*, remains decisive for him. This distinguishes Husserl's approach from the phenomenology of his student and follower Merleau-Ponty, who focused on, so to say, *the being of sense*, or the concept of the body, mediated by consciousness.

Generative a priori are present at different levels, and the intension to identification as a basis of appresentation is among them. For example, in logic, it manifests itself in logical formality and normativity, in our tendency to deal with the moment of identity of different statements. The logical laws constitute those norms (L-similarities) that one discovers in all true sentences. All these considerations may be of further use to refine Aristotle's famous conception of the laws of logic as 'rules of reality.'

5. Conclusion

The above analysis of paradeigma, or example, has demonstrated the following:

Paradeigma is a non-deductive argument irreducible to all known modes of plausible reasoning and thus can pretend to be a novelty. Its nature can be clarified by the appeal to an underlying cognitive procedure of apperceptive transfer. The procedure concerned is a manifestation of a deeper automatic and non-reflective embodied cognitive faculty, which we consider in close connection with the problem of the first principles grasping by Aristotle. The knowledge of *archai* cannot be obtained by deduction. They manifest themselves in the universal mode of cognition that is inherent in all knowing beings. This is the way, in my opinion, of analogizing apperception, which is connected with the a priori intention of identification and which is the basis of cognition as typification.

Aristotle's consideration of example-based reasoning shows that even deductively correct (syllogistic) reasoning needs to show the truth of the general premise in order to be sound (and convincing). Revisiting the first part of the paradeigma (d is A, c is B-similar to d / (All) B are A *in my reconstruction*), an obvious conclusion by the analogy that c is A is not something that would satisfy Aristotle. He comes to the same conclusion, but in a more complex, two-step way. In my opinion, this is because the paradeigma according to Aristotle contains a manifestation of the above-mentioned first principles. We do not just infer the occurrence of an individual's property; we discover the fact of its occurrence as a manifestation of a law expressed by a corresponding general statement.

The statement that c is B-similar to d effectively means that any object that is similar in a certain respect (that is, has a common property B) with object d, experienced earlier and stored in one's memory, is typified in the same way as the model object d. The general conclusion of the first part of paradeigma serves as a linguistic expression of this law. In each particular case of such an argument, the appresentation manifests itself, in the first part: in pairing objects (c and d in our case) and finding the similarity of these objects (c and d are B-similar), and in the second part: in typifying a new object (c as B). In this way, Aristotle rationalizes the universal principle of intuitive thinking, weaving it into the fabric of linguistically formed argument based on example.

I see both the phenomena of paradeigma generally and my considerations of its nature and peculiarities in particular open up new avenues for future research in various directions. Continuation of (neuro)phenomenological investigations of paradeigma and analogizing apperception as performing a meaning-bestowal function in connection with the idea of generative a priori seems very promising.

With regard to logical and cognitive aspects, in the first place my conjecture that paradeigma can be considered a separate mode of non-deductive argument calls for a closer examination and discussion. Secondly, we plan to further develop Intentional Theory of Concept as a (more or less) coherent theory whose foundations we have laid in our paper (Zaitsev & Zaitseva, 2016).

Another avenue of research is related to the argumentative and rhetorical role of paradeigma. In that area, one faces so to say 'controlled' sense-formation, because the aim of argumentation is to change the opposite party's stance in a desired way. In so doing, an arguer must be persuasive, and in the case of a rhetoric example, the persuasive power is rooted in the underlying analogizing apperception.

Yet another prospective application of the aforementioned interpretation of paradeigma and first principles grasping can be found in the theoretical computer

science, and more precisely, in machine learning. There are a number of different procedures providing for an abstract cognitive agent's ability to learn by generalization from experience. One of them is known as instance-based learning. According to Instance-Based Learning Theory (IBLT), an agent makes a hypothesis on the basis of a comparison of a new stimulus with instances experienced before and stored in its memory. As far as I can see, it would be interesting to search for a new algorithm for instance-based learning on the ground of apperceptive transfer of sense.

Either way, we find one and the same cognitive mechanism of sense-formation in argumentation or while typifying a new stimulus at a very primitive stage of perception, which can be identified as analogizing apperception.

Acknowledgments

I thank anonymous reviewers for helpful comments that greatly contributed to improving the final version of the paper. Also I am grateful to the Russian Foundation for Basic Research for support of this research (grant No. 20-011-00227 A).

References

Barnes, J. (1993) *Aristotle's Posterior Analytics*. Translated with a Commentary. Clarendon Aristotle Series.

Bartha, P. "Analogy and analogical reasoning", *The Stanford Encyclopedia of Philosophy (Winter 2016 Edition)*, Edward N. Zalta (ed.), URL=https://plato.stanford.edu/archives/win2016/entries/reasoning-analogy/. 2013.

Bronstein, D. (2012). The Origin and Aim of Posterior Analytics II. 19. *Phronesis*, *57*(1), 29-62.

De Preester, H. (2008). From ego to alter ego: Husserl, Merleau-Ponty and a layered approach to intersubjectivity. *Phenomenology and the cognitive sciences*, *7*(1), 133-142.

Gaitsch, P., & Vörös, S. (2016). Husserl's somatology reconsidered: Leib as a methodological guide for the explication of (plant) life. *Phainomena,* XXV/98-99, 203-228.

Gallese, V. (2005). Embodied simulation: From neurons to phenomenal experience. *Phenomenology and the cognitive sciences*, *4*(1), 23-48.

Gallese, V. (2014). Bodily selves in relation: embodied simulation as second-person perspective on intersubjectivity. *Philosophical Transactions of the Royal Society B: Biological Sciences,* 369.1644 : 20130177.

Gallese, V. (2016). The multimodal nature of visual perception: facts and speculations. *Gestalt Theory*, *38*(2/3), 127-140.

Gallese, V., & Cuccio, V. (2014). *The paradigmatic body: Embodied simulation, intersubjectivity, the bodily self, and language*. Open MIND. Frankfurt am Main: MIND Group.

Gasser-Wingate, M. (2016). Aristotle on Induction and First Principles. *Philosopher's Imprint, 16*(4), 1– 20.

Husserl, E. (1966). *Hua XI. Analysen zur passiven Synthesis. Aus Vorlesungs- und Forschungsmanuskripten*, 1918–1926. M. Fleischer (Ed.). The Hague: Martinus

Nijhoff; Analyses Concerning Passive and Active Synthesis: Lectures on transcendental logic. A.Steinbock (Trans.). Dordrecht: Springer, 2001.

Husserl, E. (1973). *Hua XV. Zur Phänomenologie der Intersubjektivität. Texte aus dem Nachlass*. Dritter Teil: 1929–35, Iso Kern (ed.), Haag: Nijhoff.

Husserl, E. (1973). *Hua XVI. Ding und Raum. Vorlesungen, 1907.* Ulrich Claesges

(Ed.). The Hague: Martinus Nijhoff; Thing and space: Lectures of 1907. R. Rojcewicz

(Trans.). Dordrecht: Springer, 1997.

Husserl, E. (2013a). Addendum XXIII of The crisis of European sciences and transcendental phenomenology. *Journal of the British Society for Phenomenology*, *44*(1), 6-9.

Husserl, E. (2013b). *Cartesian meditations: An introduction to phenomenology*. Springer Science & Business Media.

Moore, H. G. (2016). The Psychagogic Work of Examples in Plato's Statesman. *Philosophy & Rhetoric*, *49*(3), 300-322.

Peirce, C. S. (1974). *Collected papers of Charles Sanders Peirce* (Vol. 2). Harvard University Press.

Zaitsev, D., & Zaitseva, N. (2016). Categorization in intentional theory of concepts. *Lecture Notes in Computer Science,* 9719, 465-473.

Zaitseva, N., & Zaitsev, D. (2017). Phenomenological perspective in modern neuroscience. *Russian Journal of Philosophical Sciences,* 1, 71–84. *In Russian*

Cogency, Journal of Reasoning and Argumentation
Vol. 12, No. 2, Summer 2021

SUMANDO LÍMITES A LA RECONSTRUCCIÓN ARGUMENTATIVA: EL CASO DEL GUSTO EN LA ARGUMENTACIÓN[1]

ADDING LIMITS TO ARGUMENTATIVE RECONSTRUCTION: THE CASE OF TASTE IN ARGUMENTATION

*

Daniel Mejía Saldarriaga[2]
Departamento de Humanidades, Universidad EAFIT
Medellín, Colombia.
s.mejia.daniel@gmail.com

Este artículo cuestiona el uso de la técnica de la reconstrucción argumentativa como criterio para la identificación de argumentos. Para realizar esto, hago énfasis en un tipo de argumento que apela al gusto. Primero, relaciono tal técnica con las formas en las que las teorías de la pragma-dialéctica y la lógica informal han definido la argumentación. Segundo, expongo diferentes casos límite a la reconstrucción, como los argumentos mediante actos de habla directivos, expresivos y compromisorios, los argumentos narrativos, o los argumentos visuales. Tercero, sumo a estos casos el de un argumento que apela al gusto mediante el análisis de un diálogo. Cuarto, concluyo el artículo exponiendo algunas motivaciones para estudiar casos como el presentado y esbozando algunos problemas derivados del presente estudio.

---

1 El presente texto es resultado de la beca como asistente de investigación otorgada por Universidad EAFIT; fue presentado en 2019 como trabajo de grado para optar al título de Magíster en Estudios Humanísticos de esta universidad y por ello está adscrito a su Grupo de investigación "Estudios en filosofía, hermenéutica y narrativas" del Departamento de Humanidades.

2 Filósofo de la Universidad de Antioquia y Magíster en Estudios Humanísticos de la Universidad EAFIT. ORCID: 0000-0003-4522-5898

Palabras clave: Reconstrucción, Gusto, Argumentación, Premisas, Conclusión.

This paper questions the use of the argumentative reconstruction technique as a criterion for identifying arguments. To perform this, I stress a type of argument that appeals to taste. I proceed as follows: first, I relate such a technique to the ways in which pragma-dialectics and informal logic have defined argumentation. Second, I present some borderline cases to reconstruction technique such as argumentation through directives, expressives and commissives speech acts, narrative argumentation, and visual argumentation. Third, I add to these cases that of an argumentation that appeals to taste by analyzing a dialogue. Fourth, I conclude the article by offering reasons to study cases such as the one presented and by introducing some problems derived from the present study.

Keywords: Reconstruction, Taste, Argumentation, Premises, Conclusion.

1. Introducción

Sería difícil encontrarse con un estudioso de la argumentación que no reconociera alguna dificultad en relación con las formas en las que se define esta práctica. Así, por ejemplo, Raphäel Micheli (2012) sostiene que la noción de argumentación "toma diferentes significados de acuerdo con las teorías, pero esto no puede esconder el hecho de que algunas tendencias fuertes caracterizan los debates sobre esta definición"[3] (Micheli, 2012, p. 116). De manera parecida, Michael Gilbert (1997) afirma que la importancia de dicha noción no implica "que exista algún consenso acerca del uso o significado correcto del término. El sentido del término 'argumentación' usado es una función de la teoría adoptada por el usuario" (Gilbert, 1997, p. 28).

Otros, como Charles Hamblin, han optado por evitar la cuestión de la definición de la argumentación de manera directa. En sus palabras: "[h]ay poco que ganar con un asalto frontal a la cuestión de qué es un argumento. En vez de eso, vamos a abordarla indirectamente, discutiendo cómo se ponderan y evalúan los argumentos" (Hamblin, 2016, p. 250). En este sentido, parece que definir cuáles prácticas pueden describirse bajo el concepto de argumentación es una cuestión central para muchos estudiosos, puesto que ello implica la forma en la que la argumentación sucede, además del tipo de argumentos posibles, así como las elecciones teóricas a la hora de describir, analizar y evaluar los argumentos.

De las palabras de Hamblin se puede inferir que las técnicas de estudio y evaluación permiten comprender lo que es un argumento. Más aún, en ocasiones, dichas técnicas se relacionan, *necesariamente,* con la forma de definir la argumentación. Es decir, el uso de técnicas de estudio se vuelve indispensable para distinguir entre aquello que es un argumento y aquello que no. Esta práctica es comúnmente aceptada bajo la idea de que es necesario operacionalizar el concepto de argumentación, si se quiere estudiar el fenómeno al cual éste se refiere. Ante tal necesidad, suele decirse, por ejemplo, que si se quiere analizar un argumento, es necesario primero explicitar cuáles son todas sus premisas y cuál es su conclusión. Esta idea se ha replicado tradicionalmente, tanto por teóricos de la argumentación, como por docentes en distintos niveles de formación. El proceso mediante el cual se logra tal explicitación suele conocerse como 'reconstrucción argumentativa'[4]. Se trata, pues, de un proceso que altera la estructura de un argumento como un paso necesario para poder analizarlo. Siguiendo a Georg Brun (2014), la reconstrucción responde a tres preguntas infor-

---

3 Ésta, y las demás citas que fueron escritas originalmente en inglés, han sido traducidas por el autor.

4 Con el propósito de analizar este proceso, se le llamará indistintamente como 'técnica' u 'operación', o simplemente 'reconstrucción'.

males: 1) cuáles son los argumentos individuales, 2) cuáles son sus formas lógicas y, 3) si dichas formas son válidas. Para lograr esto es necesario reordenar, modificar, suprimir o añadir información de la expresión lingüística del argumento, de manera que se pueda tener una visión completa (explícita y transparente) del mismo, y así poder evaluarlo.

Pero ¿qué pasa cuando la estructura de un argumento no pueda alterarse de manera que se respondan estas preguntas? ¿significa ello que no es un argumento? En ocasiones, esto sucede cuando apelamos a nuestra propia experiencia para ofrecer argumentos. Por ejemplo, cuando usamos sentimientos o deseos como razones en un argumento. En estos casos, parece difícil comprender cuáles son las evidencias de los argumentos, o si se trata efectivamente de casos de argumentación. Uno de estos argumentos es el que apela al gusto. Hay una dificultad significativa para considerar este tipo de argumento: la imposibilidad de expresar el gusto de manera proposicional. Habitualmente expresamos sentimientos de gusto o disgusto frente a distintas experiencias. Además, tendemos a explicar tales sentimientos, a menudo a través de analogías y comparaciones. Sin embargo, no es posible expresar la experiencia del gusto en sí. Tal vez por eso los estudios sobre argumentación no han explorado suficientemente el papel del gusto en las discusiones argumentativas. Por consiguiente, el presente estudio se centra en este tipo de argumento con dos objetivos: mostrar que tal argumento puede comprenderse como un caso límite a la técnica de la reconstrucción y mostrar que el gusto puede ser un tipo de evidencia disponible en un diálogo argumentativo. El procedimiento que seguiré para lograr tales objetivos es el siguiente: en primer lugar, expondré la relación entre la reconstrucción y la definición de la argumentación; en segundo lugar, revisaré distintas críticas a la técnica de la reconstrucción como un paso propedéutico para presentar una crítica propia; en tercer lugar, analizaré un diálogo donde se presentan argumentos que apelan al gusto; en cuarto lugar, presentaré algunas conclusiones provisionales.

2. La reconstrucción y la definición de argumentación

La reconstrucción ha sido ampliamente teorizada dentro de los estudios en argumentación. No obstante, esto no quiere decir que todos los estudios comprendan y usen esta operación de la misma manera. Más bien, como apunta la pragma-dialéctica, la reconstrucción es una operación que depende de la perspectiva de análisis argumentativo adoptada. En sus palabras:

> Usamos el término "reconstrucción" para referirnos a una representación del discurso diseñado para ajustarse a una perspectiva analítica específica.

> Cualquier reconstrucción del discurso argumentativo se aproxima a un texto en términos de un punto de vista particular y está motivada por un interés particular. (van Eemeren, Grootendorst, Jackson & Jacobs, 1993, pp. 37-38)

De acuerdo con esto, y con el fin de comprender la relación que se trazará entre la reconstrucción y las formas de definir la argumentación, presentaré primero algunas formas en las que se ha teorizado sobre la reconstrucción. Para Brun & Betz (2016), el análisis argumentativo tiene dos fases: reconstrucción y evaluación. La reconstrucción es entendida como una técnica descriptiva para "representar la argumentación de una forma que asegure que su estructura se represente de forma explícita, precisa y transparente" (Brun & Betz, 2016, p. 45). Para lograr esto, la reconstrucción se ocupa de cuatro tareas básicas: 1) análisis textual (extraer argumentos de un texto), 2) análisis de debates (determinar las relaciones entre los argumentos de los debatientes), 3) análisis argumentativo limitado (establecer relaciones de entre distintos argumentos de una misma posición), y 4) análisis individual de argumentos (estandarizar las premisas y conclusión completas de los argumentos). Al realizar estas actividades, el analista no solo logra identificar los argumentos, sino también representarlos de una manera clara. En este sentido, el análisis de los argumentos es de carácter eminentemente reconstructivo:

> Como empresa reconstructiva, el análisis argumentativo tiene tanto un objetivo descriptivo, en la medida en que se ocupa de los argumentos que la gente utiliza realmente, como una perspectiva normativa guiada por el objetivo de hacer que la argumentación en cuestión tan clara como sea posible y por normas para evaluar los argumentos: las premisas pueden ser correctas/verdaderas o incorrectas, los argumentos pueden ser válidos o inválidos, fuertes o débiles. (Brun & Betz, 2016, pp. 40-41)

De manera parecida, Peter Houtlosser (2002) sostiene que, si se quiere evaluar un argumento se deben reconstruir, al menos, cinco elementos: 1) la tesis, posición o conclusión que se sostiene; 2) la fuerza de convicción con la que se presenta la tesis; 3) las premisas que soportan la tesis; 4) el vínculo inferencial entre premisas y conclusión (esquema argumentativo); y 5) las premisas implícitas que deben hacerse explícitas para cumplir con el esquema. Con ello, se garantiza la comprensión necesaria del punto de vista en cuestión antes de poder evaluar el discurso argumentativo.

Independientemente de los objetivos de la reconstrucción, es importante anotar que ésta suele ser vista como la tarea inicial del análisis argumentativo. Para algunos autores, la reconstrucción es un paso previo a la formalización del argumento mediante un sistema lógico particular (Brun, 2014; Brun & Betz, 2016). Para otros,

la formalización es insuficiente para comprender los rasgos pragmáticos del intercambio argumentativo real (Katzav & Reed, 2008; Macagno & Bigi, 2018; Rocci, 2017). No obstante, la reconstrucción sigue siendo necesaria para poder analizar el argumento, así no se haga uso de la formalización.

Ahora bien, la reconstrucción se justifica también en virtud del uso informal del lenguaje. Siguiendo a Steve Oswald (2016), esta operación es necesaria pues, en instancias reales, la argumentación tiene una forma desordenada, donde los hablantes no logran explicitar suficientemente sus argumentos, lo que impide reconocer el vínculo justificatorio entre premisas y conclusión. Así, dice el autor, una de las tareas del teórico de la argumentación es formular reglas claras para reconstruir representaciones posibles de intercambios argumentativos reales. Por poner un ejemplo, Jan Willem (2012) sostiene que tales reglas son dos: intentar representar la afirmación original del argumento, e intentar representar el contexto en el cual aparece el argumento. Así, esta misma "forma desordenada" implica que una reconstrucción *sobre la estructura* es insuficiente para comprender el significado real del argumento. Por esto, distintos autores (como Macagno & Capone, 2016; Macagno & Bigi, 2018) han justificado la necesidad de incluir una reconstrucción *pragmática del significado* en el análisis argumentativo.

Según lo dicho, los estudiosos de la argumentación han utilizado la técnica de la reconstrucción como una forma de analizar todo tipo de discurso argumentativo. No obstante, vale la pena anotar que también se han adaptado métodos para reconstruir tipos particulares de discurso, como en el análisis de discurso político de Fairclough & Fairclough (2012), o los análisis del discurso multimodal (Macagno & Pinto, 2020; Groarke, 2015; van den Hoven & Yang, 2013). También se ha debatido sobre las formas de reconstruir un mismo tipo de argumento (como el de analogía -Kienpointner, 2012; Guarini, 2004-), o sobre las formas de reconstruir las falacias informales (Jacquette, 2009).

Teniendo en cuenta lo anterior, explicaré a continuación cómo se relacionan la definición de la argumentación y la técnica de la reconstrucción para la pragma-dialéctica y la lógica informal. Se tomarán estas perspectivas de referencia por tres razones: primero, son perspectivas representativas para los estudios sobre argumentación, en tanto tienen comunidades académicas organizadas mediante eventos y medios de publicación reconocidos. Segundo, son perspectivas generales, que no se concentran particularmente en la reconstrucción, sino que utilizan distintas técnicas en sus análisis argumentativos. Esto favorece la explicación de la relación entre la definición y la reconstrucción porque permite hacer evidente el papel de la segunda sobre otras técnicas. Finalmente, sirven de marco de referencia para el análisis del diálogo argumentativo donde se apela al gusto, en tanto se pretende mostrar la imposibilidad de reconstruir los argumentos del diálogo utilizando elementos de estas perspectivas (diagramación de diálogo y análisis de actos de habla). Así, el estudio del diálogo pretende aportar a la comprensión general de un tipo de argumento, pero también a la de la argumentación desde las perspectivas mencionadas.

2.1. La reconstrucción pragma-dialéctica

La perspectiva pragma-dialéctica presenta el modelo de una discusión crítica (o racional) como un esquema ideal que pretende dar resolución argumentativa a una diferencia de opinión mediante una evaluación crítica de la aceptabilidad de distintos puntos de vista. El modelo presenta el proceso ideal de resolución por medio de cuatro etapas: en la etapa de 'confrontación' se define la diferencia de opinión que da origen a la discusión; en la de 'apertura' se establece el marco de referencia de la discusión mediante la definición de compromisos y puntos de partida; en la de 'argumentación' se intercambian argumentos y reacciones críticas; y en la de 'clausura' se determina el resultado de la discusión. Para cada una de estas etapas el modelo también presenta una serie de reglas y una serie de actos de habla. La primera serie puede comprenderse como un 'código de conducta para discutidores racionales', en tanto regula el comportamiento ideal a seguir para resolver la diferencia de opinión que ha originado la discusión. A su vez, la segunda serie indica cuáles actos de habla cumplen un papel constructivo (orientado a la resolución racional) en cada etapa de la discusión y para qué deberían usarse.

La pragma-dialéctica ha matizado su definición del término argumentación a lo largo de los años. La última definición sostiene que:

> La argumentación es un conjunto de actos comunicativos e interactivos cuyo objetivo es resolver una diferencia de opinión con el interlocutor, al presentar una constelación de proposiciones de las se puede hacer responsable el argumentador, de forma que el punto de vista en cuestión sea aceptable para un juez racional que juzgue razonablemente. (van Eemeren, 2019, p. 22)

Esta definición surge como un intento por abarcar distintos elementos importantes para la tradición de los estudios sobre argumentación. A saber, es una definición que nace del uso común del término. Al mismo tiempo, es lo suficientemente precisa, explícita y comprensiva como para servir a los teóricos en sus investigaciones. Además, esta definición explicita la doble acepción del término argumentación: como proceso (de argumentar) y como producto (la argumentación/el argumento).

Ahora bien, para que una argumentación pueda analizarse de acuerdo con el modelo de discusión crítica, van Eemeren & Grootendorst (2013) retoman la noción de 'mínimo lógico' de Peter Schellens y Gerard Verhoeven (1979) para referirse a la necesidad de añadir premisas inexpresadas y conectores lógicos (si, entonces) a fin de que la premisa expresada cumpla el rol de antecedente, mientras que la conclusión ocupe el lugar del consecuente. Así, los autores invitan a una reconstrucción que garantice el mínimo lógico de un argumento, es decir, que garantice una estructura premisas-conclusión adecuadamente construida. Esto con el fin de tener claridad sobre cuál es el punto de vista que sostiene cada una de las partes de la discusión.

En adición a lo anterior, la pragma-dialéctica propone un análisis argumentativo en términos de reconstrucción. Es decir, una reconstrucción orientada a la resolución del desacuerdo que inicia una discusión. El objetivo de esta parte del análisis argumentativo es, en pocas palabras, hacer explícito el procedimiento de discusión crítica, que se compone de las etapas ya esbozadas y sus respectivos actos de habla. En sus palabras: "[l]a reconstrucción ha de revelar, tan claramente como sea posible, sin prestar atención a ningún camino lateral o desvío, cuál es la ruta seguida en el intento de resolver la diferencia de opinión" (van Eemeren & Grootendorst, 2011, p. 100). Así, estos autores proponen cuatro transformaciones de reconstrucción: la primera es la 'supresión' de partes del discurso —actos de habla— que sean irrelevantes para la resolución de la diferencia de opinión; la segunda es la 'adición' de elementos implícitos del discurso que sean funcionales la resolución; la tercera es la 'sustitución' de formulaciones confusas que garantice la uniformidad en cuanto a la descripción de las partes del discurso que tienen la misma función; la última es la 'permutación' de partes del discurso que asegure una estructura secuencial que se dirija a la resolución.

Con la aplicación de las transformaciones de reconstrucción pragma-dialécticas se obtiene un 'panorama analítico' que permite comprender todo aquello que sea relevante para resolver la diferencia de opinión. Aunque se ha discutido la forma en la que estas transformaciones deberían utilizarse y los elementos del panorama resultante del proceso de reconstrucción (Sandvik, 1997), van Eemeren y sus colaboradores sostienen que dicho panorama debería revelar: 1) los puntos de vista de los participantes, 2) los roles asumidos por los participantes en la discusión, 3) el punto de partida de cada una de las partes, 4) los argumentos y críticas expuestas en el intercambio argumentativo, 5) las estructuras argumentativas presentadas, 6) los esquemas argumentativos utilizados, y 7) la conclusión de la discusión (van Eemeren & Houtlosser, 2007; van Eemeren & Grootendorst, 2011). En suma, para la pragma-dialéctica, es necesario una reconstrucción inicial cuyo resultado es la re-

presentación completa del argumento, así como una reconstrucción de la discusión argumentativa cuyo resultado es un panorama analítico que es indispensable para evaluar la argumentación de dicha discusión.

2.2. La reconstrucción y la lógica informal

La lógica informal se ocupa, en palabras de Ralph Johnson y Anthony Blair (2000), de "desarrollar estándares, criterios y procedimientos no formales para el análisis, la interpretación, evaluación, crítica y construcción de la argumentación en el discurso cotidiano" (Johnson & Blair, 2000, p. 94). Esto quiere decir que este tipo de lógica se desliga de las nociones de validez y forma deductivas de la lógica formal para analizar y evaluar el discurso argumentativo. Así, dicen tales autores, esta perspectiva se ha ocupado de distintos temas como el análisis de falacias informales, la relación entre la argumentación y el razonamiento, y la modelación de argumentos en diferentes diálogos y esquemas.

Los académicos allegados a la lógica informal no proponen un análisis argumentativo en términos de reconstrucción, pero sí defienden la necesidad de una estructura premisas-conclusión para estudiar la argumentación. Por ejemplo, Douglas Walton (1990) define argumentación como "un medio social y verbal para tratar de resolver, o al menos para lidiar con, un conflicto o diferencia que ha surgido o existe entre dos (o más) partes" (Walton, 1990, p. 411). A pesar de que esta definición no hace referencia a una estructura particular, la definición de razonamiento del autor sí lo hace: "razonamiento es la formulación o el establecimiento de supuestos llamados premisas (puntos de partida) y el proceso de avanzar hacia conclusiones (puntos finales) a partir de estos supuestos" (Walton, 1990, p. 403).

