Argumentation Theory

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Argumentation theory (AT) shares a fundamental condition with communication theory at large. It is a pre-paradigmatic discipline, which has not consolidated into a single "normal" theory consisting of a structured set of dominant, widely recognized empirical results and theoretical assumptions. Rather, it is built of a web of distinct approaches sharing some basic goals, issues, methods, and terminology, as well as historical background.

The first obvious commonality is the interest in the notions of argument and argumentation. These are hotly debated concepts and various approaches tend to highlight their different characteristics. An important contribution to this debate during the 1970s and 1980s was O'Keefe's (1977) distinction between "two concepts of argument." *Argument*$_1$—an argument that someone *makes*—is a verbal act containing a set of propositions (premises) supporting another proposition (conclusion). *Argument*$_2$—an argument that someone *has*—is a verbal activity, a kind of interaction where some claim is disputed. These two senses cover well the ordinary ways of speaking about arguments, at least in English. They also account for a continuum of phenomena studied as arguments: from "mathematical arguments" (i.e., proofs) in formal reasoning to "serial arguments" (i.e., quarrels) among couples studied in interpersonal communication.

Key contributions to AT stress, however, that its central object of study is argumentation understood as exchange of reasons in the context of doubt or disagreement. Most relevant cases are, then, those where arguments$_1$ are produced within arguments$_2$ or, conversely, arguments$_2$ that include arguments$_1$. Prototypical arguments of that kind are found in legal disputes where typically two sides clash over the contested issue (argument$_2$) and proceed by producing reasons supporting their case (arguments$_1$), next to objections against the other side's case. This excludes the study of deductive proofs that transfer certainty from one set of claims to another leaving no space for doubt and disagreement. Similarly, heated verbal conflicts where parties only trade insults, but no reasons, are not within the chief interest of AT. AT thus departs from formal disciplines such as deductive logic and turns to examining actual happenings of argumentation, employing empirical methodologies such as discourse analysis. All the same, by focusing on reasons, AT becomes directly related to the philosophical study of rationality and gains its normative dimension. This is no surprise given that even in ordinary usage the notions of "good reason" and "bad reason" are inherent to the notion of "reason." Accordingly, the study of *fallacies* ("bad arguments" broadly conceived) constitutes a central part of AT. Such normative investigations of AT often

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have a practical objective of correcting errors and improving the way we argue, as evidenced in numerous textbooks on "good reasoning," "critical argumentation," or "critical thinking."

An important entry point into understanding the main issues in AT and its varied approaches is the classic tri-partition between rhetoric, dialectic, and logic. Since the late 1970s Joseph Wenzel has spoken of them as "three perspectives on argument" (Wenzel, 1990). Rhetoric approaches argumentation as "a natural process of persuasive communication" (p. 9). This *process* requires skillful adaptation of our symbolic resources (language, image, sound) to a given audience in situations where decisions cannot be based on impersonal evidence. Dialectic focuses instead on *procedures* regulating discussions in which competing claims are tested through a comprehensive exchange of arguments and criticisms. Such procedures provide norms that, when followed, produce cogent argumentation leading to reasonable conclusions. Finally, logic examines the *products* of argumentation. It defines methods and standards by which we can reconstruct and evaluate the inferential structure of arguments. Wenzel stresses that these are perspectives from which we can view each argument, rather than distinct types of argument (a claim continuously debated in the field). Moreover, while each perspective requires descriptive insights, they are all driven by a normative objective of defining what a good argument is.

Frans van Eemeren and Rob Grootendorst (2004) relate the normative underpinnings of rhetoric, dialectic, and logic to three different conceptions of rationality distinguished by Stephen Toulmin. Rhetoric is imbued with *anthropological* rationality, where judgments of rationality are always relative to a given community situated in a certain historical and cultural context. Dialectic embodies *critical* rationality, where rational claims are those that are critically tested through some methodic procedures. Finally, logic, in its mainstream variants, largely follows the norms of *geometrical* rationality, based on the idea of complete and conclusive proof.