Las definiciones de Walton implican una diferencia fundamental entre la argumentación y el razonamiento: la primera es un medio social, mientras que el segundo es un proceso psicológico. Siguiendo a Hubert Marraud (2017), la relación entre estos conceptos consiste en que la argumentación es donde se presentan las razones, entendidas como inferencias (paso de una creencia a otra), realizadas en el proceso psicológico del razonamiento. Así, argumentar (presentar razones) no es lo mismo que razonar, sino que el razonamiento es previo a la práctica comunicativa de la argumentación. No obstante, dado que el razonamiento se entiende como la realización de inferencias, y que comprendemos una inferencia por medio de una estructura lógica (premisas-conclusión), la expresión del razonamiento en la argumentación conserva la estructura de la inferencia. En pocas palabras, el hecho de que el razonamiento posea una estructura lógica implica que los argumentos también poseen dicha estructura. La manera en la que Walton explicita las distintas formas en

las que razonamos es mediante esquemas argumentativos. Por eso, gran parte gran parte de su trabajo se concentró en analizar tales esquemas, que se entienden como "formas de argumentación (estructuras de inferencia) que representan estructuras de tipos comunes de argumentos utilizados en el discurso cotidiano, así como en contextos especiales" (Walton, Reed & Macagno, 2008, p. 1). Para ilustrar la idea de estos autores, el esquema del argumento por medio del ejemplo es:

> Premisa: En este caso particular, el individuo *a* tiene la propiedad F y también la propiedad G.
>
> Conclusión: Por tanto, generalmente, si X tiene la propiedad F, entonces también tiene la propiedad G.

Ejemplo 1. Esquema del argumento por medio del ejemplo (Tomado de Walton, Reed & Macagno, 2008, p. 314)

Por cada esquema argumentativo, Walton y sus colaboradores exponen una serie de preguntas críticas que ayudan a determinar la calidad de un argumento en cuestión. Así, la relación entre la estructura del razonamiento y el esquema argumentativo implica la necesidad de relacionar todo argumento con un esquema que explicite las premisas y la conclusión para poder llevar a cabo una evaluación.

Otro ejemplo de la relación entre la definición de argumentación y la técnica de la reconstrucción es el trabajo de Trudy Govier. Según la autora, "un argumento es un conjunto de afirmaciones donde una o varias de ellas —las premisas— son presentadas para ofrecer razones para otra afirmación, la conclusión" (Govier, 2009, p. 1). A partir de esta definición, la autora propone un análisis argumentativo que se basa en tres condiciones: aceptabilidad, relevancia y justificación[5]. Es decir, el analista debe preguntarse tres cosas: 1) si, en su opinión, existen buenas razones *para aceptar* las premisas; 2) si las premisas son *relevantes para* la conclusión que pretenden soportar; y 3) si las premisas, tomadas como un conjunto, son buenas bases *para justificar* la conclusión. Así, estas condiciones son, tanto un método de evaluación argumentativa, como los criterios de calidad (*cogency*) de cualquier argumento.

Semejante al mínimo lógico exigido por la perspectiva pragma-dialéctica, el análisis de las condiciones de Govier (2009) implica una condición *sine qua non*: la estructura. En palabras de la autora: "[p]rimero pones el argumento en una forma estándar para que puedas ver exactamente cuáles son sus premisas y conclusiones"

5 Se utiliza aquí la palabra 'justificación' para expresar la condición de que las premisas deben representar "buenas bases" (*good grounds*) para su conclusión. Govier (2009) expresa estas condiciones (*acceptable, relevance, good grounds*) bajo la fórmula de *ARG Conditions*. Con ello, la autora está retomando los estándares de aceptabilidad, relevancia y suficiencia que fueron postulados por Johnson & Blair (1977) mediante su *RSA Triangle*.

(Govier, 2009, p. 94). Esto quiere decir que el análisis argumentativo exige una primera reconstrucción que permita evaluar la relación entre las premisas y la conclusión. No obstante, Govier propone una segunda reconstrucción "más ambiciosa" que elimine la posible *irrelevancia* de las premisas. Es decir, si en un argumento las premisas parecen irrelevantes para su conclusión, puede que sea necesario añadir premisas. El ejemplo de la autora es el siguiente:

> 1. Tanto nuestro tipo de alfabeto como nuestro tipo de números provienen de las civilizaciones árabes.
>
> Por lo tanto,
>
> 2. La civilización occidental como entidad distinta de las civilizaciones árabes no existe.

Ejemplo 2. Caso de irrelevancia (Tomado de Govier, 2009, p. 150)

De acuerdo con Govier, aunque parezca que 1 es irrelevante para 2, una reconstrucción puede mostrar que no es así al alterar las relaciones lógicas del argumento mediante la adición de premisas:

> 1. Tanto nuestro tipo de alfabeto como nuestro tipo de números provienen de las civilizaciones árabes.
>
> 3. Las civilizaciones árabes no forman parte de Occidente.
>
> 4. Una civilización es una entidad distinta sólo si todos sus elementos importantes provienen de su propia área.
>
> 5. El tipo de alfabeto y los números que tiene una civilización están entre sus elementos importantes.
>
> Por lo tanto,
>
> 2. La civilización occidental como entidad distinta no existe.

Ejemplo 3. Reconstrucción de caso de irrelevancia (Tomado de Govier, 2009, p. 150)

El ejemplo 3 muestra que la adición de premisas hace que el ejemplo 1 logre satisfacer la condición de relevancia. Sin embargo, ello no implica que el argumento sea bueno, puesto que la premisa inicial no representaba, desde el inicio, una justificación suficiente para la conclusión pretendida. En este sentido, la propuesta de Govier implica al menos dos tipos de reconstrucción para la evaluación argumentativa: una que estandariza la forma del argumento, y otra que añade premisas relevantes para

la conclusión. No obstante, es importante señalar que la autora no concibe la 'estandarización' como un tipo de reconstrucción, dado que su definición de 'argumento reconstruido' se relaciona únicamente con la adición de premisas. En sus palabras: "es un argumento en el que las inferencias (o pasos) se han hecho más ordenadas, lógicas y sensatas mediante la adición de premisas adicionales" (Govier, 2009, p. 176).

Finalmente, vale la pena mencionar que Govier es consciente de que el dominio de la técnica de la reconstrucción no implica la necesidad de esta, pues sostiene que: "el hecho de que siempre sea posible hacerlo [reconstruir un argumento] no demuestra que sea siempre correcto y sensato hacerlo" (Govier, 2009, p. 151). Esta afirmación es ratificada en su análisis del potencial argumentativo de las parábolas. En sus palabras:

> El encanto y la sensatez de la historia parecen desaparecer si lo enmarcamos en una forma argumentativa y el argumento lógico que podríamos derivar de ella es débil en el mejor de los casos. Por ello parece ser interpretativamente preferible, y más caritativo, dejar la parábola como una historia. (Govier & Ayers, 2012, p. 178)

Según lo expuesto, Govier reconoce que es preferible no reconstruir cierto tipo de discursos. A pesar de esto, enfatiza en la necesidad de reconstruir la forma estándar del argumento para poder comprenderlo y evaluarlo. Esto implica que el uso de la técnica de la reconstrucción se vuelve indispensable para el análisis argumentativo.

2. 3. Una definición operacional de argumentación

Siguiendo a Macagno & Walton (2014), una definición es un instrumento para clasificar una fracción de la realidad. Esto quiere decir que representa una relación de identidad entre un distintos predicados y describe el significado de una palabra o frase para una comunidad específica. La realización de estas funciones (clasificar, representar y describir) implica una regla de uso para la comunidad donde se utiliza la definición. Es decir, las definiciones limitan el uso de los términos dentro de una comunidad, de manera que: 1) no se usen para clasificar otra fracción de la realidad, 2) no representen una relación de identidad entre el predicado y otros predicados distintos a los ya conocidos, y 3) no describan un significado distinto, o extraño, para la comunidad en cuestión.

Las definiciones de argumentación de van Eemeren (2019), Walton (1990) y Govier (2009) realizan estas funciones de maneras distintas; a saber, las dos primeras se centran en el uso de la argumentación como medio para resolver una diferencia de opinión, mientras que la tercera se enfoca en la estructura del argumento. En ninguna de las definiciones de estos tres autores vemos mención alguna a la técnica de la reconstrucción; sin embargo, esta técnica es necesaria para la identificación de lo que es un argumento. Es decir, la regla de uso del término 'argumentación' no dicta, ni para la pragma-dialéctica, ni para la lógica informal, que todo argumento tenga que ser reconstruible. No obstante, en el análisis argumentativo propuesto por estas perspectivas, la reconstrucción juega un papel clave en el reconocimiento de lo que es un argumento. Esto quiere decir que se introduce un nuevo elemento a la regla de uso del término 'argumentación'.

Tal como afirma Christopher Tindale (2017), la insistencia en una estructura particular para la argumentación hace de la reconstrucción algo indispensable para el análisis argumentativo; tanto así que "el analista puede exigir del texto '¿cuáles son las premisas?' y, a falta de una respuesta adecuada, rechazar al candidato." (Tindale, 2017, p. 16). En esta medida, lo que parece tan solo una forma de estudiar la argumentación se convierte en un criterio para la identificación de lo que es un argumento. En pocas palabras, *todo argumento puede reconstruirse satisfactoriamente*.

El diagnóstico anterior permite afirmar que la técnica de la reconstrucción implica una 'definición operacional de la argumentación'. En palabras de Irving Copi & Carl Cohen (2013), una definición es operacional cuando dicta que "el término es correctamente aplicado a un caso determinado si y solo si, la ejecución de las operaciones especificadas en ese caso proporciona un resultado específico" (Copi & Cohen, 2013, p. 131). En adición a esto, Macagno & Walton (2014) afirman que este tipo de definición debe entenderse más como una estrategia de clasificación en cuanto no describe el concepto en sí, sino más bien el fragmento de realidad al cual se refiere el concepto. Así, según estos autores, tal estrategia provee las causas eficiente o final de la cosa referida. Es decir, describe el agente que produce la cosa o la función que cumple tal cosa.

Ahora bien, la reconstrucción es un proceso de operacionalización que proporciona la forma estándar de un argumento (resultado específico). Además, tal operación provee la causa final del argumento, en cuanto implica que la función de la argumentación es la de presentar afirmaciones en favor de una conclusión. Por lo tanto, la insistencia en la técnica de la reconstrucción implica la definición operacional que puede expresarse así: *el término argumentación es aplicado correctamente a algo en tanto la operación de la reconstrucción sea exitosa sobre ese algo*. De esta manera, a pesar de que la técnica de la reconstrucción no sea parte de las definiciones de argumentación de las perspectivas analizadas, el papel que ocupa en el análisis argumentativo implica una definición operacional de la argumentación.

3. Argumentos difíciles de reconstruir

La técnica de la reconstrucción ha sido criticada por perspectivas que se distancian de la idea de que todo argumento puede formalizarse. De esta manera, Blair (2009) sostiene que la operación de la reconstrucción tiene tres problemas: 1) puede cambiar el significado del argumento, 2) es discutible cuál es la representación correcta que se consigue con esta operación, y 3) toma más tiempo enseñarla a los estudiantes. Además, la idea de que todo argumento puede reconstruirse implica que todo argumento debe ser deductivamente válido. Por el contrario, dice Blair, es posible encontrar argumentos sólidos, a pesar de que la relación entre sus premisas y conclusión no sea justificatoria.

Ruth Amossy (2009) retoma la crítica de Blair para afirmar que no puede usarse la técnica de la reconstrucción en un análisis que se enfoque en la descripción de intercambios verbales. Esto es, en un análisis donde la solidez de los argumentos no se determine por las relaciones lógicas del argumento, sino donde se entiende a la argumentación como una co-construcción de los hombres y mujeres partícipes del intercambio verbal. En palabras de la autora:

> […] los patrones de razonamiento no sólo deben ser reconstruidos, sino también examinados en su redacción exacta, que no es una apariencia superficial, sino el cuerpo mismo de la argumentación. En lugar de evaluar la validez lógica de los argumentos, el análisis se ocupa de las formas en que el discurso logra un acuerdo en un marco comunicativo. (Amossy, 2009, p. 317)

Estas críticas muestran que la técnica de la reconstrucción es insuficiente para analizar todo tipo de argumentos, bien sea porque sus resultados pueden ser controversiales, o porque sus representaciones no cobijan a cualquier argumento posible. Stephen Toulmin, Richard Rieke & Allan Janik (2018) expresan estas ideas de manera sencilla en al referirse a los argumentos realizados en colectivo: "un argumento complejo en la práctica a menudo tendrá características que no pueden ser capturadas en su totalidad simplemente escribiendo los *enunciados* del argumento sobre una hoja de papel" (Toulmin et al., 2018. p. 121).

Otros estudios han cuestionado también el uso de la técnica de la reconstrucción, pero siguiendo un método distinto. Es decir, han mostrado que hay cierto tipo de argumentos que pueden ser estudiados, aunque sea difícil reconstruirlos. Así, tales estudios han señalado, por medio del estudio de casos particulares, que la técnica de la reconstrucción tiene límites. Este método es relevante porque permite comprender de manera concreta cuáles son las características puntuales que no pueden ser capturadas mediante la reconstrucción argumentativa. A continuación expondré

cuatro estudios de este tipo con el ánimo de: 1) inventariar estos casos, de manera que puedan servir de ejemplo metodológico a otros estudios, y 2) justificar la forma de proceder que adoptaré más adelante con la presentación del caso del argumento que apela al gusto. Dado que se trata de un "inventario", no busco comprometerme con las posiciones expuestas, sino con el procedimiento que siguen. Así, en vez de justificar detalladamente las tesis de los autores, me limitaré a exponer, de manera general, los tipos de argumentos que parecen ser difíciles de reconstruir, así como las razones por las cuales no deberían reconstruirse.

En primer lugar, Christian Kock (2009a) presenta distintos ejemplos que contradicen lo que él llama una 'teoría asertiva de la argumentación'. Según esta teoría, toda argumentación se compone de actos de habla[6] asertivos; o bien se necesita una reconstrucción para que así sea. Esta idea, dice Kock (2009b), parte de una confusión que comparten la mayoría de las teorías de la argumentación: analizar la argumentación práctica como si fuera teórica. Esto quiere decir que todo argumento debe: 1) ser evaluado en términos de verdad y falsedad; y 2) acoplarse a un modelo lógico proposicional, guiado por las nociones de inferencia y conclusión. Por ello, el autor presenta distintos ejemplos donde la argumentación se compone de actos de habla directivos y compromisorios; a saber, discursos políticos, escrituras bíblicas, campañas publicitarias, poemas y reclamos ambientalistas. Así, Kock muestra que, a pesar de que la teoría asertiva hace énfasis en el acto de habla asertivo para conseguir la aceptabilidad de un punto de vista y garantizar el compromiso del hablante con su argumento, en ocasiones una reconstrucción no es conveniente. Más aún, Kock sostiene que sería imposible mantener el sentido con el que se argumenta si los actos de habla directivos o compromisorios utilizados en los argumentos que presenta fueran "transformados" a asertivos.

En segundo lugar, Tindale (2017) defiende la idea de los argumentos narrativos mediante el rechazo de ciertas condiciones tradicionales impuestas por una noción de argumentación. Tales condiciones son: 1) la relación inferencial (o justificatoria) entre premisas y conclusión (Kvernbekk, 2003), y 2) la capacidad para proveer razones que soporten afirmaciones que, a su vez, ofrezcan razones en favor de premisas y conclusiones adicionales (Govier & Ayers, 2012). Estas condiciones implican la necesidad de reconstruir o estandarizar un argumento en una forma proposicional que

---

6 Partiendo de las reflexiones de John Austin (1962), John Searle (1991a) se refiere a los actos de habla como la unidad básica de la comunicación lingüística. Esto es, el tipo de acto donde se producen instancias que sirven para enunciar, preguntar, ordenar, saludar, entre otros. Así, Searle (1991b) propone una taxonomía que reconoce cuatro tipos de actos de habla: asertivos (que comprometen al hablante con la verdad proposición), directivos (que intentan que el oyente haga algo), compromisorios (que comprometen al hablante con un curso de acción futuro), y expresivos (que expresan un estado psicológico del hablante).

exprese explícitamente premisas y conclusiones. Así, dice Tindale, estas condiciones reflejan una tendencia a creer que "si algo ha de contar como un argumento debe ser posible enmarcarlo en, o 'reducirlo' a, proposiciones […] que puedan ser testadas en términos de sus relaciones internas" (Tindale, 2017, p. 14). Contrario a lo anterior, el autor propone que las narraciones pueden considerarse como argumentos que no deberían ser reconstruidos, puesto que, a pesar de que no se dirijan a establecer una verdad, pueden expresar una razón a favor de aquello que es probable que sea el caso. Por ejemplo, en el caso de una parábola, se puede determinar la fuerza de su argumento comparando la experiencia propia de probabilidades con la probabilidad de la enseñanza moral contenida en la historia.

En tercer lugar, Jonathan Adler (1985) plantea interrogantes sobre el alcance de la técnica de la reconstrucción mediante el caso de un poema. Así, aunque el poema estandarizado se ajustaría a las definiciones usuales de argumentación, una reconstrucción afectaría su espíritu y su atractivo. Además, dice Adler, a pesar de que el poema pueda ser reconstruido, lo que pretende no es establecer la verdad de una proposición. Por ello, el autor cuestiona: "cuando reconstruimos un argumento, el resultado es algo increíblemente torpe comparado con la legibilidad de la pieza original. Mi pregunta es la siguiente: ¿estamos perdiendo algo más que estilo con esta reconstrucción?" (Adler, 1985, p. 62). De esta manera, aunque Adler concede que un argumento tiene una forma estándar (premisas-conclusión), cuestiona que dicha forma, garantizada mediante la reconstrucción, capture necesariamente toda la fuerza cognitiva de un razonamiento.

En cuarto lugar, Blair (2004), sostiene que lo que distingue a un argumento de un 'estímulo simbólico' es su función de ofrecer razones para aceptar un punto de vista. Así, a pesar de que los argumentos se asocien generalmente con el discurso, y particularmente con los actos de habla asertivos, es posible hablar de argumentos visuales, siempre que ofrezcan razones para aceptar una proposición, cambiar de actitud, o realizar una acción. El concepto de argumento visual de este autor tiene en cuenta la acepción tradicional del concepto de argumento, en tanto se refiere a casos en los que, para argumentar, se combinan elementos visuales y verbales. Entonces, a pesar de que pueda hacerse una reconstrucción verbal del argumento visual, éste no podría ser reemplazado, puesto que en lo verbal se perdería el poder evocativo y el sentido de realismo que transmite lo visual.

Blair se ocupa de analizar las principales objeciones contra la existencia de argumentos visuales. Por un lado, se ha dicho que lo visual es inevitablemente ambiguo (lo cual hace imposible el análisis argumentativo); y, por otro lado, se ha afirmado que lo visual no tiene contenido proposicional (mientras que los argumentos sí lo

tienen). Para responder a la primera objeción, el autor afirma que la ambigüedad es necesaria para todo tipo de comunicación. Con respecto a la segunda objeción, afirma que no todo argumento intenta provocar un cambio de creencia en su receptor. De esta manera, no es necesario que todo argumento tenga un valor de verdad evaluable mediante el contenido proposicional. Por el contrario, se puede argumentar para buscar cambios de actitud, intención o comportamiento. En este sentido, dice Blair: "[n]o todos los argumentos deben ser proposicionales. Por lo tanto, aunque es cierto que (algunas) imágenes visuales no expresan proposiciones, no se sigue que no puedan figurar en los argumentos" (Blair, 2004, pp. 48-49).

Los estudios anteriores tienen al menos dos asuntos en común: el primero es que justifican el estudio de distintos productos o formas de comunicación frente a los cuales se ha objetado su valor como argumentos; el segundo es que tales objeciones se dirigen, usualmente, a la inviabilidad de realizar sobre ellos una reconstrucción proposicional satisfactoria. Dicha inviabilidad se ampara en una misma idea: dichos argumentos no están dirigidos a establecer una verdad. Por tanto, no deberían ser estandarizados con el fin de evaluarlos en términos veritativos. Dicho de otra manera, una reconstrucción modificaría o eliminaría el sentido con el que se argumenta (además del estilo de la pieza, en el caso de la literatura).

En suma, los trabajos expuestos muestran que la argumentación debería comprenderse de una manera más amplia. Otros autores han ofrecido definiciones de argumentación que permiten apreciar un mayor número de casos. Por ejemplo, Marraud (2018) afirma que "la función constitutiva de argumentar es presentar algo a alguien como una razón para otra cosa; que quien argumenta lo hace con el propósito de mostrar al destinatario que hay buenas razones para algo" (Marraud, 2018, p. 1). Algo parecido ocurre con la crítica que hace Dale Hample (2005) a la definición de argumentación de la pragma-dialéctica. Según él, dicha definición se compromete únicamente con las proposiciones, suponiendo que los argumentos son formados por un juicio racional que se distingue de las emociones. Contrario a esto, el autor propone que la argumentación puede comprenderse como una actividad interaccional que frecuentemente involucra elementos no discursivos, emociones, y a más de dos actores. Por esto, sostiene que la función de la argumentación es crear significado, mientras que su forma es la de una conclusión respaldada por una razón. Así, dado que las razones pueden ser sugeridas por elementos distintos al texto, una orientación exclusivamente proposicional de la argumentación es injustificada. De acuerdo con estas perspectivas, no es necesario garantizar (mediante la reconstrucción) una estructura particular para reconocer un argumento, puesto que se parte del propósito de presentar buenas razones, que no tienen que ser proposicionales.

Vale aclarar que con la referencia a estas perspectivas no busco comprometerme con una nueva definición de la argumentación, pues ese no es el propósito del presente estudio. Más bien, busco mostrar que no toda forma de comprender y estudiar los argumentos implica una misma definición operacional de la argumentación, sino que hay definiciones más amplias que no introducen la operación de la reconstrucción en su noción de argumentación.

4. Argumentación que apela al gusto

Tal como se dijo anteriormente, la imposibilidad de expresar proposicionalmente el gusto dificulta un análisis de los argumentos que apelan al gusto. Esto quiere decir que el hablante solo puede describir sus sensaciones relacionadas con el gusto, o los sentimientos que le genera la experiencia, pero no puede traducir exactamente una experiencia del gusto (como probar un alimento) en proposiciones. Una alternativa que podría solucionar tal dificultad puede ser considerar únicamente como parte del argumento la expresión del sentimiento de gusto. No obstante, la expresión de sentimientos ha sido desestimada como parte del análisis argumentativo por perspectivas como la pragma-dialéctica o la lógica informal. La primera perspectiva suprime los actos de habla expresivos de su modelo de discusión crítica en tanto la verdad de tales actos de habla se considera presupuesta. Esto es incompatible con su modelo de discusión que lo que pretende es discutir *sobre* la verdad, por lo que ésta no puede ser presupuesta (van Eemeren & Grootendorst, 2013, p. 228). Por su parte, la segunda perspectiva también ha desestimado la expresión de emociones como parte de la argumentación. Por ejemplo, Govier (2009, p. 175) sostiene que se apela a las emociones para estimular sentimientos en la audiencia y así evitar la necesidad de ofrecer razones en favor de una conclusión. Por tanto, la expresión de sentimientos se ha considerado como una forma falaz de argumentar.

En esta sección mostraré que, tal como ocurre con los demás argumentos difíciles de reconstruir, no es viable reconstruir un argumento que apela al gusto. Para hacer esto, primero, expondré con más detalle las categorías relacionadas con el gusto que servirán de base para realizar un análisis de un diálogo; segundo, ilustraré cómo podría hacerse la reconstrucción del argumento de uno de los interlocutores del diálogo, que se refiere a un gusto ajeno como parte de su argumentación; tercero, mostraré las dificultades de reconstruir el argumento del interlocutor que apela a su propio gusto; cuarto, sugeriré que esto afecta también a la reconstrucción del argumento de quien se refiere a un gusto que no es suyo.

Vale la pena comenzar diciendo entonces que tenemos sensaciones relacionadas con el gusto como reacciones a un estímulo sensorial (por ejemplo, a un sabor). Es

con relación a dicha sensación que podemos tener sentimientos de gusto o disgusto. Independientemente de que podamos, o no, explicar tales sentimientos, usualmente podemos expresarlos a través de predicados de gusto o juicios de gusto. Los primeros califican la sensación mediante adjetivos como *delicioso* o *asqueroso*, mientras que los segundos califican una disposición personal frente a la sensación por medio de expresiones como *me gusta* o *no me gusta*. Esta distinción es importante porque el análisis se centrará en el potencial argumentativo de los juicios de gusto.

Los juicios de gusto, en cuanto expresiones de un sentimiento, son actos de habla expresivos. De acuerdo con la tipología de actos de habla de Searle (1991b), tales actos de habla tienen tres características: 1) su contenido proposicional expresa un estado psicológico, 2) no tiene dirección de ajuste, es decir que no se pretende una correspondencia entre lo dicho y el mundo, o viceversa; y 3) la verdad de la proposición expresada es presupuesta. A pesar de que podría discutirse qué es lo que hace que algo sea un estado psicológico, puede decirse que las expresiones de gusto cumplen con la primera característica en cuanto expresan sentimientos de gusto o disgusto frente a un estímulo. Así también, tales expresiones carecen de dirección de ajuste, puesto que no pretenden que el mundo (lo sentido) se ajuste a lo dicho, o que lo que se ha dicho se ajuste al mundo. Más bien, expresan un estado o sentimiento personal de la persona.

Ahora bien, con respecto a la verdad de la proposición de un juicio de gusto, pareciera que no puede ser presupuesta desde que es posible retractar el juicio mismo. Es decir, se puede afirmar *eso me gusta* y luego cambiar de opinión y afirmar *pensándolo bien, no me gusta.* Incluso, es posible que un juicio de gusto sea una mentira; por ejemplo, por cortesía, uno afirma que le ha gustado un regalo cuando en realidad no ha sido así. En el primer caso, el hablante cumple con la condición de sinceridad, puesto que tiene la intención de expresar su estado psicológico y, de hecho, lo logra, a pesar de que pueda expresar *otro estado* que niegue el estado previamente expresado. En el segundo caso, no obstante, el hablante no cumple con la condición de sinceridad. Esto no implica que el contenido proposicional expresado sea falso, puesto que el compromiso del hablante no radica en la verdad de la proposición, sino en la expresión del estado psicológico. En este sentido, la verdad de un juicio de gusto sí es presupuesta. Algo distinto ocurre con los actos de habla asertivos, puesto que, en tanto tienen una dirección de ajuste de las palabras-a-mundo, el hablante tiene un compromiso con la verdad de la proposición y es esto lo que determina el cumplimiento de la condición de sinceridad. Es decir, mientras que en un acto de habla asertivo la condición de sinceridad implica un compromiso con la verdad, en el caso de uno expresivo —como lo es un juicio de gusto— implica la intención de

expresar un estado psicológico. Por eso las reacciones de rechazo en cada caso son distintas; en el caso de un asertivo se reacciona diciendo *estás equivocado, eso no es verdad,* mientras que en el caso de un expresivo se reacciona diciendo *así no es como te sientes*.