Today, argumentation theorists attempt to integrate the logical, rhetorical, and dialectical elements into one comprehensive theory. An emerging consensus is that arguments are conveyed through informal schemes of inference in various "rhetorical situations" and their rationality is controlled by dialectical standards of "critical testing": weighing pros and cons and following "the better argument." Accordingly, within current comprehensive research on argumentation, one can distinguish at least three main areas of interest:

- schemes and structures of inference (originating in logic);
- shape and role of argumentative discussions (originating in dialectic);
- contexts of arguments (originating in rhetoric).

In this way, AT expands from analyzing individual units of arguments to interactions where argumentation naturally occurs, and to broader communicative contexts that tie argumentation to main societal activities (politics, law, education, healthcare). Importantly, each of these areas would compete for being *the* area that most adequately defines *fallacies*—a notion sitting at the core of the normative interests of AT. Depending on a theoretical focus, fallacies are understood as invalid inferences, violations

of the rules of dialectical discussions, or contextually improper arguments. Both the historical developments and current research in AT can be sketched following these distinctions.

Historical background

Aristotle

As with so many other disciplines, Aristotle provided the first authoritative systematization of the ideas on argumentation in the Western world. Aristotle's philosophical views were shaped by a general functionalistic principle according to which each discipline requires precision adequate to its subject and aims.

In the realm of argumentation, logic ("analytics") commands the highest level of methodological rigor needed for formal proof and scientific demonstration. Aristotle's chief achievement in logic was the definition of deduction and its concrete model: the syllogism. Deduction is an inference where from some supposed statements (premises) another statement (conclusion) necessarily follows; that is, it cannot be the case that the premises are true but the conclusion false. The *syllogism* is a particular form of deductive argument. It uses classes of predication ("all," "some," "none") to connect three different terms (e.g., humans, mammals, and fish) in a construction consisting of a major premise, minor premise, and a conclusion. For instance:

All humans are mammals.	(major premise)
and	
No fish are mammals.	(minor premise)
therefore	
No fish are humans.	(conclusion)

Dialectic defines the resources and rules for verifying claims vis-à-vis a set of *endoxa*: commonly accepted or reputable opinions (rather than scientific knowledge). This happens through a contentious argumentative discussion where the questioner tries to bring the answerer to a contradiction, thus showing his position to be unsustainable. In ancient Greece, the art of dialectic was used as an exercise in argumentative skills, a task comparable to modern collegiate debate competitions. Moreover, Aristotle saw it as a general method adequate to critically testing "the plausible" (rather than "the certain") and—a much debated claim—to getting at the very first principles of science. Dialectical arguments rely on *topoi*: commonplace inferential patterns, such as "from results to causes." Fallacious arguments can be seen as "sophistical refutations" resorted to in a dialectical discussion.

For Aristotle, rhetoric is "a counterpart of dialectic": It employs similar resources but in a less stringent context of public speaking. Rhetors aim at persuading their audiences by adjusting all the available means of persuasion they can marshal to the occasion at hand. There are three basic means of persuasion: *Ethos* rests on the character of the speaker, *pathos* on attending to the hearers' emotions, and *logos* on the quality of the arguments. One crucial means of persuasion via logos is the *enthymeme,* a rhetorical

version of the syllogism where one of the premises is implicit and left to be filled by the audience. For instance, when arguing that Athens should seriously consider attacking Sparta because this will be beneficial to the Athenians, one does not need to spell out that all things beneficial to the Athenians should be seriously considered by them. In general, rather than focusing on technically sophisticated but possibly tedious arguments, rhetorical arguers should adapt to the audiences, by grasping well their characteristics on a given occasion. Accordingly, Aristotle's three genres of rhetoric—deliberative, judicial, and ceremonial (*epideictic*)—are distinguished primarily through the type of audience addressed: assembly members, jurymen, and spectators of public speeches.

Aristotle's theorizing shaped for centuries our understanding of argumentation and often remains surprisingly relevant in addressing current problems of AT.