Teniendo claras las distinciones entre sensación, sentimiento y expresiones de gusto, es posible presentar ahora un diálogo donde se apela al gusto. Se escoge el diálogo como objeto de análisis siguiendo la idea de Marraud (2017) de que esta es la forma comunicativa propia de la argumentación. Así, el análisis del intercambio de razones es una forma apropiada para comprender las características de los argumentos. En este caso, para comprender las características de los argumentos que apelan al gusto, es necesario introducir el contexto de la conversación: un comensal (C) está en un restaurante y no ha podido decidirse sobre qué vino elegir para acompañar su comida; entonces, busca consejo de un *sommelier* (S). Con el fin de recomendarle un vino, el *sommelier* dialoga con el comensal, así:

1. S: ¿Qué va a comer?
2. C: Carne de res, término medio.
3. S: ¿Con qué vino suele acompañar una carne así?
4. C: Con un vino tinto Cabernet.
5. S: Pruebe este vino tinto X.
6. Luego de probar, C: ¡ese me sabe bien!
7. S: X es su mejor opción, teniendo en cuenta su gusto, su elección de comida, y su experiencia previa.
8. C: Entonces véndame una botella de X.

Ejemplo 4. Diálogo con argumentos que apelan al gusto (elaboración propia)

El diálogo anterior puede parecer fácil de reconstruir; no habría ninguna dificultad en tomar la recomendación del *sommelier* y expresarla en una estructura de premisas-conclusión, mediante la adición y modificación de ciertas partes:

1. Una elección de vino depende del gusto, de la elección de comida y de las costumbres del comensal.
2. La comida elegida por el comensal marida bien con X.
3. El comensal acostumbra a tomar vino del mismo tipo que X.
4. Al comensal le ha gustado X.
5. En conclusión, X es la mejor opción para el comensal.

Ejemplo 5. Reconstrucción del argumento de S (elaboración propia)

Con esta reconstrucción se está garantizando un esquema argumentativo (mínimo lógico) que permite evaluar las relaciones entre las premisas y la conclusión. Además, el argumento está compuesto de actos de habla asertivos, lo cual va de acuerdo con la 'etapa de argumentación' propuesta en el modelo de discusión crítica de la pragma-dialéctica. Entonces, desde el punto de vista de la reconstrucción, ¿cuál es la dificultad que supone un argumento que apela al gusto? Parece que, en principio, ninguna. Es decir, dado que el *sommelier* no está apelando a su gusto, sino al gusto del comensal, no tiene un compromiso con la sensación en cuestión, sino con la verdad de lo que dice: al comensal le ha gustado el vino X. Así, parece necesario comprender entonces si el argumento del comensal puede reconstruirse satisfactoriamente.

El argumento del comensal se compone de dos partes, expresadas en las líneas 6 y 8 del ejemplo 4. Es decir, el gusto ha sido la razón por la cual el comensal ha ordenado una botella de vino. Ambas partes son problemáticas para la reconstrucción, puesto que la primera es un acto de habla expresivo y la segunda es uno directivo. Las razones por las cuales el acto de habla expresivo ha sido desestimado de los estudios sobre argumentación ya fueron expuestas al inicio de este apartado. Ahora, con respecto al acto de habla directivo, vale mencionar que Kock (2009b) ha insistido en que una elección no puede evaluarse en términos veritativos, lo cual es problemático para una reconstrucción asertiva de un argumento que justifique una elección. No obstante, lo que es propio de un argumento que apela al gusto y que, como se verá, limita un intento de reconstrucción, es el acto de habla expresivo correspondiente al sentimiento de gusto. Esto quiere decir que es tal acto de habla el que habría que reconstruir como uno asertivo si se quiere mostrar que la argumentación que apela al gusto no representa ningún tipo de límite a la técnica de la reconstrucción.

Siguiendo la argumentación anterior, será necesario mostrar ahora que, a pesar de que la expresión "¡ese me sabe bien!" puede comprenderse como el antecedente de la conclusión "Entonces véndame una botella de X", no sería viable realizar una reconstrucción proposicional del argumento. Por un lado, el antecedente es un juicio de gusto; esto es, la expresión de una percepción que, en sí misma, no puede ser reducida a proposiciones. No obstante, incluso si se intenta reducir la experiencia del gusto a la expresión lingüística del sentimiento, se trata de un acto de habla expresivo que no podría transformarse en un asertivo, puesto que una sensación en sí misma

no puede valorarse en términos de verdad o falsedad. Lo que podría evaluarse en estos términos sería un predicado de gusto, pero no si se ha sentido o no el gusto.

En adición a lo anterior, es importante resaltar que el juicio de gusto expresado en el argumento del comensal no está sujeto a la aceptación o rechazo por parte del *sommelier*, puesto que la expresión ni siquiera podría ser falsa, sino tan solo insincera, como se explicó con anterioridad al diferenciar los actos de habla expresivo y asertivo. Por lo tanto, no tendría sentido reconstruir ese acto de habla como un asertivo. Así, no es que la validez del juicio de gusto justifique la validez de la decisión de comprar el vino, o que la aceptación del juicio de gusto motive la aceptación de la conclusión. En el argumento de C no hay realmente nada que aceptar como verdadero, sino que se ofrece una razón (juicio de gusto) para justificar una elección (el vino X). A pesar de que podría describirse asertivamente esa razón, no lograría reemplazarla, sino solo describirla.

Por otro lado, la conclusión del comensal es un acto de habla directivo que tampoco podría ser reducido a un asertivo, puesto que la intención y necesidad del hablante es la de comprar el vino, ahora que sabe cuál es su mejor opción. El comensal no está describiendo el mundo, ni afirmando algo que sea verdadero o falso, sino que está ejecutando, mediante una orden, una elección. Además, el acto de habla directivo impide que el diálogo expuesto pueda comprenderse bajo el modelo de discusión crítica de la pragma-dialéctica. Es decir, la forma en la que finaliza el diálogo no podría corresponderse con la 'etapa de clausura' del modelo de discusión crítica, puesto que el acto de habla directivo no podría reconstruirse en un asertivo que describa el estado del punto de vista inicial, o en un compromisorio que acepte o rechace el punto de vista contrario. Más aún, el hecho de que el diálogo presentado finalice con un directivo indica que no hay diferencia de opinión alguna entre el comensal y el *sommelier*, sino que la conversación sirve únicamente para tomar una decisión (qué vino comprar), donde el segundo sirve de asesor al primero para tomar dicha decisión. Así las cosas, el argumento del comensal no puede ser reconstruido de una manera estándar, ni mucho menos analizado en términos de una reconstrucción pragma-dialéctica.

En este punto podría objetarse que el diálogo presentado podría entenderse como un argumento de autoridad. Este tipo de argumento puede ser falaz en el caso en que la aceptabilidad de un punto de vista dependa sólo de la autoridad de alguien. En el caso que presento, el *sommelier* es claramente una autoridad y es por eso que el comensal pide su opinión. Sin embargo, la recomendación de S no es un argumento de autoridad precisamente porque el comensal ha probado el vino. Es decir que el sabor es una prueba suficiente para aceptar la recomendación y pedir el vino, por lo

que el punto de vista de C no depende sólo de la autoridad de S. En otras palabras, sin la experiencia del gusto, aceptar la recomendación habría sido significado un uso falaz del argumento de la autoridad.

Ahora, el hecho de que el argumento del comensal, que apela a su propio gusto como una razón para actuar, no pueda ser reconstruido de la manera en la que los teóricos sugieren, tiene una implicación también para la comprensión del argumento del *sommelier*. Esto es, la justificación que tiene el *sommelier* para referirse al gusto del comensal en su recomendación es el conocimiento del sentimiento de gusto que ha sido expresado. En este sentido, en tanto la expresión del sentimiento es un acto de habla expresivo, no reducible a un asertivo, el *sommelier* tendrá que apelar a tal acto de habla si quiere explicar suficientemente su argumento. Es decir, aunque parezca que el argumento del *sommelier* encaja bien con la etapa de argumentación de la discusión crítica y con la 'forma estándar' de representar un argumento, su referencia al gusto implica que no puede desligarse del carácter expresivo de la demostración del sentimiento de gusto del comensal. En pocas palabras, aunque la referencia al gusto ajeno pueda ser expresada en términos asertivos, no se puede desligar del carácter expresivo del acto de habla que comunica dicho gusto. Esto quiere decir que la reconstrucción que se realizó sobre el argumento del *sommelier* está incompleta, pues al justificar el acto de habla asertivo de la premisa 4 se llega a la misma dificultad a la que se llega con la reconstrucción del argumento del comensal; a saber, la imposibilidad de reconstruir el acto de habla expresivo.

Según lo dicho, aun si reducimos el gusto al acto de habla expresivo, no es posible realizar una reconstrucción asertiva del mismo. No obstante, en este diálogo, el gusto es una razón que soporta el argumento del comensal y también es un presupuesto en la recomendación del *sommelier* ¿Implica esto que, en realidad, no se trata de un argumento? ¿deberíamos excluir del análisis argumentativo la apelación al gusto? Si aceptamos que la función de la argumentación es la de presentar buenas razones para algo, ¿por qué habríamos de negar que el gusto pueda ser parte de un argumento? La respuesta que debe concluirse del análisis del diálogo es que sí es un caso de argumentación, a pesar de que no pueda reconstruirse de la manera en la que los teóricos sugieren.

Ahora bien, todo teórico de la argumentación estaría de acuerdo en que argumentar implica presentar evidencias. Es decir, se supone que, para que haya un argumento, el proponente debe de poder respaldar su tesis con evidencia. Esta evidencia debe suficiente para motivar la aceptación de la tesis en cuestión. Por ejemplo, si la tesis es una descripción del mundo, se espera que se presenten rasgos específicos del mundo que hacen que tal descripción sea la correcta. Se supone además que la evidencia

debería constituir una zona de acuerdo en el caso en el que la argumentación suponga un desacuerdo. Es decir, ante la duda, o rechazo, de una tesis, un proponente expone hechos que su interlocutor podría aceptar fácilmente para motivar, a partir de la conexión entre tales hechos y su tesis, un convencimiento o cambio de opinión.

Toulmin et al. (2018) ofrecen un modelo de argumentación que ilustra bien estos supuestos. Según ellos, una tesis debe respaldarse mediante bases (*grounds*); esto es, mediante hechos particulares que representan una zona de acuerdo entre las partes. Las bases no son indiscutibles; por el contrario, generalmente las discusiones se centran en la aceptabilidad, relevancia o suficiencia de las bases para una tesis. Además, existen distintos tipos de bases, puesto que el contexto de la argumentación determina la forma de presentar las evidencias y el tipo de información que sirve como evidencia. Por ejemplo, en el contexto de la argumentación jurídica, un abogado presenta su defensa mediante una secuencia de pequeños pasos. Al mismo tiempo, en este contexto, los testimonios orales, las declaraciones, o los informes históricos pueden servir de bases para la defensa.

De acuerdo con lo anterior, si se acepta que el diálogo analizado es argumentativo, cabe preguntarse, ¿cuál es base del argumento? Dicho de otra forma ¿cuál es la evidencia presentada por el comensal? Ya se ha dicho que la conclusión de su argumento es un acto de habla directivo que expresa la decisión de comprar una botella de vino. De acuerdo con el desarrollo del diálogo, es justo afirmar que la evidencia que soporta la decisión del comensal es *el juicio de gusto* referente al vino. Lo interesante en este caso es que la experiencia del gusto (asistida por el *sommelier*) hace parte del argumento mismo. Es decir, sin la experiencia del gusto, no habría evidencia, ni argumento para ninguna de las dos partes de la discusión. Así, el gusto es la evidencia de respalda la decisión del comensal, más no es una evidencia a favor de la verdad del acto de habla directivo. Es por eso que el juicio de gusto del comensal no busca la aceptación del *sommelier*, sino más bien comunicar una sensación que determina la decisión.

Siguiendo a Toulmin et al. (2018), el contexto determina las características de las bases de los argumentos. Así, el diálogo expuesto sucede en un contexto en el que un juicio de gusto es una base válida. Este mismo contexto implica que esta base no está sujeta a la aceptación o rechazo del interlocutor, sino que es necesaria para tomar una decisión. Además, la información que constituye esta base se obtiene haciendo una degustación. En otro contexto, esta base no sería admisible, ni tendría estas características. Por ejemplo, en el contexto de una argumentación científica, la base admitida puede ser el resultado de un experimento. En este caso, dicho resultado está sujeto a la aceptación o rechazo de la comunidad científica, que tendrá en

cuenta distintos factores —relacionados con las condiciones del experimento— para evaluar la base del argumento. Además, el argumento puede ser presentado con la esperanza de estar contribuyendo a resolver un problema científico.

En suma, el contexto del diálogo analizado permite que el gusto sea una base para el argumento, puesto que la decisión que debe tomar el comensal es precisamente sobre un objeto que puede degustarse. Por esta misma razón, la degustación es un procedimiento válido para obtener la información necesaria para tomar la decisión. Además, dado que es una decisión lo que el comensal comunica con su argumento, no está sujeta a aceptación o rechazo.

5. Conclusiones

En este texto he cuestionado el uso de la técnica de la reconstrucción como criterio adecuado para la identificación de todo argumento. En la primera parte introduje el tema de la reconstrucción mostrando la relación entre el debate acerca de la definición de la argumentación y las técnicas de evaluación argumentativa. En la segunda parte mostré que la relación entre la técnica de la reconstrucción y ciertas formas de concebir y estudiar la argumentación implica una 'definición operacional de la argumentación'. En la tercera parte expuse distintas reflexiones donde se presentan tipos de argumentos difíciles de reconstruir en un intento por considerar la argumentación en un sentido más amplio. Así, en la cuarta parte me concentré en la argumentación que apela al gusto, mediante el análisis de un diálogo, con el fin de ofrecer un caso más —distinto a los expuestos— de argumentación que señala límites a la reconstrucción.

El análisis realizado permitió sostener que el caso expuesto puede comprenderse como un caso de argumentación. Esto me lleva, al fin, a la tesis que quiero proponer: la reconstrucción no debería ser el único criterio para la identificación de argumentos. En otras palabras: la reconstrucción no debería funcionar como única definición operacional de argumentación, puesto que el resultado de una reconstrucción no es necesariamente un argumento, sino una representación de él. Parece que algunos teóricos son conscientes de esto, en cuanto utilizan palabras como 'estandarización' en vez de reconstrucción, y 'estándar' para designar el resultado de la reconstrucción. No obstante, a pesar de que 'estándar' no signifique toda forma de argumentación posible, la necesidad de la reconstrucción para la evaluación argumentativa da un carácter imperativo a la utilización de esta técnica. Así, tal como muestran los casos de los argumentos difíciles de reconstruir —incluyendo el del gusto—, el hecho de que podamos reconstruir proposicionalmente un discurso prueba el dominio de esta técnica, pero no demuestra que sea indispensable hacer uso de ella. Antes bien, si la

reconstrucción es inviable, o su resultado es insatisfactorio, no significa que no es un caso de argumentación. Por esto es injustificada la inferencia según la cual si algo no se puede reconstruir, no es un argumento.

De acuerdo con esto, las discusiones con relación al gusto no encajan bien con las nociones de argumentación que se relacionan con la técnica de la reconstrucción. Esto quiere decir que es necesario buscar o desarrollar otras técnicas que nos permitan estudiar las situaciones relacionadas con el gusto. Es decir, el hecho de que la reconstrucción no sea útil no debería desmotivarnos de estudiar casos en los que el gusto es ofrecido como razón para algo. Por el contrario, en aras de motivar el estudio de argumentos que apelan al gusto, es posible resaltar algunas contribuciones teóricas que podrían resultar de dicho estudio: primero, tal estudio podría ayudarnos a comprender de manera más amplia la noción de argumentación. Segundo, podría contribuir a "campos" más generales de la argumentación, como lo son la estética, la identidad y la moral. Es decir, el gusto es una razón común al realizar juicios estéticos, morales y referentes a identidades individuales y colectivas. Así, comprender qué es, cómo se estudia y cómo se presenta el gusto, en cuanto razón, podría ser de utilidad para comprender estos campos de argumentación. En último lugar, estudiar los argumentos que apelan al gusto permitiría tejer un puente con los estudios referentes a los desacuerdos de gusto de la epistemología[7]. Tales estudios se han centrado en tipificar quién podría estar equivocado en un desacuerdo en el que se contraponen dos predicados personales de gusto opuestos, mediante el estudio de las condiciones de verdad de dichos predicados. Así, sería provechoso para tales estudios la valoración del desarrollo argumentativo de tales desacuerdos.

Lo anterior no implica, sin embargo, que no haya dificultades para estudiar los argumentos que apelan al gusto. Antes bien, una pregunta queda aún sin respuesta: ¿cómo se evalúan tales argumentos? La pregunta es apremiante en este caso, dado que las técnicas y criterios de evaluación argumentativa requieren de una reconstrucción que, según lo dicho, no es viable. Así, ¿es necesario buscar otros criterios? O ¿es preferible ajustar los criterios usuales a un argumento que no tenga la forma estándar? Será necesario dar respuesta a tales preguntas si se quiere acoger el carácter normativo de los estudios sobre la argumentación.

7 Estos estudios analizan los desacuerdos sobre predicados de gusto personales (postulados inicialmente por Peter Lasersohn, 2005), e intentan caracterizar tales situaciones de acuerdo con la culpa; es decir, si tales predicados de gusto suponen un desacuerdo genuino, un desacuerdo donde ambas partes comparten la culpa, o uno donde ninguna de éstas tiene la culpa.

Agradecimientos:

Versiones preliminares de este trabajo fueron mejoradas gracias a recomendaciones por las que me urge agradecer aquí: estoy especialmente agradecido con mi asesor de maestría, Julder A. Gómez Posada, por su útil orientación, e igualmente con los jurados de grado (José Á. Gascón y Heiner J. Mercado) por sus desafiantes preguntas. También agradezco a los revisores anónimos de *Cogency* por sus correcciones y por animarme a ampliar el marco teórico utilizado. Finalmente, doy gracias por sus comentarios a los participantes de distintos eventos donde pude exponer el trabajo: *2019 Alta Argumentation Conference*, *I Congreso Iberoamericano de Argumentación*, *XVIII Congreso Interamericano de Filosofía* y *E-OSSA Conference 12* (de este último evento quisiera destacar también las palabras de aliento de Gabrijela Kišiček y Leo Groarke a seguir trabajando sobre argumentación multimodal).

Trabajos citados:

Adler, J. E. (1985). Where are the limits to reconstruction? *Informal Logic*, VII.1, 61-62.

Amossy, R. (2009). The New Rhetoric's Inheritance: Argumentation and Discourse Analysis. *Argumentation, 23,* 313-324.

Austin, J. L. (1962). *How to do things with words.* Londres: Oxford University Press.

Blair, J. A. (2004). The rhetoric of visual arguments. En C. Hill & M. Helmers. (Eds.), *Defining visual rhetorics* (pp. 41-61). Mahwah: Lawrence Erlbaum.

Blair, J. A. (2009). The presence of Toulmin and Perelman/Olbrechts-Tyteca for informal logic. En H. Jales. (Ed.), *Rhetoric and Argumentation in the Beginning of the XXIst Century* (pp. 17-32). Coimbra: Impresa da Universidade de Coimbra.

Brun, G. & Betz, G. (2016). Analysing Practical Argumentation. En S. O. Hansson & G. Hirsch. (Eds.), *The Argumentative Turn in Policy Analysis: Reasoning About Uncertainty* (pp. 39-77). Cham: Springer.

Brun, G. (2014). Reconstructing arguments: Formalization and reflective equilibrium. *Logical Analysis and History of Philosophy, 17*, 94-129.

Copi, I. M. & Cohen, C. (2013). *Introducción a la lógica* (2a Ed). México: Limusa.

Fairclough, I. & Fairclough, N. (2012). *Political Discourse Analysis: A method for advanced students.* Londres/Nueva York: Routledge.

Gilbert, M. A. (1997). *Coalescent Argumentation*. Mahwah/Nueva Jersey: Lawrence Erlbaum.

Govier, T. (2009). *A Practical Study of Argument* (7th Ed.). Wadsworth: Cengage Learning.

Govier, T. & Ayers, L. (2012) Logic and parables: Do these narratives provide arguments? *Informal Logic, 32*(2), 161-189.

Groarke, L. (2015). Going multimodal: What is a mode of arguing and why does it matter? *Argumentation, 29*, 133-155.

Guarini, M. (2004). A defense of non-deductive reconstruction of analogical arguments. *Informal Logic, 24*(2), 153-168.

Hamblin, Ch. L. (2016). *Falacias* (H. Marraud, Tr.). Lima: Palestra.

Hample, D. (2005). *Arguing: Exchanging Reasons Face to Face*. Nueva Jersey: Lawrence Erlbaum.

Houtlosser, P. (2002). Indicators of a point of view. En F. H. van Eemeren. (Ed.), *Advances in Pragmadialectics* (pp. 169-184). Amsterdam: SicSat.

Jacquette, D. (2009). Deductivism and the Informal Fallacies. En F. H. van Eemeren & B. Garssen. (Eds.), *Pondering on problems of argumentation: Twenty Essays on Theoretical Issues* (pp. 141-156). Amsterdam: Springer.

Johnson, R. H. & Blair, J. A. (1977). *Logical Self-Defense*. Toronto: McGraw-Hill Ryerson.

Johnson, R. H. & Blair, J. A. (2000). Informal logic: An overview. *Informal Logic, 20*(2), 93-107.

Katzav, J. & Reed, Ch. (2008). Modelling argument recognition and reconstruction. *Journal of Pragmatics, 40*, 155-172.

Kock, Ch. (2009a). Arguing for Different Types of Speech Acts. *Argument Cultures: Proceedings of the Ontario Society for the Study of Argumentation Conference, Vol. 8.*

Kock, Ch. (2009b). Constructive Controversy: Rhetoric as Dissensus-oriented Discourse. *Cogency, 1*(1) 89-112.

Kvernbekk, T. (2003). Narratives as informal arguments. *Informal Logic @ 25: Proceedings of the Ontario Society for the Study of Argumentation Conference, Vol. 5.*

Lasersohn, P. (2005). Context dependence, disagreement, and predicates of personal taste. *Linguistics and Philosophy, 28*, 643-686.

Macagno, F. & Bigi, S. (2018). Types of Dialogue and Pragmatic Ambiguity. En S. Oswald, T. Herman & J. Jacquin. (Eds.), *Argumentation and Language-Linguistic, Cognitive and Discursive Explorations* (pp. 191-218). Cham: Springer.

Macagno, F. & Capone, A. (2016). Interpretative Disputes, Explicatures, and Argumentative Reasoning. *Argumentation, 30*, 399-422.

Macagno, F. & Pinto, R. (2020). Reconstructing Multimodal Arguments in Advertisements: Combining Pragmatics and Argumentation Theory. *Argumentation*, s.p.

Macagno, F. & Walton, D. N. (2014). *Emotive Language in Argumentation*. Nueva York: Cambridge University Press.

Marraud, H. (2017). Argumentos e inferencias; teoría de la argumentación y psicología del razonamiento. *Cogency, 7*(1), 47-68.

Marraud, H. (2018). Usos asertivos, directivos y expresivos de argumentación. En C. Saborido, S. Oms, & J de P. González. (Eds.), *Actas del IX Congreso de la Sociedad*

de Lógica, Metodología y Filosofía de la Ciencia en España (pp. 528-534). Madrid: SLMFCE.

Micheli, R. (2012). Arguing without trying to persuade? Elements for a non-persuasive definition of argumentation. *Argumentation, 26*, 115-126.

Oswald, S. (2016). Commitment attribution and the reconstruction of arguments. En F. Paglieri, L. Bonelli & S. Felletti. (Eds.). *The psychology of argument: Cognitive approaches to argumentation and persuasion* (pp. 17-32). Londres: College Publications.

Rocci, A. (2017). *Modality in Argumentation: A Semantic Investigation of the Role of Modalities in the Structure of Arguments with an Application to Italian Modal Expressions*. Dordrecht: Springer.

Sandvik, M. (1997). Reconstructing Interactive Argumentative Discourse. *Argumentation 11*, 419-434.

Schellens, P. J. & Verhoeven, G. (1979). Naar een Procedure voor de Analyse en Evaluative van Betogende Teksten. *Tijdschrijt voor Taalbeheersing 1*(1), 1-24.

Searle, J. R. (1991a). Una taxonomía de los actos ilocucionarios. En L. Valdés Villanueva. (Comp., Tr.), *La búsqueda del significado: Lecturas de filosofía del lenguaje* (pp. 449-476). Madrid: Tecnos.

Searle, J. R. (1991b). ¿Qué es un acto de habla? En L. Valdés Villanueva. (Comp., Tr.), *La búsqueda del significado: Lecturas de filosofía del lenguaje* (pp. 431-448). Madrid: Tecnos.

Tindale, Ch. (2017). Narratives and the concept of argument. En P. Olmos. (Ed.), *Narration as Argument* (pp. 11-30). Cham: Springer.

Toulmin, S., Rieke, R., & Janik, A. (2018). *Una introducción al razonamiento*. Lima: Palestra.

Van den Hoven, P. & Yang, Y. (2013). The Argumentative Reconstruction of Multimodal Discourse, Taking the ABC Coverage of President Hu Jintao's Visit to the USA as an Example. *Argumentation 27*, 403-424.

Van Eemeren, F. H. & Grootendorst, R. (2011). *Una Teoría Sistemática de la Argumentación: La perspectiva pragma-dialéctica.* (C. López & A. Vicuña, Tr.). Buenos Aires: Biblos.

Van Eemeren, F. H. & Grootendorst, R. (2013). *Los actos de habla en las discusiones argumentativas*. (M. Molina, C. Santibáñez, & C. Fuentes, Tr.). Santiago de Chile: Ediciones Universidad Diego Portales.

Van Eemeren, F. H. & Houtlosser, P. (2007). Maniobrando estratégicamente: Manteniendo un delicado balance. (C. Santibáñez, Tr.). En C. Santibáñez & B. Riffo. (Eds.), *Estudios en argumentación y retórica: Teorías contemporáneas y aplicaciones* (pp. 83-121). Concepción: Editorial Universidad de Concepción.

Van Eemeren, F. H. (2019). *Teoría de la argumentación: una perspectiva pragmadialéctica.* (K. Wolf & C. Santibáñez, Tr.). Lima: Plaestra.

Van Eemeren, F. H., Grootendorst, R., Jackson, S. & Jacobs, S. (1993). *Reconstructing Argumentative Discourse.* Tuscaloosa/Londres: The University of Alabama Press.

Walton, D. N. (1990). What is reasoning? What is an argument? *The Journal of Philosophy, 87*(8), 399-419.

Walton, D. N., Reed, Ch. & Macagno, F. (2008). *Argumentation Schemes.* Cambridge: Cambridge University Press.

Willem, J. (2012). Regress Argument Reconstruction. *Argumentation, 26*, 489–503.

Cogency, Journal of Reasoning and Argumentation
Vol. 12, No. 2, Summer 2021

THEORY OF REASONING BY GOALS

*

Nicola D'Alfonso
Independent Scholar, Italy
nicola.dalfonso@hotmail.com

The purpose of this paper is to explore the possibility of introducing a new theoretical model of deductive reasoning into the psychology of reasoning. This new theoretical model, which we will call here the theory of reasoning by goals, has as its main property to make every characteristic of deductive reasoning depend on the goal employed by an agent to be able to reason. The theoretical context within which this goal must be framed is therefore that of the agency, here understood in a generic way as the ability that each individual has, in his or her role as agent, to pursue his or her own ends through the achievement of specific goals.

Keywords: deductive reasoning; agency; goals; reasoning by goals.

1. Introduction

In the first part of this paper the theory of reasoning by goals will be presented. The initial paragraph of this first part will be dedicated to explaining how the goals of the agency should be understood, making it clear why the theory of reasoning by goals can be a theory of reasoning without having to be an agency theory. The next paragraph will be dedicated to show how the line of thought that led to the development of the theory of reasoning by goals is that according to which theoretical reasoning and practical reasoning are similar modes of reasoning. It being understood that in this field the role of practical reasoning will be limited to what has just been said, that is to say, to being that something whose characteristics have inspired the development of the theory of reasoning by goals. The aim of this paper is in fact to explore the possibility of introducing a new theory in the field of deductive reasoning and not to deal with practical reasoning. The remaining paragraphs will instead be dedicated to describing the main characteristics of the theory of reasoning by goals.

In the second part of this paper the theory of reasoning by goals is compared with the main theories of deductive reasoning within the psychology of reasoning. The initial paragraph of this second part will be dedicated to a brief presentation of these theories, indicating the limits that prevent each of them from being a unitary explanation of all the characteristics of deductive reasoning. The next paragraph will be dedicated to explaining the difference between these theories and the theory of reasoning by goals, indicating what allows the latter to be a unitary explanation of all the characteristics of deductive reasoning. The remaining paragraphs will instead be dedicated to show how the characteristics of deductive reasoning emerged from the main experiments in the literature are in line with the explanations that the theory of reasoning by goals can provide them.

2. Goals of the agency

In this paper, the goals of the agency are defined as those mental tools that allow a human agent to identify the way in which he or she can pursue his or her ends. What is important to underline about the notion of goals of the agency just presented is its ability to apply to the main types of agencies that we can find in the literature. Let us see a short list of them here.

There is the agency that is based on the notion of intention. According to that agency, every agent has a proactive attitude, called intention, which enables him to perform actions, called intentional actions.

The intention can be understood (Dretske, 1988) as the combination of an agent's desire and the belief through which that agent establishes how to pursue that desire. An example is as follows:

(Desire) I want to avoid getting wet.
(Belief) I will avoid getting wet by taking an umbrella.
(Action) I take the umbrella.

In this theoretical context, the goals of the agency will be constituted by these beliefs since the role they play is precisely to indicate to the agent how to pursue his desire. With reference to the example just shown, the goal of the agency will be constituted by the belief that taking the umbrella is a way for the agent to avoid getting wet.

The intention can also be understood (Enç 2003) as an autonomous state of mind that cannot be traced back to desires and beliefs, whose role is to causally produce the actions that a given agent uses to pursue his or her own end. In this theoretical context the goals of the agency will have to be identified within the mental representations of the mental state implementing the agent's intention. And specifically in that part of mental representations that indicate to the agent how he can pursue his end.

There is the agency that is based on volition. According to this agency, an agent's ability to perform actions derives directly and irreducibly from his volition.

The volition can be understood (Nathan, 1992) as the practical decision of an agent who is responsible for determining what to do. This notion of volition intends to fill the typical gap of the decision-making process, explaining why the decision does not seem to be an result automatically achieved by an agent starting from reasons that may be conflicting with each other, but rather it is an act that requires the agent's introspective participation in identifying the reasons that must prevail.

The volition can also be understood (Searle, 2001) as the ability to move from decision to action. This notion of volition intends to fill the typical gap of action initiation, explaining why the action does not seem to be a result automatically achieved by an agent starting from the decision to do something, but rather it is an act that requires the agent's introspective participation in identifying when it is time to act.

The volition can also be understood (McCann, 1998, p.140) as the ability to bring an action to completion. This notion of volition intends to fill the typical gap in the implementation of the action, explaining why the action does not seem to be a process that an agent performs automatically, but rather is a fluid and continuous activity that requires the agent's introspective participation in keeping the execution aligned with the intention.

Finally, the volition can be understood (Zhu, 2004) as a unitary phenomenon that has as different moments the three notions of volition seen previously. What makes these three notions of volition a unitary phenomenon is the fact that they are made up of mental actions able to satisfy our intuitive idea of acts of will.

In all these cases we can attribute to volition the intrinsic ability to bring an agent to the realization of its actions, regardless of whether these actions are the consequence of the causal history of that agent (Lowe 2008). In this theoretical context the goals of the agency will be identified as part of the content of the volition. And specifically as that part of the content that indicates to the agent how he or she can pursue his or her end, be it the need to make a decision, to start an action or to bring an action to completion.

There is the agency that is based on the causal action of the agent. According to this agency (Clarke, 2003), an agent's ability to perform actions derives directly and irreducibly from the agent himself. In other words, the agent is recognised as having the intrinsic capacity to perform those actions which are the direct consequence of his causal history. In this theoretical context the goals of the agency will be constituted by the intrinsic ability of the agent to identify how it can pursue its own end.

We can therefore conclude that within the theory of reasoning by goals it is possible to refer to the goals of the agency in a completely generic way without having to engage in one particular notion of agency rather than another.

3. Development of the theory of reasoning by goals

In order to understand the line of thought that has guided the development of the theory of reasoning by goals, it is necessary to give a brief definition of what practical reasoning and theoretical reasoning are.

Practical reasoning can be considered a reflection on actions that have not yet happened, which is done in order to decide which actions would be the best ones to take or should be taken, and consequently it is a reflection on issues of value and what would be desirable. This reasoning is performed by taking a personal point of view and therefore requires agents to reason first-hand about the practical situation in which they find themselves.

Theoretical reasoning can instead be considered a reflection on events that concern the world, which is done in order to explain the events that have already occurred and to predict the events that may happen, and consequently it is a reflection on matters of fact and their explanation. This reasoning is performed by taking an impersonal point of view, and therefore in principle can be performed by any human agent.

Deductive reasoning is part of theoretical reasoning. Specifically it can be considered that particular theoretical reasoning in which the agent is called to identify a proposition which is the correct conclusion that can be deduced from propositions describing possible states of the world.

Although theoretical and practical reasoning seem to be very different from each other, various proposals can be found in literature that highlight their great affinities. Let us see some of these contributions.

According to Moran (2001) theoretical reasoning can be considered a reflection on normative and not factual issues, which is performed in first person in order to establish what is best to believe about how the world is made. From this point of view theoretical reasoning and practical reasoning are equivalent and differ only because they deal with different norms: practical reasoning deals with norms relating to action, theoretical reasoning with norms relating to belief.

According to Bratman (1987) theoretical and practical reasoning do not differ in their consequences. It is not true that the former produces changes in one's mental states and the latter in one's body movements because, in reality, in both cases there is a change in attitudes. In the case of theoretical reasoning attitudes are related to beliefs, while in the case of practical reasoning attitudes are related to intentions..

According to Broome (2013) theoretical and practical reasoning can be understood as an inferential process that takes into input attitudes and produces in output the formation or modification of other attitudes. Also here in the case of theoretical reasoning attitudes are related to beliefs, while in the case of practical reasoning attitudes are related to intentions.

According to Korsgaard (1996) even practical reasoning like theoretical reasoning can fail. And if in the theoretical field failing means reaching incorrect conclusions from certain premises, in the practical field it means failing to perform the actions that have been recognized as the best (weakness of will).

This paper can be seen as a further contribution to support the affinities between practical and theoretical reasoning. In this case the affinity would be given by the fundamental role that can be attributed to the goals of the agency. The practical and theoretical reasoning would be in this perspective of the actions that agents perform through the identification of precise goals.

That this applies to practical reasoning is nothing new. It is what Walton, Reed and Macagno (2008), for example, argue in showing that goals are necessary to select the actions of practical reasoning. However, this paper goes one step further by showing how the role that goals play within practical reasoning is the same role that goals play within deductive reasoning.

However, since the aim of this paper is not to argue in favor of the affinities between theoretical and practical reasoning, such an affinity will not be argued here in an organic way but simply suggested. And to suggest it, it will be shown how all the characteristics of the theory of reasoning by goals can be directly taken

from those that can be found within a concrete case of practical reasoning, such as the one used by an agent when playing tennis.

4. Necessity of the goals

When we have to pursue an end such as playing tennis, that end answers the question: "What end are we pursuing?". Because the end we are pursuing concerns what we are doing but not how, it is not the kind of information we use to coordinate our movements. What coordinates our movements when we play tennis are the goals that answer the question: "How can we achieve our end in the particular situation we are in at the moment?"

This is because the basic movements at our disposal (this applies to us human agents but would also apply to non-human agents) are much more elementary than those required to achieve our ends. In other words, playing tennis is too general a concept to recall specific movements such as quickly stretching the left leg, rotating the ankle to give a certain direction to our left foot, widening the right arm, twisting the back to the right and so on. The specificity of these basic movements can be better connected to a type of information that concerns more closely the motor aspects of our body. And this type of information is precisely that which is provided by our goals, precisely because they are concerned with showing us how we can achieve our end. So, for example, when we see the ball arrive in our court, what allows us to select and coordinate our basic movements will not be the too general information constituted by the end of "playing tennis", but by the particular goal of "moving to get closer to the ball so that we can hit it with the racket".

Within the theory of reasoning by goals, taking inspiration from what we have just seen, it is considered the basic operations available to the mind to reason deductively too elementary to connect to what the agent is doing. Rather, it will be the way the agent will have chosen to do what he is doing that will allow him to select such mental operations, this being a type of information closer to the functionality of our mind. For this reason the theory of reasoning by goals gives the agent both a end that indicates the action to be pursued and an goal that indicates the way to perform it.

More specifically in the case of an agent who has to execute a task that requires him to reason deductively, his end will be given by that task. But "executing that task" will be too general information for him to use it to select and coordinate the basic operations available to his mind to reason deductively. He will therefore need to use a goal that tells him how such an end can be pursued.

5. Acquisition of the goals

When an agent finds himself hitting a tennis ball with his racket for the first time, only two things can happen. Either he believes that the task can be accomplished in any way that appears suitable for purpose, or he believes he must accomplish it in a way that meets additional requirements, perhaps those he can learn from a specific master.

In the first case, he will believe that the way to hit the ball will be given by that combination of movements that appeared to him suitable for the purpose, having allowed him to hit the tennis ball with the racket. And so he will ultimately take as his goal an improvised shot that involves a grip of the racket that is the one he will have used in that circumstance, and an impact between the ball and the strings of his racket that is the one he will have used in that circumstance.

In the second case he will believe that the way to hit the ball will be given by that combination of movements that not only allowed him to hit the tennis ball with the racket but was in accordance with the instructions given to him by his tennis master. And so he will ultimately take as his goal a well-proven shot that involves a very precise grip of the racquet, and a very precise impact between the ball and the strings of his racquet.

Within the theory of reasoning by goals, taking inspiration from what we have just seen, it is considered that only two things can happen when an agent finds himself for the first time using deductive reasoning to perform tasks. Either he believes that such a task can be accomplished by any conclusion suitable for the purpose and therefore able to be a possible solution of his reasoning, or he believes he must accomplish it through a conclusion that in addition to being a possible solution of his reasoning meets additional requirements, perhaps those that he can learn from a specific master.

Goals of the first type will be defined as naive goals, while goals of the second type will be defined as educated goals.

Having established this, it is clear that in a society such as ours, in which people learn to reason freely, that is, without learning any specific model of reasoning, we will have to expect that most of them will find themselves reasoning by resorting to naive goals, in other words, settling for the first conclusions will appear to them to be fit for purpose. And therefore conclusions with the sole characteristic of being possible solutions of their deductive reasoning, without having had to meet further requirements capable of ensuring their correctness.

6. Effectiveness of reasoning

Our ability to play tennis depends on how we have learned to coordinate and follow in sequence the various movements we use to hit the ball. And since it is the goal pursued by our agency that determines what movements we are making moment

by moment, we will have no difficulty in agreeing that our effectiveness in playing tennis will depend precisely on the goal we choose to use from time to time during the game. By making it clear that for each game situation there will always be a better goal than all the others, and precisely the one able to make us realize the most appropriate movements to face it. This can be said in another way. That is to say that if we take into consideration different tennis players, those who are better at it will be those who, all other things being equal, can count on better goals. And since it is more likely that a goal learned by a master is better than one learned by improvisation, it is reasonable to expect that among the best tennis players there will be more of those with educated goals than those with naive goals.

Within the theory of reasoning by goals, taking inspiration from what we have just seen, it is recognized to the goals the ability to determine the effectiveness of deductive reasoning. Making it clear that for every deductive reasoning there will always be a better goal than all the others, and precisely the one able to make us perform the most appropriate mental operations to deal with it. This can be said in another way. That is to say, if we take into consideration different agents engaged in deductive reasoning, those who are better at it will be those who, all other things being equal, can count on a better goal. And since it is more likely that a conclusion that satisfies further requirements is better than one that is merely a possible solution to the reasoning faced, it is reasonable to expect that among the agents who are best at reasoning there will be more agents with educated goals than those with naive goals.

7. Goals as end of action

When we set ourselves a goal to play tennis, such as, for example, " moving to get closer to the ball so that we can hit it with the racket", the movements it allows us to perform stop at the precise moment when we have satisfied it. In other words, the composite movement that allows us to get closer to the ball does not continue indefinitely, but stops as soon as we get as close to it as required by our goal. At that moment, our goal exhausts its function and then decays allowing us to move on to another goal that we will need to deal with the new game situation that has come to be created, such as "hitting the ball in a certain way with our racket".

Naturally, our action of playing tennis continues goal after goal until we reach a goal at which the game ends, as happens when the last point has been played. In such a case it will not only be the last goal that we will have achieved that will decay, but also our end, allowing us to move on to another end that will serve to satisfy the new need that we will see emerge at that time.

Within the theory of reasoning by goals, taking inspiration from what we have just seen, it is recognized to the goals the ability to decay automatically when they exhaust their function, that is, when the agent performs the mental operations necessary to satisfy them. This means that as soon as the agent identifies the conclusion of his deductive reasoning, his goal decays and with it also the end that that reasoning sought to pursue.

In order to understand the consequences of the characteristic just outlined, we must refer to the naive goal, and therefore to cases in which the agent is willing to recognize as a conclusion any possible solution to his reasoning. This is because such a conclusion, not being able to count on additional requirements that can ensure its correctness, will always have the possibility of proving wrong. It follows that when an agent faces deductive reasoning with the naive goal he would do better to verify that the conclusion reached is actually correct. The problem is that as soon as the agent identifies a conclusion that he considers a possible solution to his reasoning, the reasoning in question comes to a halt, and the agent, thinking he has found the very solution he was looking for, will no longer have any incentive to verify its correctness.

8. A posteriori identification of the goals

The first times we find ourselves playing tennis, the analysis of how we can pursue this end and therefore ultimately the identification of which goals to adopt is an integral part of our reflection, and as a result it is something we are still aware of. This occurs both when we try to learn how to play tennis by improvising and when it is a master to show us which movements to make.

Later on, when we become familiar with the goals to be adopted in various game situations, we no longer need to actively reflect on them. What happens at that moment is that we lose awareness of those goals because once they come to connect to specific game situations, they acquire the ability to automatically activate themselves in correspondence of such situations. So when we see the ball coming into our court at a certain distance from us, we no longer need to ask ourselves what goal to adopt because it manifests itself automatically and we simply follow it.

Although the goals are not part of our thinking when we have been playing tennis for a long time, except in cases where we face new game situations, we are still able to trace them, at least in the immediacy of the movements we made, when our short-term memory still allows us to reconstruct the game situation in which we found ourselves and the movements we made.

The fact is that when our movements satisfy the goal by which they are guided, we feel that the situation we find ourselves in is exactly the one we wanted to be in, and

where we feel ready to deal with our next goal. And it is thanks to this awareness that in mentally reconstructing our action we are able to identify the moment in which our movements have stopped being what we were doing and have instead become what we were pushed towards, indicating what our goal was.

For example, all we have to do to recognise our goal of getting closer to the ball when we play tennis is to reconstruct our movements in search of that precise moment when we reached the very situation we wanted to be in before moving on to the next goal. And consequently identifying that there was a moment when we moved closer to the ball as we wanted to and it needed to be, in order to be able to deal with the next goal of hitting it.

Within the theory of reasoning by goals, taking inspiration from what we have just seen, it is recognized to the goal the ability to activate itself automatically, thus coming out from the reflection of the agent engaged in reasoning. In other words, it is argued that once an agent has become familiar with deductive reasoning in general or with a certain type of deductive reasoning, he will be able to achieve it without having to ask himself how. This goal will in fact succeed in activating itself automatically, determining the characteristics that a solution must have in order for the agent to consider it as the conclusion of his reasoning. If it is the naive goal to activate itself, the agent will be pushed towards a conclusion that will have the sole characteristic of being a possible solution to his reasoning. If, on the other hand, it is a specific educated goal to activate itself, the agent will be pushed towards a conclusion which, in addition to being a possible solution to his reasoning, will also prove to be able to satisfy further requirements.

Always taking inspiration from what we have seen as valid for the game of tennis, within the theory of reasoning by goals is recognized to the agent the ability to trace back to the goal he has set himself reasoning, at least in the immediacy of reasoning. It is a question of attributing to the agent the ability to reconstruct the mental operations he himself performed in the short term, so as to identify the moment in which an information has ceased to be only an information, but has turned into the conclusion of his reasoning. Establishing in relation to which operation this step has occurred is in fact all that is needed for the agent to determine whether at its conclusion it was required to be only a possible solution to his reasoning (naive goal), or whether it was required to satisfy any further requirements (educated goal).

9. New theoretical and experimental perspectives

The theory of reasoning by goals provides an interpretation of deductive reasoning that makes it particularly suitable for experimental analysis. For the simple reason that such an interpretation not only recognizes to the experimenters multiple possibilities of intervention on the subjects of the experiments, but it also clarifies which are the most neuralgic aspects of deductive reasoning to be checked. In order to better illustrate what these possibilities and aspects are, it has been decided to present below some possible types of experiments, which, however, are to be understood as generic and principled indications, rather than as actual ready-to-use experiments.

A first type of experiment may be aimed at identifying the goals that agents employ in performing their reasoning. It is a question of finding out who among them adopts the naive goal, and who on the other hand an educated goal that will have to be identified. In order to achieve this, it is not enough to assign the various agents a task that requires them to reason deductively, but a questionnaire must also be drawn up. In this questionnaire, agents may be asked to indicate whether they recognised as such the conclusion they reached when they realised that it was a possible solution to their reasoning (naive goal) or when it proved capable of satisfying particular requirements (educated goal), specifying in that case which requirements were involved. Or, more prudently, if we want to avoid that the subjective interpretation by the agent of what is a "particular requirement" could lead him to answer in an inaccurate way, we could ask him to simply indicate from what he understood that the conclusion he reached could be the right solution, and if he relied on some particular criteria to arrive at that conviction.

A second type of experiment may be aimed at finding out if it is possible to induce the agents to reason by adopting a precise educated goal decided by the experimenters. It is a question of whether and how the goal that one agent has acquired through the practice can be temporarily set aside in favour of another. In order to achieve this, we will have to limit ourselves to those agents for whom we have verified the use of the naive goal, and assign them a task that requires them to reason deductively. These agents will then have to be divided into two groups, so that each group can be given different indications about the task to be performed, which in its basic form will remain the same for both of them.

The first group of agents will have to be told that the task assigned to them is such that its solution must necessarily satisfy very specific requirements, which will be outlined to them. It is tested here if an agent who finds a possible solution to his reasoning will stop to reason as his naive goal requires, or instead he will be pushed to verify that the solution identified by him satisfies the additional requirements that have been outlined to him, making them act in accordance with the educated goal wanted by the experimenters.

The second group of agents will be asked to answer additional questions in writing. These questions will serve to oblige these agents to make those checks on their

conclusion that only the correct conclusions would be able to satisfy. It is tested here whether, by including as part of the task assigned to the agents the verification that their conclusion satisfies specific requirements, it is possible to oblige them to reach the correct conclusion, making them act in accordance with the educated goal wanted by the experimenters.

A third type of experiment may be aimed at finding out if it is possible to make the agents acquire the ability to reason by adopting an educated goal decided by the experimenters. It is a question of whether and how the goal that one agent has acquired through practice can be replaced by another. In order to achieve this, we will have to limit ourselves to those agents for whom we have verified the use of the naive goal, and assign them a task that requires them to reason deductively. These agents will then have to be divided into various groups, so that before performing this task each group can be subjected to a different teaching method through which to try to learn a given model of reasoning. It is thus tested whether, by training agents to consider as conclusions of deductive reasoning the only conclusions that satisfy the requirements decided by the experimenters, it is possible to make them acquire the corresponding educated goal, so that they can use it spontaneously when they will be called to perform the same task previously prepared for all. Naturally, this task will be followed by a questionnaire to enable the experimenters to determine which goal these agents have actually adopted.

The teaching methods assigned may differ from each other for various factors, such as the number of training sessions, the length of such sessions, and the type of training given. Different teaching methods may be assigned to groups composed of the same type of agents, but also identical teaching methods may be assigned to groups of agents that differ in the number of agents, age of agents, sex of agents, profession of agents. It is thus tested which factors influence the learning of precise teaching methods, as well as which teaching models are the best and which are the easiest to learn.

A fourth type of experiment may be aimed at discovering the universality and effectiveness of the educated goals. It is a question of identifying whether there are educated goals that can be applied to any kind of deductive reasoning, and whether there are some that can guarantee high performance. In order to achieve this, we will have to limit ourselves to those agents for whom we have verified the use of specific educated goals, and assign them a large number of tasks that require them to engage in various types of deductive reasoning. It is thus tested the universality and effectiveness of these educated goals.

Experimenters may also decide to verify the universality and effectiveness of educated goals prepared by them. In order to achieve this, they will have to limit

themselves to those agents for whom they have verified the use of the naive goal, and assign them a large number of tasks that force them to adopt these educated goals during their deductive reasoning.

10. Example of application

In order to better understand the theory of reasoning by goals outlined so far, it may be useful to apply it to a concrete example of reasoning.

Suppose an agent is asked to consider the following premise valid:

> *If it rains, I'll take an umbrella..*
> and to complete the following statement:
> *If it does not rain, then ...*

In a case like this the end of the agent will be to pursue the task assigned to him. But it will not be this end that will determine the characteristics of his reasoning but rather the goal he will use to reason.

If the agent in question has learned to reason through the naive goal, he will simply identify the first conclusion he considers to be a possible solution to his reasoning. As he has no other indication on how to proceed, he will not make his conclusion dependent on the satisfaction of any other particular requirement.

In such a situation, our agent may consider as a possible solution that in the absence of rain it is not necessary to take an umbrella. Simply because it has always been his desire to shelter from the rain that made him take the umbrella. In other words, if there is no rain, he will also lack a valid reason to take the umbrella, and consequently he will choose to complete the previous statement in the following way:

> *If it doesn't rain, then I won't take an umbrella*

The fact that in this particular example the naive goal led our agent to find a wrong solution does not mean that this should always happen. In other words, there is nothing to prevent the naive goal from leading the agent to a conclusion that, in addition to being a possible solution to his reasoning, it is also a correct solution. It may happen, for example, that an agent immediately realizes that there may be reasons to take the umbrella even in the absence of rain, perhaps just out of caution because of the cloudy sky. And so he comes to consider as a possible solution that in the absence of rain there may be both reasons to take and reasons not to take the umbrella. Consequently he will choose to complete the previous statement in the following way:

If it doesn't rain, then nothing can be said about the umbrella.

What must be understood in the case of a naive goal is that whatever conclusion an agent finds himself considering as a possible solution to his reasoning, it will be in his correspondence that he will stop reasoning, considering his end as pursued. And this means that he will not be pushed to perform any further verification, thereby incurring the possibility of error.

In the case where the task in question is proposed to an agent who has learnt to reason through a specific educated goal, he will not merely identify the first conclusion that he will consider to be a possible solution to his reasoning. But he will take as his conclusion only that conclusion which satisfies very specific requirements. Let us suppose that these very precise requirements are constituted by the decision of the agent to consider valid only what is within his imagination of the premises.

Since imagining the initial premise means imagining taking the umbrella while it is raining, there will be no part of that imagination to represent the absence of rain. Therefore, the only conclusion that such an agent will have at his disposal will be to complete the assigned statement in the following way:

If it doesn't rain, then nothing can be said about the umbrella.

The fact that in this specific example an educated goal has led our agent to find the correct solution does not mean that this should always happen. In other words, there is nothing to prevent an educated goal from leading the agent to the wrong solution. It may happen, for example, that an agent has an educated goal that limits his conclusions to only those that can be reflected in his life experience. And so if he has used the umbrella always and only in the presence of rain, he will find himself completing the previous statement in the following way:

If it doesn't rain, then I won't take an umbrella

making a mistake.

What we must understand in the case of an educated goal is that whatever conclusion an agent finds himself considering as a solution to his reasoning, it will be a solution capable of satisfying very precise requirements. These will be the only guarantee of its correctness, since even in this case, once identified a conclusion, our agent will stop reasoning, considering his end as pursued. This means that he will not be pushed to perform any further verification.

In essence, the only way to be sure that an agent reaches the right conclusion of a deductive reasoning is for that agent to be guided by the correct educated goal.

In the absence of such a guarantee, whether or not an agent will come to the right conclusion will depend on many factors, such as the objective difficulty of finding the correct solution, the presence of additional beliefs or information that can make one solution more credible than another, and so on.

If we want to use this task to identify the goals that the various agents in a given group use to reason, we should prepare a simple questionnaire to be submitted to them after completing the usual statement. Within this questionnaire, agents may be asked to indicate from what they have understood that the answer they have given might be the right solution, and whether they have relied on any particular criteria to arrive at that belief.

The agent who completed the statement as follows:

If it doesn't rain, then I won't take the umbrella

simply because he only ever took the umbrella to get out of the house in the rain, he would presumably find himself giving an answer like this:

I came to that conclusion from the fact that the umbrella is always taken in order to shelter from the rain, and I came to think this without having followed any particular criteria

which highlights a naive goal because it appeals to nothing more than what is needed to find a possible solution to the reasoning, just as pointed out by the agent himself.

If the agent had completed the statement in the following way:

If it doesn't rain, then nothing can be said about the umbrella

because used to drawing his own conclusions by limiting himself to consider valid only what is within his imagination of the premises, he will presumably find himself giving an answer of the type:

I came to that conclusion from the fact that nothing in the premise binds to any use of the umbrella when it is not raining, and I came to think this because I consider valid only what the premises allow me to imagine

which highlights an educated goal because by invoking constraints it appeals to something more than what is needed to find a possible solution to the reasoning. The conclusion chosen therefore satisfies further requirements, just as pointed out by the agent himself.

If we want to use this task to find out whether it is possible to induce agents to reason by employing an educated goal decided by us, we must first select those

agents for whom we have verified the use of the naive goal, and then divide them into two groups.

In the first of these two groups we will give an indication that the correct ways to complete the following statement:

If it doesn't rain, then...

are those that describe something that can be found within the imagination of the following initial premise:

If it rains, I'll get the umbrella.

At the second of these groups we will first ask to make a drawing that represents the above-mentioned initial premise, and only then will they be allowed to complete the usual statement, and only with the description of something that can be found inside that drawing.

In this way we will be able to verify whether, in order to bring the agents to adopt the educated goal decided by us, it is sufficient to give them a verbal indication (first group) or whether the verifications that it involves should be made part of the task to be performed (second group).

Naturally, the educated goal in question, which is to limit the conclusions of the agents to what they are able to imagine of the initial premise, can be taught to the agents even before they face the task we are examining here. In this way we will be able to establish whether and what teaching has been effective, and what kind of teaching can be considered the best.

Or we can complement the task we are examining here with many other tasks that require the agents to reason deductively, and use them to verify the universality and effectiveness of various alternative educated goals. Not only the educated goal that we have just seen, but also that of limiting the conclusions of the agents to what they are able to find in their experiences, or to many other possible goals. The important thing is to be able to design these tasks in such a way that they will induce agents to use precisely the educated goals that we have chosen to test.

11. Analysis of the different theories of deductive reasoning

Various theories have been proposed in the literature in order to be able to explain the deductive reasoning, or at least some particular aspect of it. However, none of these theories, as we will see shortly, has been able to provide a unitary explanation of all the characteristics of this type of reasoning.

Before proceeding with a concise review of these theories, one more aspect should be clarified. Since the theory of reasoning by goals is proposed within the psychology of reasoning, the theories presented here will be limited to this precise field. In other words, we have chosen not to make an overview of how deductive processes have been explained within the various disciplines that have dealt with human reasoning also to avoid an unnecessary dispersion with respect to the aims of this paper.

In the context of the theory of formal rules (Rips, 1983) it is believed that the human mind has its own rules of inference that follow those of formal logic. In other words, it is believed that the human mind possesses a so-called "natural logic" that each individual unconsciously applies during deductive reasoning to succeed in reaching the correct conclusion. Clearly, such a theory is not able to explain why there are logical rules that people have more difficulty in applying correctly than others, nor is it able to explain why the same logical rule can be applied with different degrees of effectiveness depending on the type of content involved. In the same way, such a theory cannot explain why the effectiveness in applying the logical rules correctly can change in the presence of premises not necessary for finding the correct conclusion.

In the context of the theory of mental logic (Braine & O'Brien, 1998) it is believed that the human mind has its own schemes of inference that have developed with evolution. In other words, it is believed that the human mind is in possession of its own "mental logic" which, having developed for evolutionary purposes, has ended up rewarding short, direct and immediate schemes of inferences that are somewhat distinct from those typical of formal logic. In a subsequent phase due to the mass diffusion of intellectual work, alongside these main inference schemes, support schemes of a more complex nature have developed.

Clearly, such a theory can be considered a more advanced version of the theory of formal rules, also because by attributing to people a natural logic different from the formal one it is certainly able to better explain their logical errors. However, just like the theory of formal rules, the theory of mental logic is not suitable to explain the influence of content type on people's ability to apply the same logical rules correctly.

In the context of the theory of mental models (Johnson-Laird & Byrne, 2002) it is believed that the human mind is not able to recognize in a natural way the syntactic structure at the basis of logical rules. In other words, it is believed that in order to arrive at the correct solution of a deductive reasoning, the human mind is forced to represent the meanings involved and to manage them through a precise descriptive analysis. Using this theory it becomes possible to explain why some logical rules are easier to apply correctly than others. Typically, the logical rules that will be easier to apply correctly will be those that require fewer representations and are easier to han-

dle at the descriptive level. Moreover, this theory also explains why the effectiveness in applying the same logical rule correctly can depend on the content dealt with. Typically, the easier it will be to represent and mentally describe the content of a given logical rule, the more effective it will be for people to apply it correctly. Where, on the other hand, such a theory is not useful is in explaining why the effectiveness of people in applying the logical rules correctly changes in the presence of premises that are not necessary for finding the correct solution.

In the context of the theory of pragmatic schemes (Cheng & Holyoak, 1985) it is believed that people, being in contact with certain contexts, end up developing reasoning schemes in the form of obligations and permissions. In other words, it is believed that in such contexts they learn what can and cannot be done. This theory can be used to explain why people can apply logical rules correctly when concrete and family contexts are involved. While it is not able to provide any explanation of people's ability to apply the logical rules correctly when abstract contexts are involved, with respect to which they have not been able to develop any previous reasoning scheme.

In the context of evolutionary theory (Cosmides, 1989) it is believed that the mind, and consequently also reasoning, are the product of natural selection and adaptation to the environment. In other words, it is believed that reasoning has no logical nature but has evolved through those strategies that have allowed people to solve the problems posed to them by the natural and social environment. This theory can be used to explain why people can apply logical rules correctly when contexts related to their social and natural environment are involved. While it is not able to provide any explanation of the ability to correctly apply logical rules when contexts that have not been selected to resolve are involved.

In the context of the theory of heuristics and bias (Pollard, 1982), it is believed that information that is particularly evident, significant and easy to obtain ends up taking on excessive importance compared to all the others, thus altering people's ability to apply the logical rules correctly. In other words, this theory explains the errors of reasoning when the conclusions reached by people are determined by information that they have easily obtained or to which they have recognized particular evidence or significance. While it does not provide any explanation for the errors of reasoning that have occurred in all other circumstances.

In the context of dualistic theory (Evans, 2003) it is believed that there are two systems that govern reasoning. The first system governs intuitive reasoning related to beliefs, and it comes into play when the answer people seek depends on something they have already learned and they can retrieve from memory. The second system governs abstract reasoning and hypothetical thinking, and it comes into play when

the answer people seek requires reflection and the construction of new models. Naturally these two systems can compete with each other and when this happens their conflict can result in the so-called bias of belief that occurs when some belief acquired in the past prevails over abstract reasoning. In other words, this theory explains the errors of reasoning when the conclusions reached by people are determined by beliefs that contrast with the logical nature of deductive reasoning. While it does not provide any explanation for the errors of reasoning that occur in all other circumstances.

In the context of the Bayesian paradigm (Oaksford & Chater, 2007) it is believed that reasoning has a probabilistic and not logical nature. In other words, it is believed that the conclusions reached by people through reasoning are those they consider most likely, regardless of their logical validity. This characteristic makes the Bayesian paradigm particularly suitable for explaining all those apparently absurd behaviours in which logic and probability conflict. As it happens, for example, when the conclusion reached by people in a given reasoning is modified by additional premises that are completely influential on the logical level, but that evidently contribute to make one solution appear more likely than the other. The fact that probabilistic considerations can be invoked in a very large number of contexts allows the Bayesian paradigm to explain the characteristics of deductive reasoning in a large number of different circumstances. That said, not even the Bayesian paradigm can be considered a unitary explanation of all deductive reasoning because, at least in principle, there can be reasonings for which no consideration of a probabilistic nature is admissible. Also because in the structure of deductive reasoning there is nothing that makes it necessary to use considerations of a probabilistic nature.

12. Peculiarities of the theory of reasoning by goals

Let us now try to analyse how the theory of reasoning by goals is situated with respect to the theories described above.

Since the theory of reasoning by goals makes the effectiveness of deductive reasoning depend on the goal the agent pursues by reasoning, it goes beyond the naive idea that the mind possesses its own formal logic as argued by the theory of formal rules, or its own mental logic as argued by the theory of mental logic. Instead, it argues, in line with the other theories seen here, that the information that an agent puts as a conclusion of his deductive reasoning are those having very precise characteristics, or to which it is possible to attribute very precise characteristics. But if for the other theories seen here such information is that which the agent is able to represent mentally, as argued by the theory of mental models, or that which he is able

to access more easily, as argued by the theory of heuristics and bias, or that which concerns obligations and permissions familiar to him, as argued by the theory of pragmatic schemes, or that which concerns the natural and social contexts in which human beings have evolved, as argued by the evolutionary theory, or that related to his beliefs and hypothetical thinking, as argued by the dualistic theory, or that whose correctness he considers more likely, as argued by the Bayesian paradigm theory, for the theory of reasoning by goals the information that an agent puts as conclusion of his deductive reasoning is the information that satisfies his goal. And therefore that information which appears to him to be capable of constituting a possible solution for his reasoning, and which possibly also meets additional requirements.

Another difference between the theory of reasoning by goals and other alternative theories is its ability to provide a unitary explanation for all deductive reasoning. For the simple reason that when an agent has to make deductive reasoning he never reaches an immediate and automatic conclusion, but needs to process the information in his possession, and to continue to do so until he finds a conclusion to which he recognizes everything he needs to be the solution he is looking for. This can be said in another way. That is to say that whatever reasoning an agent has to perform, it will always and in any case be subject to the explanation that gives of it the theory of reasoning by goals.

Once we have clarified how the theory of reasoning by goals sits in relation to the other theories seen here, there is a further question to be addressed. It is a question of seeing what explanation it is able to give for the fact that agents facing deductive reasoning find themselves, in most cases, to reach conclusions in line with the rules of logic and with what they consider most likely. The explanation for the theory of reasoning by goals in this regard is that if the conclusion of a deductive reasoning is determined by the fact that it is considered adequate for the purpose, it is inevitable that it has precisely the above characteristics. This is because the judgement that an agent develops on a given conclusion necessarily reflects his conception of the world, and since the conception of the world that we human beings have is a reasonable and rational conception, we will hardly be pushed to consider as a possible solution of a deductive reasoning a conclusion out of all logic and probability.

13. Dependence of reasoning on the type of task

One characteristic of the deductive reasoning that can be explained by the theory of reasoning by goals is its dependence on the type of task. Where dependence on the type of task here means that there are types of tasks that people can perform correctly more frequently than other types.

This characteristic of deductive reasoning has been proven by a great many experiments. In particular, we can mention those experiments that use conditional syllogisms to measure people's ability to recognize as correct the use of the logical rules of Modus Ponens and Modus Tollens and as incorrect the use of the logical rules of denying the antecedent and affirming the consequent.

To better understand this type of experiment we take the following premise:

If it rains, I'll take an umbrella..

Recognizing as correct the use of the rule of Modus Ponens means that given the following statement:

If it rains, then ...

people are able to complete it in the following way:

If it rains, then I'll take an umbrella.

Recognizing as correct the use of the rule of the Modus Tollens means that given the following statement:

If I don't take an umbrella, then...

people are able to complete it in the following way:

If I don't take an umbrella, then it won't rain

Recognising as incorrect the use of the rule of affirming the consequent means that given the following statement:

If I take an umbrella, then...

people are able to complete it in the following way:

If I take an umbrella, then nothing can be said about the rain

refraining from completing it in the following way:

If I take an umbrella, then it's raining.

Recognizing as incorrect the use of the rule of denying the antecedent means that given the following statement:

If it does not rain, then ...

people are able to complete it in the following way:

If it doesn't rain, then nothing can be said about the umbrella.

refraining from completing it in the following way:

If it doesn't rain, then I won't take an umbrella.

In these experiments (Evans, 1977) it was found that people are more likely to recognize as correct the rule of Modus Ponens than to recognize as correct the rule of Moden Tollens or as incorrect the rule of affirming the consequent and denying the antecedent. A situation of this kind is explained, for example, in the theory of mental models, arguing that the ability to recognize a logical rule as correct or incorrect must be based on mental representations. In particular, according to Johnson-Laird and Byrne (2002) when the mental representations of an individual allow him to draw a conclusion, he will draw that conclusion without going any further. For this reason it will be easier for him to recognize as correct the rule of the Modus Ponens rather than that of the Modus Tollens, requiring the rule of the Modus Tollens one more representation than the rule of the Modus Ponens. While it will be more difficult to recognize as incorrect the rule of affirming the consequent and denying the antecedent since in these two cases the representations to be used will be even more numerous.

Now that we have that established, let we see why the theory of reasoning by goals can explain without difficulty the dependence of reasoning on the type of task. What we need to do is to agree that if agents who perform deductive reasoning do not have an educated goal that makes their conclusion dependent on additional requirements that guarantee its correctness, they will be subject to errors. In general, in the absence of proper instruction on how to reason, we will have to expect that most agents will be in precisely that situation, and therefore, using the naive goal, they will be destined to be content with the first conclusion will appear to be a possible solution to their reasoning. In general, in the absence of adequate education on how to reason, we will have to expect most agents to be in the above situation. And therefore that, using the naive goal, they end up settling for the first conclusion that they will consider to be a possible solution to their reasoning. All this means not only that such agents will be subject to errors, but that these errors will occur more frequently as the complexity of the reasoning they are facing increases. The sense to give to this statement is that the more difficult the conclusion of a deductive reasoning is to obtain, the more difficult it will be for it to coincide with the first conclusion that agents will identify as a possible solution to their reasoning.

In this perspective the result of the experiments mentioned above would mean that recognizing as correct the rule of Modus Ponens is an easier task than the one

related to recognizing as correct the rule of Modus Tollens, and also the one related to recognize as incorrect the rule of affirming the consequent or the rule of denying the antecedent.

We can say in other words, referring to the conditional syllogisms mentioned above, that given the premise:

If it rains, I'll take an umbrella

the number of agents who recognize the following conclusion as correct:

*If it rains, then I'll take an umbrell*a

is greater than the number of agents who recognize the following as correct:

If I *don't take an umbrella, then it won't rai*n

or the number of agents who recognize the following as incorrect:

If I take an umbrella, then it's raining

or the number of agents who recognize the following as incorrect:

If it doesn't rain, then I won't take an umbrella

because in the absence of a model of reasoning that allows them to recognize as correct the rules of Modus Ponens and Modus Tollens and as incorrect the rules of affirming the consequent and denying the antecedent, the task easier to perform will be the first. And therefore it will be precisely this task that the greatest number of agents will be able to face even without an adequate goal to perform it properly.

14. Dependence of reasoning on the content of a task

One characteristic of the deductive reasoning that can be explained by the theory of reasoning by goals is its dependence on the content of a task. Where dependence on the content of a task here means that given the same type of task there are contents that allow a larger (or smaller) number of people to perform them correctly.

This characteristic of deductive reasoning has been proven by a great many experiments. In particular, we can mention those experiments that use classical syllogisms to measure people's ability to recognize them as correct in relation to the credibility of their respective conclusions.

To better understand this type of experiments we take the following syllogisms.

The first syllogism has a valid and credible conclusion, and therefore there is no conflict between logic and beliefs:

Premise 1: No human being is immortal.
Premise 2: Some living beings are immortal .
Conclusion: Some living beings are not human beings.

The second syllogism has an invalid and non-credible conclusion, and therefore there is no conflict between logic and beliefs:

Premise 1: No human being is immortal.
Premise 2: Some living beings are immortal.
Conclusion: Some human beings are not living beings.

The third syllogism has a valid but non-credible conclusion, and therefore there is a conflict between logic and beliefs:

Premise 1: No ugly woman is desired by men.
Premise 2: Some disfigured women are desired by men.
Conclusion: Some disfigured women are not ugly women.

The fourth syllogism has an invalid but credible conclusion, and therefore there is a conflict between logic and beliefs:

Premise 1: No ugly woman is desired by men.
Premise 2: Some disfigured women are desired by men.
Conclusion: Some ugly women are not disfigured women.

In these experiments (Evans, 1983) it was found that when the conclusions of syllogisms are credible most people recognize them as correct even if they are not really correct from the point of view of logical rules. While when the conclusions of the syllogisms are non-credible most people recognize as correct or incorrect the syllogisms that are really such by virtue of the logical rules involved.

A situation of this kind is explained, for example, in the dualistic theory, arguing that although people try to reason logically, thus employing the system of abstract reasoning, they are influenced by their beliefs because the system connected to such beliefs is able to conflict with the other and prevail. In particular, according to Evans (2002), the probability of resolving this conflict in favour of logic increase as people's cognitive abilities increase and decline as their age increases.

Now that we have that established, let we see why the theory of reasoning by goals can explain without difficulty the dependence of reasoning on the content of a task.. What we need to do is to agree, as we have done before, that in the absence of adequate education on how to reason, most agents end up settling for the first conclusion they will consider to be a possible solution to their reasoning. All this means not

only that such agents will be subject to errors, but that any belief that can make an incorrect solution a credible solution will actually lead them to make mistakes. This means that according to the theory of reasoning by goals, in correspondence with a reasoning whose content lends itself to misleading beliefs about what its solution may be, there will be an increase in the number of agents subject to errors, at least among those who do not have a correct model of reasoning.

In this perspective, the result of the experiments mentioned above would confirm that in the presence of misleading beliefs the possibility of reaching a wrong conclusion increases.

We can say in other words, referring to the syllogisms mentioned above, that if the following two statements:

some living beings are not human beings
some ugly women are not disfigured women

are considered by most agents as correct solutions of their respective syllogisms, regardless of whether they are really correct according to the logical rules involved, it is precisely because they are credible as solutions.

While if the following two statements:

some disfigured women are not ugly women
some human beings are not living beings

tend to be considered the first as a correct solution and the second as an incorrect solution, in line with the rules of logic, it is precisely because not being credible as solutions will force us to take into account other factors of judgment. Among the factors of judgement, logical correctness should also be included.

15. Dependence of reasoning on the number of premises

One characteristic of deductive reasoning that can be explained by the theory of reasoning by goals is its dependence on the number of premises. Where dependence on the number of premises here means that the presence of extra premises is able to change people's ability to recognize a given logical conclusion as correct. While this should not happen because logic is monotonic, in the sense that adding extra premises to a valid argument should never affect the argument's validity.

This characteristic of deductive reasoning has been proven by a great many experiments. In particular, we can mention those experiments that use classical syllogisms to measure people's ability to recognize them as correct in relation to the number of premises involved.

To better understand this type of experiments we take the following syllogisms.

The first syllogism has a valid conclusion that starts from a minimum, but sufficient number of premises:

Premise 1: If it rains, I'll take an umbrella.
Premise 2: It is raining.
Conclusion: I'll take an umbrella.

The second syllogism is the same as the previous one, with the addition of two extra premises:

Premise 1: If it rains, I'll take an umbrella.
Premise 2: It is raining.
Premise 3: The umbrella is broken
Premise 4: The rain is about to stop
Conclusion: I'll take an umbrella.

In these experiments (Byrne, 1989) it was found that the adding of extra premises to valid syllogisms was able to significantly reduce the number of people who recognized their conclusion as correct.

A situation of this kind is explained, for example, in the Bayesian paradigm (Oaksford & Chater 2009), arguing that in everyday reasoning, non-monotonicity is the norm. Almost any conclusion in other words can be overturned if additional information is acquired and if this additional information makes a different conclusion more likely.

Now that we have that established, let we see why the theory of reasoning by goals can explain without difficulty the dependence of reasoning on the number of premises. What we need to do is to agree with what we have already seen in the previous paragraph. Namely that in correspondence with a reasoning whose content lends itself to misleading beliefs about what its solution may be, will increase the number of agents subject to errors, at least among those who do not have a proper model of reasoning. In this perspective, the result of the above experiments would confirm that the extra premises are actually able to make any conclusion credible or not credible as solution.

We can say in other words that if the following extra premises of the second syllogism:

Premise 3: The umbrella is broken
Premise 4: The rain is about to stop

reduce the number of agents who come to the following conclusion:

Conclusion: I'll take an umbrella.

is precisely because they make it less credible as solution.

16. Conclusion

The possibility explored in this paper of using the theory of reasoning by goals to explain deductive reasoning can be considered promising. In favour of this theory there is both the fact that it provides predictions consistent with the main experiments performed in the psychology of reasoning, and that it can be considered a unitary explanation of all the characteristics of deductive reasoning.

Further investigation and development of this theory, especially from an experimental point of view, therefore seems desirable, if not necessary to expand research on deductive reasoning to important topics such as the identification of the best way to reason and the best way to teach reasoning.

References

Braine, M., O'Brien, D. P. (1998). *Mental logic*. Psychology Press.

Bratman, M., (1987), *Intention, Plans, and Practical Reason*, Cambridge, Mass.: Harvard University Press.

Broome, J., (2013), *Rationality through Reasoning*, Oxford: Wiley-Blackwell.

Byrne R. M. J. (1989), *Suppressing Valid Inferences with Conditionals*, in "Cognition", 31, pp. 61-83

Cheng P. W., Holyoak K. J. (1985), *Pragmatic Reasoning Schemas*, in "Cognitive Psychology", 17, pp. 391-416

Clarke, R., (2003), *Libertarian Accounts of Free Will*, Oxford: Oxford University Press.

Cosmides L. (1989), *The Logic of Social Exchange: Has Natural Selection Shaped how Humans Reason? Studies with the Wason Selection Task*, in "Cognition", 31, pp. 187-276

Dretske, F., (1988), *Explaining Behavior: Reasons in a World of Causes*, Cambridge, MA: MIT Press.

Enç, B., (2003), *How We Act: Causes, Reasons, and Intentions*, Oxford: Oxford University Press.

Evans J. ST. B. T. (1977), *Linguistic Factors in Reasoning*, in "Quarterly Journal of Experimental Psychology", 29, pp. 297-306

Evans J. ST. B. T. (1983), *On the Conflict between Logic and Belief in Syllogistic Reasoning*, in "Memory and Cognition", 11, pp. 295-306

Evans J. ST. B. T. (2002), *Logic and Human Reasoning: An Assessment of the Deduction Paradigm*, in "Psychological Bulletin", 128, pp.978-96

Evans J. ST. B. T. (2003), *In Two Minds: Dual-process Account of Reasoning*, in "Trends in Cognitive Science", 7(10), pp. 454-9

Johnson-Laird P. N., Byrne R.M. (2002), *Conditionals: A Theory of Meaning, Pragmatics, and Interference*, in "Psychological Review", 109, pp.646-78

Korsgaard, C., (1996), "Skepticism about Practical Reason", in her *Creating the Kingdom of Ends*, Cambridge: Cambridge University Press.

Lowe, E.J., (2008), *Personal Agency: The Metaphysics of Mind and Action*, Oxford: Oxford University Press.

McCann, H.J. (1998*). The works of agency*. Ithaca, NY: Cornell University Press.

Moran, R., (2001), *Authority and Estrangement*, Princeton: Princeton University Press.

Nathan, N.M.L. (1992). *Will and world: A study in metaphysics*. Oxford: Clarendon.

Oaksford, M., Chater, N. (2007) *Bayesian rationality: The probabilistic approach to human reasoning*. Oxford University Press.

Oaksford, M., N. Chater (2009). *Precis of Bayesian Rationality: The Probabilistic Approach to Human Reasoning*, in Behavioral and Brain Sciences 32: pp. 69–120.

Pollard P. (1982), *Human Reasoning: Some Possible Effects of Availability*, in "Cognition", 12, pp. 65-96.

Rips L.J. (1983) *Cognitive Process in Propositional Reasoning*, in "Psychological Review", 90, pp.38-71

Searle, J. (2001). *Rationality in action*. Cambridge, MA: MIT Press.

Walton, D., Reed, C., Macagno, F. (2008). *Argumentation Schemes*. New York: Cambridge University Press.

Zhu, J. (2004). *Understanding volition*. In "Philosophical Psychology",17(2), pp. 247-273.

Cogency, Journal of Reasoning and Argumentation
Vol. 12, No. 2, Summer 2021

DISEÑO DE UN PROGRAMA DE FORMACIÓN DOCENTE PARA EL DESARROLLO DE CONOCIMIENTO PEDAGÓGICO DE CONTENIDO DE LA ARGUMENTACIÓN

*

Gabriel Fortes Macêdo*
Facultad de Psicología, Universidad Alberto Hurtado, Chile. Almirante Barroso, 10, Santiago.
+56228897431.
gfortes@uahurtado.cl

Antonia Larrain
Facultad de Psicología, Universidad Alberto Hurtado, Chile. Almirante Barroso, 10, Santiago.
+56228897432.
alarrain@uahurtado.cl

Marisol Gómez
Facultad de Psicología, Universidad Alberto Hurtado, Chile. Almirante Barroso, 10, Santiago.
+56228897432.
marisolpgm1@gmail.com

La correspondencia de este artículo debe ser enviada a Gabriel Fortes Macêdo, Almirante Barroso, 10, Santiago. FONO: +56228897432. - gfortes@uahurtado.cl

Este estudio fue posible gracias al apoyo financiero del Fondo de Investigación Científico y Tecnológico (FONDECYT) de Chile de CONICYT, proyectos 3190488 y 1170431.

Durante las últimas décadas, la argumentación ha ganado importancia central como parte de los objetivos educativos del siglo XXI. Está ampliamente aceptado que la argumentación es una característica clave para el aprendizaje. Si bien se considera que los resultados de los estudiantes en el aprendizaje y el razonamiento se asocian positivamente con la argumentación, los contextos del aula aún reproducen las ideas tradicionales de enseñanza-aprendizaje, tal como la pedagogía centrada en adultos, orientada al individuo y basada en el contenido. Un actor clave para cambiar esto es el profesorado, sin embargo, se sabe menos sobre cómo desarrollar el conocimiento docente de la argumentación y cómo utilizarlo en el contexto del aula. En este estudio presentamos el primer ciclo de una de investigación design-based *dividido en cuatro fases: 1) explorar el problema; 2) diseñar una solución; 3) implementar la solución; y 4) evaluación y rediseño. En cada fase realizamos diferentes procedimientos para una elaborar propuesta de solución rigurosa: así, 1) presentamos una revisión bibliográfica no exhaustiva del desarrollo profesional docente en argumentación, 2) con ella construimos un programa de formación docente en argumentación; 3) implementamos este programa y participaron 21 docentes en servicio chilenos, y 4) evaluamos este programa a través de nuestra impresiones como docentes del curso, la percepción de los docentes y mediante una rúbrica construida para evaluar la capacidad de diseño de actividad argumentativa de los/as docentes. Nuestros resultados muestran que la literatura en experiencias formación argumentativas basadas en datos empíricos es escasa, pero nuestra experiencia con el programa nos permite observar logros importantes en los y las participantes en conocimiento de argumentación para la enseñanza. Discutimos que desarrollar conocimientos de contenido pedagógico argumentativo es difícil, sin embargo, posible y depende del esfuerzo colectivo de proponer y evaluar soluciones como los programas de desarrollo profesional.*

Palabras clave: Desarrollo Profesional Docente, Argumentación, Design-Based Research

For the past decades' argumentation has gained central importance as part of 21st-century educational goals. It is widely accepted that argumentation is a learning key feature. While students' outcomes in learning and reasoning are seen as positively associated with argumentation, classroom contexts still reproduce traditional teaching-learning ideas such as adult-centered pedagogy, individual-oriented and content-driven. One key factor to change the classroom is developing teacher's professional skills to foster argumentation. However, less is known about how to impact teacher's knowledge of argumentation and how to use it in classroom contexts. We propose a design-based research method divided into four phases: 1) explore the problem; 2) design a solution; 3) implement the solution; and 4) evaluate and redesign. To each phase we propose different methods for a rigorous solution proposal: 1) present a non-exhaustive literature review of teacher professional development in argumentation, 2) develop a teacher professional development on argumentation, 3) 21 Chilean in-service teachers participated in this program, and 4) we evaluate this course through expert discussion, teacher perception of the course and through a rubric evaluate teachers' ability to design argumentative activities. Our results show that the literature in argumentative experiences of formation based on empirical data is scarce, however, our course provides us key elements to understand teachers' gains in argumentative pedagogical knowledge. In our work we discuss, then, how developing argumentative pedagogical content knowledge is difficult, however, possible and depends on the collective effort of propose and evaluate solutions such as professional development programs.

Keywords: Teacher Professional Development, Argumentation, Design-Based Research

1. Introducción

Actualmente, se aprecia un esfuerzo internacional por mejorar la calidad de la experiencia educacional en sus diferentes niveles. En este contexto, la argumentación aparece como una práctica y competencia clave para el siglo XXI a fortalecer en la enseñanza (Driver, Newton y Osborne, 2000; Erduran y Jimenez-Aleixandre, 2008; Osborne, 2010). Por un lado, la argumentación se reconoce como una práctica pedagógica que promueve comprensión conceptual profunda y duradera (Larrain, Freire, Grau y López, 2019; Larrain, Singer, Strasser et al., 2020). Este enfoque se ha entendido como una aproximación de *argumentar para aprender.* Por otra, es una habilidad clave tanto del llamado pensamiento científico (Kind y Osborne, 2017; Lemke, 1990) como de la alfabetización científica (Kolstoe, 2000; Larrain, 2009). Por otro lado, la argumentación como habilidad es central para la participación en, y sostenibilidad de, democracias deliberativas (ver Andersson, 2015), especialmente relevante en países de Latinoamérica. Ahora bien, para promover el desarrollo de habilidades de argumentación se requiere invitar a estudiantes a tener la experiencia de argumentar para aprender, especialmente entre pares (Kuhn y Udell, 2003). Enfoque que se entiende como *aprender a argumentar.*

Sin embargo, aunque la argumentación ha sido considerada clave para las democracias actuales y para el aprendizaje de alto nivel, esta se da escasamente en el aula a nivel mundial (Watters & Diezmann, 2016) y específicamente en países como Chile (Cofré, Camacho, Galaz, Jiménez, Santibáñez y Vergara 2010; González-Weil, Cortéz, Bravo, Ibaceta, Cuevas, Quiñones, Maturana y Abarca, 2012; Larrain, Freire y Howe, 2014; Larrain et al., 2019), por diversas razones. Por una parte, el aula no cumple todas las condiciones para que emerja la argumentación en la medida que el poder se distribuye desigualmente entre docentes y estudiantes; los temas a enseñar típicamente están decididos de antemano, restando así posibilidad de ser polémicos; y hay pocas oportunidades para que estudiantes hablen entre sí; entre otras razones(Coirier, Andriessen y Chanquoy, 1999). Por otro lado, diseñar clases para promover argumentación es complejo, porque requiere transformar dichas características estructurales, por lo que incluso en el caso de docentes expertos es un desafío (Andriessen y Schwarz, 2009).

Promover la *argumentación para aprender* a través de *aprender a argumentar* requiere el desarrollo de conocimiento pedagógico de contenido de la argumentación (McNeill, González-Howard, Katsh-Singer y Loper, 2016a) por parte de los y las docentes. Esto es, desarrollar saber y experticia respecto a cómo y por qué promover argumentación en aula. Sin embargo, se encuentra el problema que los procesos de formación docente inicial y en ejercicio tanto en Chile (Cofré et al., 2010) como otras partes del mundo (Asterhan y Lefstein, 2020) se focalizan escasamente en fomentar el conocimiento pedagógico del contenido de la argumentación. Por último, los programas de formación docente centrados en desarrollo pedagógico de la argumentación han mostrado dificultad en lograr resultados en la práctica pedagógica (McNeill y Knight, 2013).

De esta manera, lograr un uso pedagógico de la argumentación en aula es un objetivo educacional difícil, que demanda entrenamiento específico para el cual los y las docentes no se sienten preparados (Sampson y Blanchard, 2012). Además, no es claro qué características de los programas de formación docente podrían resultar más efectivos en promover conocimiento pedagógico de contenido de la argumentación. Esto es relevante, toda vez que, como señalan Asterhan y Lefstein (2020), es importante tomar decisiones de diseño de programas de desarrollo profesional docente basados en la evidencia. No solo se requieren más estudios que evalúen el efecto diferencial de ciertas características de programas de formación en logros en el aula, sino también compartir y analizar críticamente, basado en evidencia, los fundamentos de los programas de desarrollo profesional en el área. Es decir, se requiere hacer de los programas de formación profesional para el conocimiento pedagógico de contenido de la argumentación, un objeto sistemático de reflexión.

En esta línea, el presente artículo reporta un estudio cuyo objetivo fue el diseño de un programa de desarrollo profesional para el desarrollo de conocimiento pedagógico de la argumentación, basado en evidencia. Para esto se usó una metodología *design-based*, es decir, en base a una revisión de la literatura se diseño, implementó, evaluó participativamente y se rediseñó, un programa de formación profesional para el desarrollo de conocimiento pedagógico de la argumentación. De este modo, este artículo pretende, por un lado, aportar al diseño riguroso de programas de formación para luego evaluar sus efectos en resultados en aula contribuyendo a la evidencia científica en el área; y por otro, contribuir a la reflexión de la formación profesional en conocimiento pedagógico en argumentación, objetivo educacional clave para el país.

Argumentación en la enseñanza

Es sabido que la noción de argumentación es polisémica y puede referir a varios significados (Andriessen, Baker & Suthers, 2003; Erduran y Jimenez-Aleixandre, 2008). De acuerdo a Leitão (2000) existen dos significados distintivos de argumento. Argumento puede ser visto como una pieza de discurso racional, es decir, un producto, en el que al menos un enunciado es ofrecido como justificación de otro. Esta noción de argumento apunta a su dimensión estructural. Pero a la vez, un argumento puede ser visto como una disputa entre personas, enfatizando el contexto interacti-

vo en el que el argumento emerge, apuntando a lo que se ha llamado su dimensión dialógica. Aunque para nosotros el carácter dialógico de la argumentación no se relaciona con su dimensión interactiva, sino por el involucramiento de diferentes perspectivas (alteridad), nos referiremos a esta dimensión como dialógica siguiendo la literatura educacional que así lo hace, de manera de simplificar la exposición. Las diferentes perspectivas teóricas en argumentación enfatizan diversos aspectos de este doble significado. Por ejemplo, Toulmin (1958) se centra en el proceso racional de la construcción de un argumento, asumiendo que una justificación convierte a una pieza de discurso en argumento. La perspectiva pragma-dialéctica, por su parte, desarrollada en sus inicios por van Eemeren y Grootendorst (2004), enfatiza los aspectos sociales y dialécticos de la argumentación, centrándose en las condiciones ideales para el razonamiento crítico.

Ahora bien, Andriessen et al. (2003) plantean que la argumentación involucra la producción y comparación de argumentos usando distintos tipos de razonamiento, siendo influenciada por el tema que se discute, el medio a través del cual se expresan los hablantes (escritura u oralidad), el contexto social (tipo de participantes) y el tipo de actividad en la que ocurre (qué se hace y qué se discute), y los objetivos específicos por los cuales se argumenta. Esto quiere decir no sólo que la argumentación se da de manera diferente según estas variables, sino que, además, argumentar no es un tipo de discurso que esté garantizado y se dé en cualquier caso.

Dada la sensibilidad de la argumentación a las claves contextuales, es importante notar que la argumentación en el aula es un tipo particular de actividad argumentativa. En específico, entenderemos la argumentación en el aula siguiendo la definición de Noroozi, Weinberger, Biemans, Mulder y Chizari (2012) como un medio para que los estudiantes enganchen en la exploración colectiva de un espacio dialógico, contribuyendo con razones y evidencia de diferentes puntos de vista para construir una concepción común del asunto, en lugar de simplemente convencer o cambiar un punto de vista. Es relevante notar que el aula no es un espacio diseñado para la aparición espontanea de argumentación, lo que se refleja en la poca frecuencia con que se da este tipo de discurso (comentada en la sección anterior). Por el contrario, para que ocurra la argumentación en el aula, y en particular en la enseñanza de ciencias, es necesario realizar un diseño cuidadoso (Andriessen & Schwarz, 2009) que considere: transformar el contenido curricular en debatible o polémico (Andriessen et al, 2003; Leitão, 2012); ofrecer oportunidades de resolución de problemas (Kuhn, 2018); que se articulen espacios de interacción entre pares con espacios de plenario (Larrain et al., 2019); diseñar actividades con objetivos deliberativos (Felton, García-Mila, Villarroel y Gilabert et al., 2015; Gilabert et al., 2013); organizar las actividades

de aula de manera que no sólo se pida argumentar, sino que las instrucciones y condiciones de trabajo fuercen a ello (Golder, Pouit, Andriessen y Coirer, 1999); entregar andamios para la producción de argumentos y contra-argumentos (Asterhan & Schwarz, 2007); entre otros.

Esto deja en evidencia lo desafiante que resulta el uso pedagógico de la argumentación, y explica, en parte, la poca frecuencia con que este se observa en aula (Larrain et al., 2018). Para transformar el aula en un espacio para argumentar, la formación docente es central.

La importancia del uso pedagógico de la argumentación

Siguiendo a autores como Billig (1996), Kuhn (2018) y Leitão (2000), concebimos la práctica de argumentación más allá que un proceso comunicativo, involucrando procesos de carácter intelectual y de construcción de conocimiento de naturaleza dialógica. Para Leitão (2000) la argumentación involucra y promueve procesos de construcción de conocimiento a través de sus mecanismos semióticos: argumento, contra-argumento y respuesta. El argumento, entendido como una conclusión o punto de vista junto con la presencia de apoyo o justificación, abre el discurso a la presencia de posiciones alternativas, aunque éstas no estén explícitamente formuladas. El contra-argumento, por su parte, representa una oposición explícita y fundamentada dirigida al argumento que promueve un giro atencional desde el objeto de discusión al fundamento de la propia postura, redirigiendo el pensamiento hacia sí mismo. Además, el contra-argumento, al ser la formulación de la alternativa opuesta, muestra claramente una dirección hacia la cual el pensamiento del hablante puede, eventualmente, cambiar. Por último, la respuesta se pronuncia sobre ambas posiciones, ya sea tomando partido por una, resolviendo, articulando, entre otros. Desde este punto de vista, y siguiendo a esta autora, entendemos la argumentación como un tipo de discurso con un potencial enorme de construcción de conocimiento en la medida que: 1) obliga al hablante a formular precisa y claramente sus ideas en base a evidencia; 2) entrega elementos discursivos que promueven la negociación de las ideas entre hablantes y la evaluación conjunta de éstas; y 3) promueve procesos meta-cognitivos de revisión y regulación de ideas.

En el contexto de lo que se ha llamado un enfoque de argumentar para aprender, encontramos dos énfasis diferentes encarnados en literaturas y líneas de investigación que han avanzado en paralelo: énfasis en la dimensión estructural versus énfasis en el proceso dialógico. En el primer caso, especialmente en los estudios de enseñanza de las ciencias, investigadores resaltan la importancia de aprender a construir argumentos articulando evidencia con conclusión a través de procesos de razona-

miento científico. El foco aquí es que estudiantes al aprender a construir argumentos científicos, deben basar sus conclusiones en evidencia de manera razonable. Un ejemplo de ello es el modelo de evaluación de la argumentación de estudiantes (TAP) de Erduran, Simon y Osborne (2004), en el que la idea es crear una herramienta de soporte para que los estudiantes produzcan y evalúen argumentos científicos según los criterios de Stephen Toulmin. Otro ejemplo, es el modelo usado por McNeill y Krajcik (2011) en el que se promueve la producción de argumentos en base a la articuación de conclusión, evidencia y razonamiento.

En el segundo caso, investigadores se focalizan en el proceso de interacción social en la argumentación, es decir, en el intercambio dialogal y dialógico de argumentos y contra-argumentos, y de su impacto en aprendizaje disciplinar, así como en el carácter dialógico del pensamiento y habilidades de argumentación. Ejemplos de esta línea son el trabajo de Asterhan y Schwarz (2016) en Europa, y Larrain y colegas en Latinoamérica (Larrain et al., 2019), que han evaluado el efecto de diferentes tipos de intercambio argumentativo entre pares en el aprendizaje disciplinar; el trabajo de Deana Kuhn y colegas respecto del proceso de argumentación entre pares y su efecto en habilidades de argumentación (Kuhn y Udell, 2003; Kuhn y Crowell, 2011); el trabajo de Felton y colegas respecto al carácter retórico de discusiones entre pares (Felton et al., 2015): o el trabajo de Selma Leitão (Leitão, 2012; Macedo y Ramirez, 2018) que se concentra en cambiar la forma de interacción entre los estudiantes para que tengan una experiencia de inmersión en argumentación entre pares mientras entrenan sus competencias argumentativas desarrollando un pensamiento reflexivo.

En su conjunto, estos estudios han acumulado un cuerpo sólido de evidencia que muestra los múltiples efectos del uso de la argumentación en aula. Entre ellos: promover el desarrollo conceptual del contenido curricular (Larrain et al, 2019; Larrain et al., 2020); desarrollar competencias comunicacionales de expresión y desafío de ideas (Baker, 2009); estimular prácticas de metacognición y pensamiento reflexivo (Kuhn y Udell, 2008); y presentar los estudiantes la dinámica compleja de la construcción del conocimiento en ciencias (Erduran y Jimenez-Aleixandre, 2008). Más aún, existe evidencia que muestra que los dos objetivos educacionales ligados a el uso pedagógico de la argumentación (aprender a argumentar y argumentar para aprender) pueden ser logrados al mismo tiempo en intervenciones educacionales únicas (Iordanou, Kuhn, Matos, Shi y Hemberg, 2019; Larrain et al., 2020).

Conocimiento pedagógico de contenido de la argumentación

A partir de los trabajos de Shulman (2019), se concibe el conocimiento desplegado en y a través de la práctica docente como involucrando de manera articulada tanto

aspectos pedagógicos como disciplinares. No se trataría de dos conocimientos diferentes, sino de un tipo de conocimiento complejo en que, para cada contenido a enseñar, se articulan diversos aspectos. Actualmente, de acuerdo a Vergara y Cofré (2014), existe un consenso de que lo que incluiría el llamado conocimiento pedagógico del contenido sería: conocimiento acerca del currículum, acerca del pensamiento de estudiantes, acerca de la evaluación, de prácticas pedagógicas y conocimiento disciplinar, entre otros. Estos conocimientos se pueden categorizar como conocimientos tanto declarativos como procedimentales. De esta manera, para un uso pedagógico de la argumentación, autores han planteado que se requiere conocimiento pedagógico de contenido de la argumentación (McNeill et al., 2016), en el que particularmente el conocimiento del pensamiento de estudiantes y de estrategias pedagógicas serían centrales. Mientras el primero incluye ser capaz de representarse los objetivos de aprendizaje para estudiantes, especialmente aquello que aparece desafiante, y ser capaz de evaluar el pensamiento y seguir las intervenciones de estudiantes en el aula, de manera de responder a sus necesidades, el segundo, implica entender qué estrategias usar, pero además cuando el uso de estas estrategias resulta más efectivo. Más aún, la función epistémica de la argumentación es otro aspecto que se ha identificado como relevante (Sengul, Enderle & Schwartz, 2020).

En particular, el conocimiento pedagógico de contenido de la argumentación (Knight y McNeill, 2011; McNeill et al, 2016a; McNeill et al, 2017) se trataría del conocimiento y creencias que los profesores tienen sobre el uso y la enseñanza de la argumentación en sus clases. De acuerdo a McNeill et al. (2016a) y Sengul et al. (2020) tanto el conocimiento de los aspectos dialógicos como estructurales de la argumentación serían centrales. Es decir, los y las docentes deberían desplegar conocimiento acerca del tipo de interacciones argumentativas más productivas para aprender a argumentar conjunto al aprendizaje disciplinar y cómo promover dichas interacciones, considerando la estructura de argumentos y los contra- argumentos de calidad. Por último, Knight-Bardsley y McNeill (2016) plantean que el conocimiento pedagógico de contenido de la argumentación incluiría la capacidad de diseño pedagógico, el cual trata sobre la manera en que docentes anticipan y diseñan sus clases para que sean argumentativas. Estas autoras plantean que hay dos perfiles en el profesorado: aquellos que piensan el diseño en términos de actividades (y cómo crearlas); y otros que piensan en nivel de la clase, es decir, piensan globalmente las condiciones de logro para clases argumentativas.

De esta manera, se trataría de un conocimiento tácito, difícil de evaluar y muy desafiante para docentes (Wang & Buck, 2016). De hecho, investigaciones previas han mostrado que: los/as profesores creen que la argumentación no es un objetivo

educacional para todos los estudiantes (Katsh-Singer, McNeill y Loper, 2016); que los/as profesores tienen dificultad en reconocer y evaluar situaciones dialógicas en clases e interacciones productivas (Alozie, Moje y Krajcik, 2010; McNeill y Knight, 2013); y que docentes no creen que los estudiantes aprenden a través de la argumentación (Sampson y Blanchard, 2012).

Más aún, se ha reportado bajo conocimiento de contenido de la argumentación en docentes de ciencias (Sadler, 2006; Wang & Buck, 2016). En general, estudios reportan que el nivel de calidad de los argumentos (producción y evaluación de argumentos) de docentes y estudiantes son bajos (Ayedeniz y Ozdilek, 2015); que son poco frecuentes los casos donde se usa argumentación en clase (Osborne, 2010); y que docentes no se sienten preparados para el uso de la argumentación en clases (Sampson y Blanchard, 2012). Más aún, se reporta que mucho de lo que docentes y estudiantes hacen en sus clases y entienden por argumentación, podría concebirse como pseudo-argumentación (McNeill et al, 2017). La pseudo-argumentación se define como la orientación a las características básicas y superficiales de la argumentación en aula, desatendiendo a su función epistémica y al proceso de construcción de conocimiento que se lleva a cabo a través de esta (McNeill et al, 2017; Sengul et al., 2020). Es decir, se trata de casos en que docentes siguen normas e instrucciones sin apropiarse de la argumentación como una herramienta que hace sentido al conocimiento pedagógico de docentes, ni hace sentido al aprendizaje de estudiantes.

Estos trabajos muestran la necesidad de moverse en dirección a profundizar el conocimiento pedagógico de contenido de la argumentación, como un paso fundamental para promover el uso pedagógico de la argumentación. Idealmente, es preferible que esta formación estuviese integrada a la formación inicial o continua de los profesores (Erduran y Jimenez-Aleixandre, 2008; McNeill et al, 2016b). En particular, Knight y McNeill (2011) y McNeill et al. (2016a) abogan por incluir en la formación docente elementos que permitan al profesor/a conceptualizar la relación entre prácticas argumentativas en aula y conocimiento. En particular, las autoras sostienen que para promover este tipo de conocimiento se debe apoyar a los/as docentes a ir más allá de la pseudo-argumentación (McNeill et al. 2017) facilitándoles herramientas para representar y evaluar la calidad de la argumentación de estudiantes tanto a nivel estructural como a nivel dialógico.

Se trata de un desafío importante para la formación docente, especialmente en países de Latinoamérica, donde la discusión del rol de la argumentación en la enseñanza es aún incipiente. Sin embargo, por un lado, se trata de un conocimiento escasamente abordado en oferta educativa actual de formación inicial (Cofré et al., 2010) y de docentes en ejercicio; y por otro, la formación docente

en conocmiento pedagógico del contenido de la argumentación se trata de un objetivo educacional difícil de lograr.

Para contribuir a dicho desafío, este artículo reporta un estudio cuyo objetivo fue diseñar un programa de formación de docentes en ejercicio sobre conocimiento pedagógico de contenido de argumentación, basándose en los consensos y evidencia científica disponible. Este estudio intenta contribuir como pieza de conocimiento científico no solo para la formación docente en el área, sino también para a la generación de conocimiento y reflexión de la comunidad de formadores de docentes.

2. Método

Se realizó un estudio basado en metodología *design-based* o investigación basada en diseño (Easterday, Lewis & Gerber, 2014; Juuti y Lavonen, 2006). Se trata de una metodología participativa donde se proponen ciclos de trabajo orientados a: (1) identificar y explorar los problemas; (2) diseñar soluciones; (3) implementar soluciones en el contexto; (4) evaluar y rediseñar la solución basandose en la experiencia pasada. Estos tipos de investigaciones proponen un ciclo retroalimentado de evaluación y rediseño orientados a la mejor solución de un problema (Alvarez, Alarcon & Nussbaum, 2011). A continuación, se describe el método seguido en cada una de estas fases.

Fase 1. Exploración del problema.

Entre los meses de mayo y julio del año 2019 se realizaron dos revisiones no exhaustivas de literatura utilizando la plataforma de biblioteca de la Universidad Alberto Hurtado que aporta resultados de las bases de datos más importantes en educación (SCOPUS, ERIC, SciMago, Scielo, entre otras menores).

La primera revisión se refiere al tema de los elementos efectivos en la formación docente en idioma inglés, español o portugués. Los términos de búsqueda fueron: "*teacher professional development AND in-service AND (meta-analysis OR systematic review) NOT students*". Se eligieron estos términos porque representan nuestra intención de encontrar información sistemática sobre las características necesarias a la formación docente efectiva y no, necesariamente, medidas de logros en los estudiantes. Así, fueron encontrados 149 artículos, de estos 22 estaban duplicados, 15 no eran revisiones, 55 reportaban revisiones no interesantes al objetivo de este trabajo (ej. formación de docentes universitarios, formación de estudiantes de pedagogía o formación profesional en otras áreas) y 28 reportan revisiones no sistemáticas (ej. conceptual, criticas o reflexiones teóricas). De los 29 restantes a partir de la lectura

del resumen se eligieron los trabajos (5) que son reportes o revisiones generales y no solamente de aspectos aislados de la formación (ej. exclusivamente evaluar el efecto del uso de videos o de portafolios). Así, fueron revisados enteramente cinco reportes o artículos de revisión general de las características efectivas para una formación docente.

La segunda revisión estuvo centrada en artículos que reportan resultados causales de experiencias de formación docente, o reportan experiencias de formación docente en argumentación con comparación entre grupos (estudios experimentales o casi experimentales). Los términos de búsqueda fueron en idioma inglés, español y portugués: "*teacher professional development AND argumentation AND experimental*". Fueron encontrados 10 trabajos (2 duplicados); 4 trataban de experiencias docentes en argumentación con estudiantes, 1 no trataba de argumentación y 3 se trataban estudios casi- experimentales de formación docente en argumentación. Después de la lectura de estos tres estudios se sumaron otro artículo que fue encontrado a búsqueda independiente (1). Este total (4) de artículos fue leído en su totalidad y categorizado.

Fase 2. Diseño de soluciones.

A partir de la revisión sistemática realizada, el primer autor levantó una propuesta de diseño de un programa de formación que siguió los criterios que surgieron en la revisión como claves para programas de formación docente efectivos. Se identificaron objetivos formativos y estos se organizaron en una secuencia didáctica. Luego, se diseñaron actividades pedagógicas e instruccionales para el cumplimiento de cada objetivo formativo. Esta primera propuesta fue revisada de forma iterativa por los tres autores de este artículo, de manera de asegurar el ajuste de la propuesta a los criterios levantados en la revisión de la literatura, y de hacerla pedagógicamente pertinente.

Fase 3. Implementación de soluciones.

El curso de formación se implementó en marzo del año 2020 como parte de la oferta de educación continua de una Universidad privada inclusiva de Santiago de Chile. Tuvo una duración de 32 horas presenciales, implementadas en cuatro semanas seguidas en sesiones de cuatro horas diarias, dos días a la semana (viernes y sábado). Dado el contexto de movilizaciones sociales y luego de condiciones sanitarias por pandemia COVID-19 que vivía Chile al momento de iniciar el curso, éste fue realizado en su totalidad por videoconferencia de manera sincrónica. El autor principal y la segunda co-autora fueron docentes a cargo de impartir el curso. La primera co-autora se mantuvo como consultora externa durante la implementación. Para los y las participantes, el curso fue gratuito. Todas las sesiones fueron videograbadas.

Los participantes fueron reclutados por diferentes medios. Por lado, el curso se difundió como parte de la oferta de formación continua de la Universidad a través de la página web y redes sociales. Por otro lado, se contactó directamente a docentes de establecimientos educacionales con quienes el equipo de investigación tenía contacto previo. Para invitar a participar, se visitó estos establecimientos concretando reuniones con los docentes interesados. Las condiciones de inclusión en el estudio fueron: (1) ser docente de un establecimiento de educación escolar; y (2) no haber participado de cursos de formación docente en argumentación. Se siguió un porcedimiento de consentimiento informado con cada docente, quienes firmaron un documento escrito al aceptar participar.

La muestra definitiva estuvo compuesta 21 docentes (18 mujeres) distribuidos en 10 de establecimientos educacionales. Los y las docentes tenían un promedio de edad de 40,3 años. En la tabla 1 se detalla el tipo de establecimiento, edad, disciplina y nivel que enseñaba cada docente participante.

Tabla 1.
Caracterización de docentes participantes

PARTICIPANTE	DISCIPLINA DE TRABAJO	NIVEL ESCOLAR DE TRABAJO	FINALIZÓ EL CURSO
1	Física	Media	Sí
2	Física	Media	Sí
3	Ciencias	Básica	Sí
4	Historia	Básica	No
5	Ciencias	Básica	Sí
6	Historia	Básica	Sí
7	Ciencias	Básica	Sí
8	General	Básica	Sí
9	General	Básica	Sí
10	General	Básica	Sí
11	Lenguaje	Básica	Sí
12	General	Básica	Sí
13	General	Básica	Sí
14	General	Básica	Sí
15	Biología	Media	Sí
16	Física	Media	Sí
17	Física	Media	Sí
18	Lenguaje	Básica	No
19	Ciencas	Básica	Sí
20	Ciencias	Básica	Sí
21	General	Básica	Sí

Fase 4. Evaluar y rediseñar soluciones.

La evaluación de la implementación consideró tres aspectos: datos de implementación, reporte de experiencia de los participantes y los logros de aprendizaje en competencias claves.

Datos. Se toma como datos relevantes para la evaluación la asistencia de los docentes a sesiones, las deserciones, y la distancia respecto al cumplimiento de las sesiones tal y como estaban planificadas

Reporte de experiencia por participante. La implementación fue evaluada sesión a sesión por los docentes del curso a través de un proceso reflexivo basado en la experiencia de la sesión. Con el objetivo de contar con la percepción y sugerencias de los y las participantes, se realizó un análisis participativo de la implementación del curso en la última sesión. En esta instancia se solicitó impresiones y sugerencias respecto al diseño del curso en relación con el cumplimiento del objetivo. La discusión fue videograbada y se registró el chat donde docentes escribieron sus comentarios y sugerencias. Luego, los docentes a cargo del curso realizaron un análisis temático de contenido emergente, es decir, sin transcripción de por medio. A partir de la evaluación colectiva realizada en la última sesión, se tomaron decisiones de rediseño.

Logros de aprendizaje. Como insumo para el rediseño del curso considerando su potencialidad de promover conocimiento pedagógico de contenido de la argumentación, se consideró el cambio pre- post respecto a la capacidad docente de diseñar clases argumentativas. Para evaluar esto, se diseñó un dispositivo basado en los trabajos de Knight-Bardsley y McNeill (2016) en donde se les solicitó a los y las docentes diseñar una actividad para promover uso pedagógico de la argumentación. Las respuestas de los y las participantes fueron evaluadas de acuerdo a una rúbrica especialmente diseñada por los autores. La rúbrica daba un puntaje entre 0-3 a cinco dimensiones de diseño pedagógico argumentativo: 1) objetivo pedagógico argumentativo; 2) estrategia pedagógica argumentativa; 3) diseño de trabajo colaborativo; 4) evaluación de calidad de interacciones argumentativos; y 5) uso argumentativo de los recursos pedagógicos. Tanto las instrucciones como la rúbrica fueron validadas por dos expertos internacionales cada una (cuatro en total), en relación a la coherencia con el objetivo de la evaluación y claridad. A partir de los comentarios y sugerencias de expertos se diseñó el instrumento definitivo. Las instrucciones y rubrica se adjuntan en anexo al fin del texto.

3. Resultados

A continuación, se reportan los resultados por fase.

Fase 1. Revisión de literatura.

A continuación, se reporta la revisión de la literatura según esta se relaciona con aspectos de la formación docente efectiva o formación docente para un uso pedagógico de la argumentación.

Formación docente efectiva

La revisión de la literatura dio un total de 29 artículos que discuten aspectos de la formación docente efectiva, y 5 estudios que evalúan estos componentes a través de métodos rigurosos. Los trabajos encontrados corresponden a (1) Desimone, (2009); (2) Blank y Alas, (2009); (3) Heller, Daehler, Wong, Shinohara y Miratrix, (2012); (4) Van Driel, Meirink, van Vee y Zwart, (2012); (5) Darling-Hammond, (2017), y reportan, en general, que existe un considerable consenso respecto a las prácticas que se creen más efectivas para la formación docente y aprendizaje de adultos .

A modelo general se considera que una formación docente efectiva se caracteriza por: (1) énfasis en el contenido curricular, es decir, focalizarse específicamente en un contenido concreto a enseñar; (2) oportunidad para aprendizaje activo, es decir, que docentes participantes realicen actividades que les permitan ser activos en la construcción de conocimiento; (3) consideración del conocimiento pedagógico y creencias previas de los profesores, es decir, no partir de cero sino representarse e incluir conocimientos de docentes participantes; (4) duración, es decir, una cantidad de horas de duración mínima; y, (5) participación colectiva, es decir, interacción colaborativa con colegas.

El argumento que sostiene Desimone (2009) en su revisión es que es necesario articular el programa de formación con los contenidos que los/as profesores enseñan en su práctica, crear situaciones que involucren aplicación del conocimiento que permita a los/as docentes revisar sus propias concepciones sobre las prácticas pedagógicas, que tenga duración suficiente para retroalimentación y practicar el conocimiento nuevo, y que el curso de formación promueva prácticas de aprendizaje colectiva, en especial, donde los/as docentes puedan compartir experiencias previas y soluciones para sus dificultades. Mas allá que el contenido curricular, Van Driel et al (2012) señalan que lo importante es el énfasis del curso, vale decir, que esté claro para los y las docentes que la formación representa una ganacia clara en conocimiento en su disciplina o en conocimiento pedagógico.

Darling-Hammond (2017) por su parte realiza una revisión importante de estudios de formación docente efectiva. Propone como conclusión algunas actividades

importantes de considerar para la promoción del aprendizaje docente durante programas de formación continua: (1) utilización de videos con situaciones reales de clase para que los y las profesores/as puedan pensar cómo actuarían en ciertas situaciones; (2) proponer situaciones de resolución de problemas y toma de decisiones relacionados a práctica docente; (3) establecer maneras de modelaje de buenas prácticas del trabajo en clases a través de ejemplos, e (4) incluir al fin de las sesiones espacio para evaluación de la actividad promoviendo retroalimentación.

Respecto a estudios que evalúan estos componentes, el estudio de Heller, Daehler, Wong, Shinohara y Miratrix (2012) compara el efecto cuatro tipos de formación docente para profesores: (1) enseñanza a través de casos; (2) enseñanza a través de observación de trabajo de los estudiantes; (3) enseñanza a través de análisis metacognitivo de su propio proceso de aprendizaje; y (4) modelo tradicional de transmisión de conocimiento (control). Los tres grupos experimentales tuvieron resultados significativamente positivos en los tests de conocimiento posteriores al curso en comparación con la versión tradicional de formación docente. No obstante, un dato más importante fue que solo el curso de observación del trabajo de estudiantes tuvo efecto en el aprendizaje de estudiantes. Aunque preliminar, este tipo de estudio indica que el énfasis en observar, conceptualizar y supervisión del trabajo de los estudiantes podría ser un elemento importante en pensar cuáles actividades proponer en la formación docente.

Un elemento distinto que Blank y Alas (2009) agregan a la lógica de la formación efectiva es que el proceso orientado por evidencia debe respetar el proceso de diseñar-evaluar-rediseñar los programs de formación, usando estos procesos como parte de una cadena constructiva necesaria a formadores y cientificos de la educación. Mientras los otros textos enfatizan los aspectos efectivos, estos autores avanzan la reflexión sobre la necesidad de mejorar el entendimiento respecto al proceso de construcción de formación docente cómo parte de una metodologia cientifica *design-based*.

Formación docente para uso pedagógico de argumentación

La revisión de la literatura dio un total de 4 artículos para nuestra revisión; 3 de la búsqueda en la biblioteca en línea de la Universidad Alberto Hurtado y 1 encontrado independientemente. En general, los estudios en argumentación y educación reportan estudios de caso o reflexiones teóricas, y las experiencias más bien cuantitativas (correlacional o experimental) son encontradas en los mismos grupos de investigación en diferentes publicaciones. Se enfatiza esto como parte del campo de

conocimiento y la tradición intelectual en los estudios de la argumentación como herramienta de la enseñanza. A diferencia de la tradición de la formación docente efectiva, la tendencia por evaluación más concreta de los logros y compararlos entre grupos de formación aún se muestra pequeña en este campo, tornando aún más importante reflexionar sobre estudios más controlados de experiencias de formación docente en argumentación.

La experiencia de McNeill y Knight (2013) ha demostrado que cursos de desarrollo profesional donde ejemplos prácticos son incluidos en la formación docente (ej. análisis de videos) ayuda en la conceptualización pedagógica del uso de la argumentación como herramienta para la enseñanza en clases, en los dos niveles antes mencionados: en la estructura (especialmente escrita) argumentativa, y los episodios de conversación argumentativa. Un dato importante encontrado por las autoras es la importancia de estimular el conocimiento previo de los profesores, ya que esto es una clave central para incentivar la construcción y reorganización del conocimiento pedagógico.

Segundo, se aúna artículos relacionados con el programa epiSTEMe (Ruthven et al., 2013). Entre estos artículos está el estudio de Larrain, Howe y Freire (2018), Larrain et al., (2017), Larrain et al., (2018b), Larrain et al. (2019) y Larrain et al (2020). Esta perspectiva propone el cambio de prácticas a partir de la formación apoyada en el uso de materiales curriculares diseñados para promover uso pedagógico de la argumentación a partir de practicas dialógicas de enseñanza (crear condiciones para la discusión entre estudiantes).

Por su parte, los artículos (Fishman et al, 2017; Osborne et al, 2019) que siguen el modelo PRACTISE proponen la formación docente a partir del cambio en las prácticas discursivas que estimulan argumentación en clases. Este es un modelo de transformación del espacio comunicativo de las clases en un ambiente argumentativo que entiende la formación docente como involucrando el desarrollo de habilidades complejas, así que la formación está centrada en la práctica docente y no necesariamente en el conocimiento de argumentación. Los resultados de estos estudios muestran mejoras significativas producto de la participación en este programa, tanto en las prácticas de clase, como en las ganancias de los estudiantes, pero modelos exclusivamente prácticos no obtuvieron resultados mejores que modelos más tradicionales de formación.

Dado que el interés de este texto son los aspectos del diseño, reportamos los elementos presentes en estos cuatro trabajos que nos informan sobre cuales son las características relevantes para la construcción de un programa de formación docente basado en estas experiencias:

Tabla 2.
Análisis de articulos

ARTÍCULO	OBJETIVO FORMATIVO	ESTRATEGIAS DE FORMACIÓN	IMPLICACIONES PARA DISEÑOS DE FORMACIÓN
McNeill y Knight, 2013	Conocimiento en el uso pedagógico de argumentación	Tres experiencias: 1. Introducción a la argumentación 2 y 3. Análisis de trabajo con material de estudiantes	Los y las docentes tienden a articular conocimiento previo y nuevo, por lo tanto, es importante diseñar pensando que estos profesionales traen conocimiento anterior sobre el tema.
Ruthven et al., 2013	Enseñanza dialógica	Manejo de discusión en grupos pequeños y plenarias	Una manera efectiva de cambio de la clase pasa por cambios en como los y las docentes crean condiciones para que situaciones de discusión aparezcan y se sostengan.
Fishman et al., 2017	Facilitar trabajo colaborativo y argumentación científica	Análisis de videos sumado a discusión de la práctica pedagógica entre docentes	Efectivamente los cursos de formación pueden afectar las clases mismo cuando no se observan efectos de cambio en el docente que ha participado del programa.
Osborne et al., 2019	Facilitar trabajo colaborativo y argumentación científica	Tres grupos en comparación: 1. Formación tradicional 2. Taller practico (análisis de videos) 3. Sesiones de retroalimentación de practica docente	Diferente de lo conocido en la literatura, los modelos de practica docente no tuvieron efectos más significativos que otros. Esto implica que la formación docente efectiva no es unilateral y universal.

NOTA. En los articulos McNeill y Knight (2013) y Osborne et al. (2019) se presentan más de una experiencia de formación docente en argumentación, así que las experiencias estan enumeradas según el énfasis dado en cada experiencia de formación.

Colectivamente estos trabajos nos ofrecen un bueno escenario de practicas docentes efectivas para la enseñanza en argumentación, además, reflejan el hecho de que la formación docente en argumentación es un desafío aún no resuelto.

Fase 2. Diseño de un curso de formación docente para promover conocimiento pedagógico de contenido de la argumentación.

En base a la revisión de literatura se diseñó un curso organizándolo según los siguientes principios:

1. *Tiempo*. Se propuso un curso de 40h siendo 32h presenciales y 8h de tareas para desarrollar en casa, divididos en un periodo de un mes (cuatro semanas), de manera de equilibrar el mínimo de horas sugerido con la realidad educacional del trabajo docente. Se consideró positivo no solo planificar actividades en las sesiones sino también tareas para ser trabajadas individualmente en casa.

2. *Conocimiento previo*. Con el objetivo de mantener la naturaleza argumentativa del curso, se propuso en todas las sesiones, la articulación de conocimiento previo con el contenido a través de preguntas polémicas al inicio. Estas debían ser respondidas primero de manera individual y luego de forma colectiva en trabajo grupal, para ser abordadas finalmente en conversaciones de plenaria.

3. *Contenido curricular*. Cada sesión consideró actividades y análisis de prácticas concretas que encarnan ciertos contenidos curriculares específicos.

4. *Estrategias de aprendizaje activas*. El tiempo directamente lectivo se minimizó de manera de promover el análisis y reflexión, tanto en el grupo completo como en grupos pequeños. Se realizaron actividades participativas, dialogantes y, en especial, argumentativas, en ambos espacios, los que se articularon cuidadosamente en cada sesión. A modo de estimular la participación activa se utilizaron videos de clases reales chilenas que cuentan con permiso para uso en espacio educativo, u otros materiales audiovisual como forma de estimular la discusión y reflexión sobre su conicimiento.

5. *Formación colaborativas*. Cada sesión involucró actividades a realizar en grupos de pares, especialmente diseñadas para promover argumentación.

6. *Modelaje de buenas prácticas*. Cada sesión se intencionó con diseños pensados para promover la discusión de ideas contrarias a través de problemas o preguntas polemicas, tanto en grupos de pares como grupo completo.

Tabla 3.
Objetivos de aprendizaje

Nº SESIÓN	OBJETIVO DE APRENDIZAJE
1	Conocer al grupo e identificar el tipo de trabajo a realizar en el curso.
2	Comprender el potencial de la argumentación para construcción de conocimiento.
3	Comprender la dimensión estructural de la argumentación en aula.
4	Reconocer relevancia del diseño curricular para uso pedagógico de la argumentación.
5	Comprender e identificar la gestión docente para el uso pedagógico de la argumentación (trabajo entre pares).
6	Comprender e identificar la gestión docente para el uso pedagógico de la argumentación en plenarios.
7	Organización y mediación de plenarias.
8	Reflexionar acerca de la implementación del curso.

Fase 3. Implementación

Datos. En un primer momento el curso fue pensado para ser presencial y, de hecho, la primera semana así ocurrió. Sin embargo, debido la crisis sanitaria se decidió conjunto a los y las docentes continuar en formato online, a través de un sistema de videoconferencias. Las sesiones se realizaron todas de manera sincrónica. De los 21 docentes que iniciaron el curso, 19 terminaron (16 mujeres). Una persona no pudo continuar por problemas de conexión, y la otra no nos explicó su motivo, las dos retirándose en la sesión 2 del curso. En general, la implementación ocurrió según lo provisto. Sin embargo, dado el contexto de crisis sanitaria se realizaron cambios en la modalidad, de presencial para modo en línea.

Todas las sesiones estuvieron orientadas por los principios y objetivos de aprendizaje descritos anteriormente. Además, se planteó que la primera hora y media de cada sesión debía ser de discusión y activación de conocimiento previo, la hora y media siguiente para presentación de contenido, y la media hora final para reflexión sobre la clase einstrucciones del trabajo de casa si correspondía. Así, las cuatro horas estaban divididas en aprendizaje activo y discusión entre pares, presentación de contenido curricular y plenaria final sobre la clase desarrollada. Además, algo presente en todas las sesiones fue empezar por alguna actividad argumentativa de activación de conocimiento previo usando problema motivador para una discusión significativa, sea por videos, preguntas polemicas, toma de posición o consensuar una decisión colectivamente. Dado que las clases ocurrían en la tarde de los viernes y en la mañana de los sabados elegimos pasar tareas para casa solamente al fin de las sesiones del sabado para que los y las participantes tuvieran tiempo para hacerlas.

Ejecución del curso redesiñado

A partir de las discusiones entre el equipo de profesores, se hicieron cambios mientras el curso ocurría. Algunos cambios importantes sobre la secuencia del curso fueron realizados para mejorar el progreso de la presentación de contenido. En este sentido, cambiamos los objetivos de la sesión cuatro y siete; se decidió que antes de presentar el diseño curricular completo sería necesario trabajar cómo y qué son los objetivos argumentativos en argumentación. Esto fue detectado al evaluar los diseños de actividad realizados antes del curso, ya que se identificó que los y las docentes no estaban entendiendo la argumentación como un objetivo independiente del contenido curricular, por lo tanto, decidimos enfatizar en la sesión cuatro el desarrollo de esta dimensión. Otros elementos de decisión y cambios futuros son reportados en el apartado de evaluación del curso.

Abajo presentamos cada sesión y las caracteristicas centrales en función del contenido curricular, la estrategia de estimulo a la discusión, el incentivo al trabajo colaborativo y el modelaje de prácticas argumentativas en clase.

Sesión 1. Presentación general del curso y ejecución de pruebas pre. Esta sesión fue reservada para conocer los y las docentes, además, pedirles diseñar una actividad argumentativa para una clase ficticia. Así, les fue informado los objetivos del curso, se escucho cuáles eran sus expectativas y se realizó la prueba de diseño de actividad.

Sesión 2. Introducción a la argumentación en educación. Esta sesión inició con la presentación de un extracto de video que trataba sobre una situación argumentativa en clases de ciencias naturales en un curso de cuarto básico, donde los estudiantes justificaban sus posiciones frente a un problema científico. Un elemento central de dicho extracto es que una estudiante propone una respueta distinta a los demás, pero que no es aprovechada por la docente del video para explorar una interacción argumentativa. En este contexto, a los docentes del curso se les hizo una pregunta inicial de nivel individual: *"¿Hay argumentación en este extracto? En caso positivo, ¿cómo la identificas? En caso negativo, ¿qué falta para que lo sea?"*. Luego se les solicito discutir en grupo siguiendo las instrucciones: *"Lleguen a un acuerdo sobre si hay o no argumentación"* y *"¿Hay aprendizaje en el extracto?"*. Estas elicitaciones estaban dirigidas a estimular la identificación de la argumentación en clases, conocer como representar la argumentación y si esto significa un objetivo para el aprendizaje. Posteriormente se realizó una conversación sobre algunas ideas grupales para avanzar a continuación con la presentación de contenido sobre qué es la argumentación, su importancia

para la educación y cuales son las evidencias que soportan esta perspectiva. Como actividad para casa se pedió que los y las docentes, utilizando una pauta evaluaran situaciones argumentativas en sus clases. En este momento no sabíamos que las clases serían canceladas por contexto sanitario por lo que esta actividad no obtuvo éxito.

Sesión 3. Producción y evaluación de argumentos. Esta sesión inició con la discusión en grupos sobre *"¿Qué es una buena argumentación en el contexto de su clase y qué hacen para que sus estudiantes sepan cómo hacer un mejor argumento?"*. Primero se solicitó responder individualmente y luego en grupo, para después discutir en plenario sus reflexiones. Las preguntas buscaban hacer pensar sobre cuáles eran los criterios previos que los y las docentes tenían sobre la argumentación en su contexto. Como forma de estimular la practica de producción y evaluación de argumentos se presentó un texto de periódico sobre el uso de las mascarillas y se les pidió evaluarlo. Luego, se conversaron algunas de sus conclusiones para dar paso a la presentación de dos modelos de evaluación de la estructura de los argumentos: el modelo de Toulmin (Erduran, Simon y Osborne, 2004) y el modelo de las operaciones discursivas de Pontecorvo y Girardet (1993).

Sesión 4. Objetivos argumentativos de aprendizaje. Esta sesión inició con la actividad de analizar primero individualmente el siguiente problema: *Si pensamos que hay un orden decreciente de prioridad para diseñar una clase con orientación argumentativa ¿Cuál de las siguientes jerarquías crees que es mejor? ¿Por qué?* Se les presentaron tres jerarquizas que organizaban diferenciadamente tres dimensiones: *1) "uso de evidencia y aprendizaje curricular", 2) "trabajo colaborativo" y 3) "enfoque controversial",* luego, en grupo se les solicita discutir sus elecciones para después presentar en plenaria la elección grupal de jerarquización y conversar las distintas selecciones. Esta actividad estaba dirigida al reconocimiento de la argumentación (y sus elementos centrales) como objetivos pedagógicos especificos que necesitan planificación concreta para crear las condiciones para que se cumplan. En este sentido, la sesión estuvo orientada a convesar sobre cómo lograr crear contextos que promuevan los objetivos argumentativos que se proponen al contexto de clases. Al fin de esta sesión se solicitó a los y las participantes que hicieran individualmente o en duplas un nuevo diseño de actividad argumentativa, ahora, ocupando las nociones de argumentación y objetivo argumentativo trabajadas en las sesiones anteriores.

Sesión 5. Mediación y trabajo entre pares. Esta sesión inició con el trabajo de revisión entre grupos de los diseños de clases hechos como tarea para casa. La actividad en grupo consistió en presentar entre ellos sus diseños de actividad, elegir uno fundamentando su elección a partir las nociones pedagógicas trabajadas en el curso y otras razones que considerarán pertinentes, y presentarlas en plenaria, para ser

conversadas y discutidas. Esta sesión estuvo orientada en parte a modelar estrategias de actividades argumentativas (elección de modelos en competencia; preguntas controversiales y problemas; evaluación de evidencia para soportar explicación de un fenómeno) y retroalimentar que las actividades propuestas fuesen coherentes con los objetivos pedagógicos planteados por los y las participantes.

Sesión 6. Mediación de la argumentación en clase completa. Esta sesión se inició presentando dos videos para estimular el reconocimiento de situaciones de trabajo argumentativo en grupo y se propuso primero hacer una reflexión individual para luego hacer trabajo en grupos pequeños alrededor de la pregunta *"¿Cuáles son las diferencias que hacen que un video sea argumentativo y el otro no tanto?"*. La actividad estuvo pensada para estimular el reconocimiento de los elementos centrales que los docentes asumen al crear situaciones argumentativas. Esta sesión estuvo dirigida a discutir el papel mediador del docente y cuáles son las caracteristicas necesarias para estimular discusiones en clases. Se presentaron modelos de interaccion como reglas de habla, distribución de roles y actividades de asumir distintas posiciones en una discusión como medio de mediar que emerja la situación argumentativa. Para realizar en casa se propuso que hicieran un rediseño de sus propuestas de actividad teniendo en cuenta que deberían proponer preguntas polemicas o controversiales como forma de estimular la situación argumentativa y pedimos que imaginaran qué instrucciones les darían a sus estudiantes para que la argumentación se mantuviera en el contexto de dicha actividad.

Sesión 7. Experiencias curriculares en argumentación. Con la intención de mantener una idea de progresión del contenido donde antes estaba diseñado para que esta sesión fuera la cuarta, se decidió que en el ultimo día se presentarían modelos generales de cambio curricular (no solamente actividades) como ejemplos para los y las participantes. Esta sesión inició con la revisión de los diseños de los profesores en plenaria, para luego presentar dos modelos de diseño curricular: 1) uno más ubicado en la enseñanza de ciencias sobre fuerza y movimiento como modelaje para el conocimiento de los y las participantes sobre cómo pensar globalmente la clase argumentativa y no solamente en términos de actividades aisladas, y 2) el Modelo de debate crítico adaptado para la escuela, donde se propuso pensar cómo escribir problemas genuinos para estimular la situación argumentativa (que los dos lados tengan razones a defender) y cómo diseñar debates que propongan criterios de evaluación de la calidad de los argumentos.

Sesión 8. Evaluación final. Esta sesión estuvo reservada para el proceso de evaluación del aprendizaje y curso de los y las docentes. Se solicitó que diseñaran una actividad argumentativa a partir de la pauta utilizada en la investigación (la prue-

ba pre de conocimiento pedagógico). Luego, se inició un proceso colectivo de evaluación del curso donde los/as profesores/as expresaron sus opiniones sobre los éxitos y dificultades del curso en un contexto de confianza que se generó al transcurrir el curso.

Fase 4. Evaluación

Reporte de experiencia por participantes.

El equipo docente, primero, coincidió en que el curso se implementó de manera exitosa, incluso mejor de lo esperado dadas las condiciones adversas en el contexto nacional desde una perspectiva técnica. Segundo, se observó en los docentes involucrados en el curso que en general desplegaron una participación activa, con disposición a hablar sobre los temas propuestos tanto entre compañeros como en plenaria. En tercer lugar, el uso de actividades de inicio que seguían estructura de trabajo individual, luego grupal, y posteriormente plenaria para reconocer sus conclusiones, resulto ser un terreno fructífero para vincular lo trabajado anteriormente con lo que se proponía en la presente sesión, al mismo tiempo que permitía un contexto para volver a elaborar a medida que avanzaba en los contenidos del día. Cuarto, se considera un acierto el usar y reflexionar en torno a actividades argumentativas diseñadas en contextos curriculares específicos, porque permitía a los docentes comprender y representar cómo la argumentación puede ser integrada de manera armónica con contenidos curriculares disciplinares, que incluso muchas veces son percibidos como no discutibles por ser canónicos. En quinto lugar, destaca que los docentes mostraron interés por distintos aspectos de los contenidos propuestos en el curso, como por ejemplo la distinción entre aprender a argumentar y argumentar para aprender; los criterios para evaluación de argumentos de estudiantes; el valor del error para promover aprendizaje; la importancia de que estudiantes hablen y argumenten; el trabajo en diseño de clases y su reflexión; el análisis de diseños existentes de actividades para argumentar, especialmente aquellos que invitan a estudiantes a vincular evidencia y conclusión, y escoger la conclusión más fuerte en base a esto; y pensar en diseño de actividades argumentativas a diferentes niveles. Como desafíos, se percibió la necesidad de un mayor trabajo en adecuar la teoría de la argumentación a un lenguaje accequible y relevante para docentes, la necesidad de mejores apoyos (ej. más practica y mayor contextualización) para promover competencias de diseño curricular para uso pedagógico de la argumentación, considerando que los/as docentes trabajaban con niveles educativos diversos: desde primer ciclo de primaria a enseñanza secundaria.

Los y las docentes participantes valoraron positivamente el curso. Respecto al contenido del curso, reportaron que les pareció especialmente interesante y desafiante la idea de que a veces menos intervención puede ser una herramienta docente importante para promover que los estudiantes argumenten y contra argumenten, aun cuando estos no reconstruyan las ideas canónicas en sus argumentaciones. Además, algunos docentes reportaron que habían cambiado su idea respecto a la necesidad de entrenar a estudiantes para argumentar previamente a enseñarles argumentativamente. Les pareció particularmente interesante pensar que el diseño de la estructura y normas de clases puede promover cambios importantes. En general, reportaron que lo discutido en el curso era relevante para su práctica pedagógica.

Respecto al formato del curso, aunque se percibió cierta dificultad de conexión a internet, docentes rescatan el formato de aprendizaje colaborativo: "*gracias nuevamente (…) y a los compañeros y compañeras genial poder compartir con todxs y nutrirnos unos a otros y aprender desde nuestras experiencias, y crecer como profesionales y personas!!!!*" (S.18, chat). Como desafíos, algunos participantes señalaron que es importante articular mejor la formación con la práctica pedagógica, es decir, con las oportunidades concretas de aplicación.

Reporte del impacto sobre el conocimiento en diseñar clases

La tabla 4 resume el promedio de puntaje obtenido antes y después del curso en la tarea de diseño de clases argumentativas, por cada participante en cada dimensión evaluada a través de rubrica evaluativa construida para este estudio (presentada en el anexo 2).

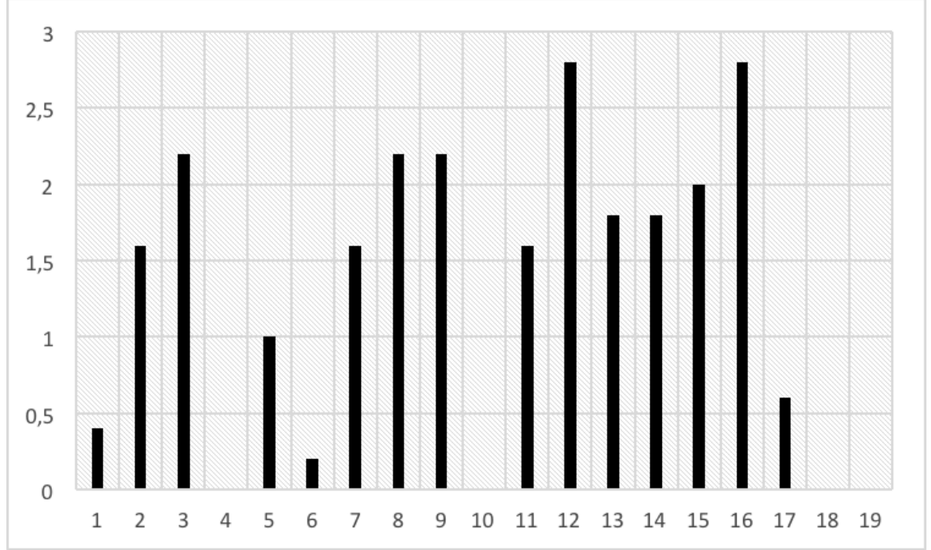
Tabla 4.
Puntaje de participante en tarea de diseño de clases argumentativas antes y después del curso, por dimensión evaluada.

CASOS	OBJETIVOS		ESTRATEGIAS		TRABAJO ENTRE PARES		EVALUACIÓN		RECURSOS		PROMEDIO	
	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post
S1	1	1	1	1	2	2	0	2	1	1	1	1,4
S5	0	2	1	3	2	3	2	3	1	3	1,2	2,8
S6	0	3	1	3	0	3	0	1	1	3	0,4	2,6
S8	3	3	3	3	2	3	3	1	2	3	2,6	2,6
S9	2	3	2	3	3	3	2	3	1	3	2	3
S10	0	1	1	1	2	2	0	1	1	0	0,8	1
S12	1	3	0	2	2	2	0	2	0	2	0,6	2,2
S13	0	1	0	3	0	3	0	1	0	3	0	2,2
S14	0	3	1	3	0	3	0	0	0	3	0,2	2,4

S15	3	3	3	3	2	3	1	0	1	1	2	2
S16	0	3	1	3	2	3	0	0	0	2	0,6	2,2
S17	0	3	0	3	0	3	1	3	0	3	0,2	3
S18	0	1	0	2	0	2	1	3	0	2	0,2	2
S19	0	0	0	2	0	3	1	3	0	2	0,2	2
S20	0	3	1	3	0	2	0	3	1	1	0,4	2,4
S21	0	3	0	3	0	3	0	3	1	3	0,2	3
S23	0	2	2	3	3	3	0	1	2	1	1,4	2
S25	0	1	1	0	0	0	0	0	0	0	0,2	0,2
S26	1	1	1	2	1	0	1	1	1	1	1	1
Promedio	0,6	2,1	1,0	2,4	1,1	2,4	0,6	1,6	0,7	1,9	0,8	2,1

Si bien se reporta una variabilidad importante, y como se puede observar en el gráfico 1, salvo cuatro casos, todo/as los y las participantes muestran avances importantes en la capacidad de diseñar clases para uso pedagógico de la argumentación. Además, en promedio estos cambios son parejos en las diferentes dimensiones estudiadas.

Gráfico 1.
Cambio promedio en tarea de diseño de clases argumentativas antes y después del curso, por participante.



Después de la ejecución el equipo de profesores hizo una evaluación del curso y se apuntan algunos elementos importantes para un futuro rediseño: (1) adecuar el lenguaje técnico de la argumentación al publico de profesores; (2) agregar elementos de

la practica de docentes reales que ejecutaron actividades argumentativas en sus clases (no solo videos de situaciones); (3) comprender mejor las necesidades formativas de cada grupo de profesores adecuando el curso al publico, y no lo contrario; (4) discutir públicamente el diseño (en conferencias o publicaciones) con la finalidad de ajustar y divulgar el desarrollo de programas de formación docente.

4. Discusión

Este artículo reporta un estudio con metodología *design-based* cuyo objetivo fue diseñar un programa de formación de docentes en ejercicio que contribuyera en el conocimiento pedagógico de contenido de argumentación, basado tanto en los consensos y como en la evidencia científica disponible. Se trata de una contribución única en su tipo, ya que existen muy pocos programas de desarrollo profesional docente para promover conocimiento pedagógico del contenido de la argumentación, y los existentes reportan estudios sobre sus efectos más que el proceso y lógica detrás de su diseño (Fishman et al., 2017; Osborne et al., 2019). Si bien esto es muy importante, reportar la toma de decisiones de programas de desarrollo profesional docente, y hacerlo con un efoque design-based, contribuye a promover la reflexión situada entre formadores, lo que es crucial. A la vez, contribuye a avanzar en diseños rigurosos que puedan ser evaluados en sus efectos de manera de contribuir a una evidencia en general escasa (Kennedy, 2016), respecto de los componentes que promueven cambio docente en este campo.

Al respecto, parte de los resultados de este estudio muestra que si bien existe consenso respecto a componentes que promoverían cambio en la práctica, la evidencia empírica concluyente respecto a su efectividad es prácticamente inexistente (Asterhan y Lefstein, 2020), por lo tanto, es necesario más iniciativas rigurosas de construcción, implementación y evaluación de experiencias de formación docente (Kennedy, 2016). Además, se necesita más literatura que discuta el proceso de construcción y no solamente los logros de aprendizaje de profesores o estudiantes. Así que, a través de un modelo informado por literatura que trabaja diferentes dimensiones de la formación docente en argumentación podimos planificar un curso que agrega las caracteristicas de la formación docente efectiva a los aspectos más importantes de la argumentación en clases, es decir, promover un ambiente de discusión en grupos orientada para el aprendizaje en grupo (Ruthven et al., 2013; Larrain et al., 2019).

Al realizar la formación docente alrededor de ejemplos practicos (usando videos reales) sumado a construcción de actividades sobre preguntas polémicas que promueven la discusión entre pares, lo que realizamos fue crear un espacio donde los y las docentes pudieron reflexionar sobre el papel de la argumentación en clases al

mismo tiempo que estaban vivenciando un proceso de clase argumentativa entre ellos, promoviendo así conocimiento pedagógico y vivencia de esto conocimiento como estudiante, aspectos centrales para experiencias efectivas en desarrollo profesional docente (Osborne et al., 2019).

En las revisiones reconocidamente centrales sobre la formación docente (Desimone, 2009; Darling-Hammond, 2017) se observan aportes para las buenas practicas (o practicas efectivas) a ser incluidas en procesos de desarrollo profesional docente. No obstante, un problema que ocurre a partir de esto es que hay una diferencia entre mesurar un aspecto de la formación docente estimulado en un curso (por ejemplo, trabajo colaborativo) y promover algo transformador de la practica profesional que pueda ser generalizado a otros contextos.

En nuestra experiencia observamos que las buenas practicas deben ser acompañadas por decisiones de los formadores en función de lo que ocurre en cada sesión, adecuando la formación a la realidad del contexto, y entonces con apertura a flexibilizar la planificación original a base de modificaciones justificadas. Al desarrollar sus criticas a los consensos sobre la formación docente, Asterhan y Lefestein (2020) y Kennedy (2016) nos hablan de la importancia que guarda tener criterios rigurosos para la construcción y evaluación de modelos de formación, pero muchas veces esto debería estar basado en la experiencia de diseñar y promover la formación, y no solamente en los reportes de éxitos o logros de desempeño. Por lo tanto, es importante pensar en cómo construir, evaluar y reportar todo el proceso de la formación docente. En este sentido, el esfuerzo en ciencias educacionales tambien pasa por reportar las distintas fases de la ejecución de un curso de formación docente.

5. Consideraciones finales

En nuestro trabajo intentamos resumir propuestas del trabajo de formación docente articulando con las experiencias exitosas en argumentación como un instrumento para el cambio del conocimiento pedagógico en argumentación de profesores chilenos. Nuestro punto es promover una sistematización más simple que permita a formadores y profesores llevar a sus contextos una mirada más informada y sistemática de la importancia de la argumentación para el contexto escolar, de la importancia de integrar elementos de argumentación explícitamente en la formación docente, y que los formadores tengan la flexibilidad y poder de decisión de cómo mejor adaptar los resultados de la literatura científica para sus contextos de acción profesional.

Aunque nuestra propuesta sea presentar un modelo de formación docente, esto implica una serie de desafíos: que el proceso iterativo de participación es desafiante y requiere varias implementaciones; que la noción de conocimiento pedagógico del

contenido de la argumentación aún no se ha desarrollado tanto, una vez que, a diferencia de otros tipos de conocimiento, la argumentación es una práctica transversal. Pero, así mismo este esfuerzo representa una iniciativa importante en mejorar la calidad de la formación docente pensando en experiencias pedagógicas argumentativas que aún son escasas en el contexto nacional, regional e internacional.

6. Referencias

Alozie, N. M., Moje, E. B., & Krajcik, J. S. (2010). An analysis of the supports and constraints for scientific discussion in high school project-based science. *Science Education*, *94*(3), 395-427.

Alvarez, C., Alarcon, R., & Nussbaum, M. (2011). Implementing collaborative learning activities in the classroom supported by one-to-one mobile computing: A design-based process. *Journal of Systems and Software*, *84*(11), 1961-1976

Andersson, K. (2015). Deliberative teaching: Effects on students' democratic virtues. *Scandinavian Journal of Educational Research*, *59*(5), 604-622.

Andriessen, J. E., y Schwarz, B. B. (2009). Argumentative design. In *Argumentation and education* (pp. 145-174). Springer, Boston, MA.

Andriessen, J., Baker, M., & Suthers, D. (2003). Argumentation, computer support, and the educational context of confronting cognitions. In *Arguing to learn* (pp. 1-25). Springer, Dordrecht.

Asterhan, C. S., & Schwarz, B. B. (2007). The effects of monological and dialogical argumentation on concept learning in evolutionary theory. *Journal of educational psychology*, *99*(3), 626.

Asterhan, C. y Lefstein A. (2020). Teacher Professional Development: Structures, Strategies, Principles and Effectiveness. In: M. Mikulincer y R. Parzanchevsky-Amir (eds.), Optimal management of professional development and training in the education system – Status report and recommendations. Jerusalem: Yozma – Centre for Knowledge and Research in Education, The Israel Academy of Sciences and Humanities

Aydeniz, M., & Ozdilek, Z. (2015). Assessing Pre-Service Science Teachers' Understanding of Scientific Argumentation: What Do They Know about Argumentation after Four Years of College Science?. *Science Education International*, *26*(2), 217-239.

Aydeniz, M., y Ozdilek, Z. (2015). Assessing Pre-Service Science Teachers' Understanding of Scientific Argumentation: What Do They Know about Argumentation after Four Years of College Science?. *Science Education International*, *26*(2), 217-239.

Baker, M. (2009). Argumentative interactions and the social construction of knowledge. In *Argumentation and education* (pp. 127-144). Springer, Boston, MA.

Billig, M. (1996). *Arguing and thinking: A rhetorical approach to social psychology*. Cambridge University Press.

Blank, R. K., & De las Alas, N. (2009). *The Effects of Teacher Professional Development on Gains in Student Achievement: How Meta Analysis Provides Scientific Evidence Useful to Education Leaders*. Council of Chief State School Officers. One Massachusetts Avenue NW Suite 700, Washington, DC 20001.

Cofré, H., Camacho, J., Galaz, A., Jiménez, J., Santibáñez, D., & Vergara, C. (2010). La educación científica en Chile: debilidades de la enseñanza y futuros desafíos de la educación de profesores de ciencia. *Estudios pedagógicos (Valdivia)*, *36*(2), 279-293.

Coirier, P., Andriessen, J., & Chanquoy, L. (1999). From planning to translating: The specificity of argumentative writing. *Foundations of argumentative text processing*, 1-28.

Driver, R., Newton, P., & Osborne, J. (2000). Establishing the norms of scientific argumentation in classrooms. *Science education*, *84*(3), 287-312.

Easterday, M. W., Lewis, D. R., & Gerber, E. M. (2014). Design-based research process: Problems, phases, and applications. Boulder, CO: International Society of the Learning Sciences.

Erduran, S., & Jiménez-Aleixandre, M. P. (2008). Argumentation in science education. *Perspectives from classroom-Based Research. Dordre-cht: Springer*.

Erduran, S., Simon, S., y Osborne, J. (2004). TAPping into argumentation: Developments in the application of Toulmin's argument pattern for studying science discourse. *Science education*, *88*(6), 915-933.

Felton, M., Garcia-Mila, M., y Gilabert, S. (2009). Deliberation versus dispute: The impact of argumentative discourse goals on learning and reasoning in the science classroom. *Informal Logic*, *29*(4), 417-446.

Felton, M., Garcia-Mila, M., Villarroel, C., & Gilabert, S. (2015). Arguing collaboratively: Argumentative discourse types and their potential for knowledge building. *British Journal of Educational Psychology*, *85*(3), 372-386.

Fishman, E. J., Borko, H., Osborne, J., Gomez, F., Rafanelli, S., Reigh, E., ... & Berson, E. (2017). A practice-based professional development program to support scientific argumentation from evidence in the elementary classroom. *Journal of science teacher education*, *28*(3), 222-249.

Garcia-Mila, M., Gilabert, S., Erduran, S., & Felton, M. (2013). The effect of argumentative task goal on the quality of argumentative discourse. *Science Education*, *97*(4), 497-523.

Golder, C., Pouit, D., Andriessen, J., & Coirier, P. (1999). For a debate to take place the topic must be debatable. Developmental evolution of the negotiation and debatability of arguments. *Foundations of argumentative text processing*, 137-148.

González-Weil, C., Cortéz, M., Bravo, P., Ibaceta, Y., Cuevas, K., Quiñones, P., ... & Abarca, A. (2012). La indagación científica como enfoque pedagógico: estudio sobre las prácticas innovadoras de docentes de ciencia en EM (Región de Valparaíso). *Estudios pedagógicos (Valdivia)*, *38*(2), 85-102.

Heller, J. I., Daehler, K. R., Wong, N., Shinohara, M., y Miratrix, L. W. (2012). Differential effects of three professional development models on teacher knowledge and student achievement in elementary science. *Journal of research in science teaching*, *49*(3), 333-362.

Iordanou, K., Kuhn, D., Matos, F., Shi, Y., & Hemberger, L. (2019). Learning by arguing. *Learning and Instruction*, *63*, 101207.

Juuti, K., & Lavonen, J. (2006). Design-based research in science education: One step towards methodology. *Nordic studies in science education*, *2*(2), 54-68.

Katsh-Singer, R., McNeill, K. L., & Loper, S. (2016). Scientific argumentation for all? Comparing teacher beliefs about argumentation in high, mid, and low socioeconomic status schools. *Science Education*, *100*(3), 410-436.

Kennedy, M. M. (2016). How does professional development improve teaching?. *Review of educational research*, *86*(4), 945-980.

Kind, P. E. R., & Osborne, J. (2017). Styles of scientific reasoning: a cultural rationale for science education?. *Science Education*, *101*(1), 8-31.

Knight-Bardsley, A., y McNeill, K. L. (2016). Teachers' pedagogical design capacity for scientific argumentation. *Science education*, *100*(4), 645-672.

Knight, A. M., y McNeill, K. L. (2011). The relationship between teachers' pedagogical content knowledge and beliefs of scientific argumentation on classroom practice. In *annual meeting of the National Association for Research in Science Teaching, Orlando, FL*.

Kolstoe, S. D. (2000). Consensus projects: Teaching science for citizenship. *International Journal of Science Education*, *22*(6), 645-664.

Kuhn, D. (2018). A role for reasoning in a dialogic approach to critical thinking. *Topoi*, *37*(1), 121-128.

Kuhn, D., & Crowell, A. (2011). Dialogic argumentation as a vehicle for developing young adolescents' thinking. *Psychological science*, *22*(4), 545-552.

Kuhn, D., & Udell, W. (2003). The development of argument skills. *Child development*, *74*(5), 1245-1260.

Larrain, A. (2009). El rol de la argumentación en la alfabetización científica. *Estudios públicos*, *116*(4), 167-193.

Larrain, A., Freire, P., Grau, V., López, P., & Moran, C. (2019). The intertwined effect of collaborative argumentation and whole-class talk on the process of scientific concept learning: A case study. *Learning, Culture and Social Interaction*, *22*, 100249.

Larrain, A., Freire, P., López, P., & Grau, V. (2019). Counter-Arguing During Curriculum-Supported Peer Interaction Facilitates Middle-School Students' Science Content Knowledge. *Cognition and Instruction*, *37*(4), 453-482.

Larrain, A., Howe, C., y Cerda, J. (2014). Argumentation in whole-class teaching and science learning. *Psykhe*, *23*(2).

Larraín, A., Moreno, C., Grau, V., Freire, P., Salvat, I., López, P., y Silva, M. (2017). Curriculum materials support teachers in the promotion of argumentation in science teaching: A case study. *Teaching and Teacher Education*, *67*, 522-537.

Larrain, A., Singer, V., Strasser, K., Howe, C., López, P., Pinochet, J., ... & Villavicencio, C. (2020). Argumentation skills mediate the effect of peer argumentation on content knowledge in middle-school students. *Journal of Educational Psychology*.

Leitão, S. (2000). The potential of argument in knowledge building. *Human development*, *43*(6), 332-360.

Leitão, S. L. (2012). O trabalho com argumentação em ambientes de ensino-aprendizagem: um desafio persistente. *Uni-pluriversidad*, *12*(3), 23-37.

Lemke, J. L. (1990). *Talking science: Language, learning, and values*. Ablex Publishing Corporation, 355 Chestnut Street, Norwood, NJ 07648 (hardback: ISBN-0-89391-565-3; paperback: ISBN-0-89391-566-1).

McNeill, K. L., & Knight, A. M. (2013). Teachers' pedagogical content knowledge of scientific argumentation: The impact of professional development on K–12 teachers. *Science Education*, *97*(6), 936-972.

McNeill, K. L., & Krajcik, J. S. (2011). Supporting Grade 5-8 Students in Constructing Explanations in Science: The Claim, Evidence, and Reasoning Framework for Talk and Writing. *Pearson*.

McNeill, K. L., González-Howard, M., Katsh-Singer, R., y Loper, S. (2017). Moving Beyond Pseudoargumentation: Teachers' Enactments of an Educative Science Curriculum Focused on Argumentation. *SciEd*, *101*(3), 426-457.

McNeill, K. L., González-Howard, M., Katsh-Singer, R., y Loper, S. (2016a). Pedagogical content knowledge of argumentation: Using classroom contexts to assess high-quality PCK rather than pseudoargumentation. *Journal of Research in Science Teaching*, *53*(2), 261-290.

McNeill, K. L., Katsh-Singer, R., González-Howard, M., y Loper, S. (2016b). Factors impacting teachers' argumentation instruction in their science classrooms. *International Journal of Science Education*, *38*(12), 2026-2046.

McNeill, K. L., y Pimentel, D. S. (2010). Scientific discourse in three urban classrooms: The role of the teacher in engaging high school students in argumentation. *Science Education*, *94*(2), 203-229.

Noroozi, O., Weinberger, A., Biemans, H. J., Mulder, M., & Chizari, M. (2012). Argumentation-based computer supported collaborative learning (ABCSCL): A synthesis of 15 years of research. *Educational Research Review*, *7*(2), 79-106.

Osborne, J. (2010). Arguing to learn in science: The role of collaborative, critical discourse. *Science*, *328*(5977), 463-466.

Osborne, J. (2010). Arguing to learn in science: The role of collaborative, critical discourse. *Science*, *328*(5977), 463-466.

Osborne, J., Erduran, S., y Simon, S. (2004). Enhancing the quality of argumentation in school science. *Journal of research in science teaching*, *41*(10), 994-1020.

Pontecorvo, C., y Girardet, H. (1993). Arguing and reasoning in understanding historical topics. *Cognition and instruction*, *11*(3-4), 365-395.

Ruthven, K., Mercer, N., Taber, K. S., Guardia, P., Hofmann, R., Ilie, S., ... y Riga, F. (2017). A research-informed dialogic-teaching approach to early secondary school mathematics and science: the pedagogical design and field trial of the epiSTEMe intervention. *Research Papers in Education*, *32*(1), 18-40.

Sadler, T. D. (2006). Promoting discourse and argumentation in science teacher education. *Journal of Science Teacher Education*, *17*(4), 323-346.

Sampson, V., & Blanchard, M. R. (2012). Science teachers and scientific argumentation: Trends in views and practice. *Journal of Research in Science Teaching*, *49*(9), 1122-1148.

Sengul, O., Enderle, P. J., & Schwartz, R. S. (2020). Science teachers' use of argumentation instructional model: linking PCK of argumentation, epistemological beliefs, and practice. *International Journal of Science Education*, 1-19.

Shulman, L. (2019). Aquellos que Entienden: Desarrollo del Conocimiento en la Enseñanza. *Profesorado, Revista de Currículum y Formación del Profesorado*, *23*(3), 269-295.

Toulmin, S. E. (1958). *The philosophy of science* (Vol. 14). Genesis Publishing Pvt Ltd.

Van Driel, J. H., Meirink, J. A., van Veen, K., & Zwart, R. C. (2012). Current trends and missing links in studies on teacher professional development in science education: A review of design features and quality of research. *Studies in science education*, *48*(2), 129-160.

Van Eemeren, F., y Grootendorst, R. (2004). *A systematic theory of argumentation: The pragma-dialectical approach*. Cambridge University Press.

Vergara Díaz, C., & Cofré Mardones, H. (2014). Conocimiento Pedagógico del Contenido:¿ el paradigma perdido en la formación inicial y continua de profesores en Chile?. *Estudios pedagógicos (Valdivia)*, *40*(ESPECIAL), 323-338.

Wang, J., & Buck, G. A. (2016). Understanding a high school physics teacher's pedagogical content knowledge of argumentation. *Journal of Science Teacher Education*, *27*(5), 577-604.

Watters, J. J., & Diezmann, C. M. (2016). Engaging elementary students in learning science: an analysis of classroom dialogue. *Instructional Science*, *44*(1), 25-44.

Anexo 1.

Prueba diseño de actividad argumentativa

A continuación, se le solicita que diseñe una clase con el objetivo de usar pedagógicamente la argumentación para promover aprendizajes disciplinares y habilidades de argumentación.

Usted deberá escoger un concepto que quiere trabajar con sus estudiantes para que estos aprendan, y realizar el diseño pensando en ese contenido curricular. El diseño deberá responder al logro de los objetivos de aprendizaje formulados.

1- Objetivos de aprendizaje

Complete las siguientes frases para indicar cuáles serán los objetivos de aprendizaje que se trabajaran:

Al finalizar esta actividad, los y las estudiantes:

– Comprenderán el(los) concepto(s) _____. [Reformule de manera que calce con lo que usted quiere proponer como objetivo de aprendizaje, resguardando de ser claro respecto al conocimiento disciplinar involucrado]

– Serán capaces de _____ _____. [Reformule de manera que especifique las habilidades de argumentación que quiere lograr]

2- Diseño

Complete las siguientes dimensiones para dar cuenta del diseño de clase que trabajaran:

1. **Desarrolle sus ideas sobre los dos objetivos de aprendizaje**

2. **Describa las estrategias pedagógicas que serán utilizadas. ¿Cómo logrará usted que los estudiantes hagan lo que usted espera?**

3. **Describa en detalles la actividad a través de la que logrará los objetivos de aprendizaje antes descritos. ¿Qué quiere que hagan los y las estudiantes?**

4. Describa qué les necesita decir a los estudiantes para garantizar el logro de la actividad ¿Qué instrucciones dará a los y las estudiantes?

5. Describa las condiciones materiales requeridas para la actividad (tiempos y materiales) ¿Qué necesitará para el logro de la actividad?

6. Describa las estrategias de evaluación del aprendizaje ¿Cómo sabrá si los y las estudiantes lograron los objetivos de aprendizaje? Refiérase a ambos objetivos (conceptual y argumentativo) de aprendizaje por separado

7. Justifique su diseño ¿Por qué las actividades, instrucciones, materiales y modos de evaluación le permitirán el logro de los objetivos de aprendizaje y argumentativos propuestos?

Anexo 2.

Rubrica de evaluación de actividades argumentativas

CATEGORÍA		3. ALTO (PERFIL ARGUMENTATIVO COMPLEJO)	2. MEDIO (PERFIL DIALÓGICO DE ENSEÑANZA)	1. BAJO (PERFIL ARGUMENTACIÓN COMO JUSTIFICATIVA CONCEPTUAL)	0. NO LOGRADO (PERFIL TRANSMISIÓN DE CONOCIMIENTO)	PJE
1. Objetivo pedagógico argumentativo		Objetivo centrado en desarrollar en uso de la argumentación en acciones de defender o criticar argumentos uno de lo otros Descripción de relación entre proceso y producto	Objetivo centrado en la en el intercambio de posiciones o puntos de vista distintos sin necesariamente tensionarlos entre ellos (levantar ideas y diversidad de posiciones) Descripción solo proceso	Objetivo centrado en la justificación o evaluación individual de argumentos (hacia el contenido correcto) Descripción solo producto	No propone objetivo argumentativo o no se observa	
Actividad argumentativa	2.1 Estrategia pedagógica argumentativa	Contenido curricular a trabajar: privilegia las voces en oposición (crea estas condiciones) como forma de construcción de conocimiento (pide consensuar, negociar, decidir entre ellos) Ej. Modelo dialectico y retorico de la enseñanza argumentativa	Contenido curricular a trabajar: privilegia la voz de los estudiantes sobre el tema (pedir opiniones, reflexiones, perspectivas) pero sin pensar en elementos de oposición o controversia (voces sin interacción argumentativa) Ej. Modelo dialógico de la enseñanza	Contenido curricular a trabajar: permite levemente voz a los estudiantes (conocimiento previo o acciones de expresar ideas) con énfasis en conceptos correctos (experimentación u observación de fenómenos) Ej. Modelo construcción el conocimiento o argumentación científica centrada	Contenido curricular a trabajar: presenta exclusivamente voz del docente, sin permitir voz a los estudiantes Ej. Modelo transmisivo del conocimiento	
	2.2 Diseño de trabajo colaborativo	Trabajo donde se solicita trabajar en grupo en una actividad que favorece la discusión de distintas ideas: Ej. Tomar decisión y consensuar en grupo utilizando fundamentos para persuadir en la discusión	Trabajo donde se solicita trabajar en grupo, pero es una actividad que no favorece interacción argumentativa entre ellos (no es solicitado consensuar, decidir, negociar o elegir colectivamente una solución/modelo/ evidencia en relación con el contenido trabajado)	Trabajo donde se solicita sólo actividad individual de producción de justificativas (no privilegia la interacción entre estudiantes) o búsqueda de información colectiva pero centrada en el conocimiento individual (copia u observación de experimentos)	Trabajo donde se solicita sólo actividad individual donde no se solicita ni justificar ni pensar en ideas distintas a la correcta o no se observa Ej. copia de contenido	
	2.3 Evaluación de calidad de interacciones argumentativos	Propone evaluar la interacción argumentativa entre los estudiantes: uso de argumentos, capacidad de sostener o desafiar ideas; evalúa la estructura de los argumentos y la participación en la actividad colectiva Ej. Evalúa la interacción argumentativa: defender y convencer usando argumentos en la actividad	Propone evaluar la participación de los estudiantes en exponer ideas, centra el énfasis en la participación colectiva sin pensar en el elemento argumentativo Ej. Evalúa la participación y valora el elemento grupal de la actividad	Propone evaluar la estructura de los argumentos de manera individual (calidad de las evidencias; justificación de ideas) Ej. Evaluar el "porque" de una justificativa se relacionar con conceptos correctos	Propone evaluar solamente contenido curricular sin mención a la argumentación o no se observa Ej. Evalúa conceptos correctos	
	2.4 Uso de los recursos pedagógicos	Centra en: usar los recursos de manera a estimular los estudiantes a argumentación entre posiciones claramente en oposición (textos, videos, fichas). Ej. Datos que sostienen dos posiciones opuestas. Materiales que sostienen la oposición entre ideas. Ej. Modelo dialectico y retorico de la enseñanza argumentativa	Centra en: usar los recursos de manera a estimular el dialogo sobre diferentes posiciones sin explorar conflictos entre ellas (diferentes modelos o explicaciones para un fenómeno) Ej. Modelo dialógico de enseñanza	Centra en: usar los recursos de manera a promover la búsqueda o construcción de conocimiento (fichas, guías, videos) de manera a sostener conocimiento o argumento (individual y unilateral) Ej. Modelo construcción de conocimiento	Centra en: usar los recursos de manera a transmitir conocimiento (fichas, guías, videos) de manera unilateral o no se observa Ej. Modelo transmisión de conocimiento	
Total						

1) objetivo pedagógico argumentativo; 2) estrategia pedagógica argumentativa; 3) diseño de trabajo colaborativo; 4) evaluación de calidad de interacciones argumentativos; y 5) uso argumentativo de los recursos pedagógicos