Twentieth-century revival of argumentation disciplines

In what follows we immediately turn to the groundbreaking work in AT in the 20th century, while acknowledging the immense medieval, Renaissance, and early modern tradition. A key factor in this context is the emergence and success of modern formal logic as of the late 19th century. Most developments in AT stand in contrast to the logical concept of argumentation as a succession of formal proofs.

Toulmin's model of argument: Stephen Toulmin, a British philosopher (1922–2009), was one of the most prominent scholars who argued that logic has "lost touch with its application" (1958, p. 8). In his seminal work, *The Uses of Argument* (1958), Toulmin instead promoted a view of logic as "generalized jurisprudence," which produces principles that need to be tested against the actual practice of argument. This view formed the basis for Toulmin's major contribution to the field: "a layout of arguments" that represents the different elements invoked in the course of an argument, and their functions. "The Toulmin model," as the layout became known, marked a radical shift from the models usually developed by logicians. Not only was it more complex, but also it acknowledged that the criteria for assessing the validity of arguments are not universal, as usually claimed by logicians, but rather field-dependent. In this way, Toulmin moved from the understanding of an inference as a formal relation between propositions to a material inference grounded in the content of the premises in a given field of argument.

The Toulmin model represents the different "steps" that constitute arguing in defense of a claim. In the most basic step we support our *Claim* (C: the "conclusion whose merits we are seeking to establish") by providing *Data* (D: "facts we appeal to as a foundation for the claim") (1958, p. 90). This step is authorized by means of a *Warrant* (W), which is a general, hypothetical statement such as a rule, principle, or inference-license that connects the data to the claim (see Figure 1).

But one need not stop here. In defending our claim we may *Qualify* the claim (Q) and set conditions of exception or *Rebuttal* (R). Moreover, we may provide support for the warrant, by means of what Toulmin calls *Backing* (B) (see Figure 2).

According to Toulmin, this layout provides all the different types of elements that may be used in analyzing a complex argument, such as:

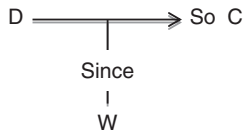

Figure 1 Toulmin model: basic layout.

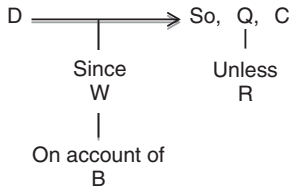

Figure 2 Toulmin model: complete layout.

Harry was born in Bermuda	(D)
A man born in Bermuda will generally be a British subject	(W)
On account of the following statutes and other legal provisions	(B)
So, presumably	(Q)
Unless his parents were aliens	(R)
Harry is a British subject	(C)

Toulmin insists that while the layout itself is universal (field-invariant), the criteria for assessing each of the steps are field-dependent. The different elements of the layout are of different natures and they need to be distinguished if we are to provide sufficient means for assessing the actual arguments put forward by people.

While Toulmin's model can be criticized on a number of accounts, it has contributed insights instrumental in developing the field of *informal logic* (van Eemeren et al., 2014, chap. 4; Freeman, 2011; Johnson, 2000). Today, it remains influential among speech communication, legal, artificial intelligence, and education scholars.

Perelman's new rhetoric: Another prominent voice against the domination of formal logic came from Chaïm Perelman. The Polish-born, Brussels-based philosopher (1912–1984) worked closely with the Belgian academic Lucie Olbrechts-Tyteca (1899–1987). Together they wrote *Traité de l'argumentation: La nouvelle rhétorique* (1958), translated into English as *The New Rhetoric: A Treatise on Argumentation* (1969). Like Toulmin, Perelman and Olbrechts-Tyteca were concerned with the study of ordinary argumentation that "eludes the certainty of calculations" (1969, p. 1) and that is consequently not covered by formal logic. But their work can be considered an even more radical departure from formal logic: Their study of argumentation is primarily descriptive, aiming to provide an inventory of common argumentation techniques rather than standards for their evaluation.

For Perelman and Olbrechts-Tyteca, central to the investigation of argumentation is the audience: "since argumentation aims at securing the adherence of those to whom it is addressed, it is, in its entirety, relative to the audience to be influenced" (1969, p. 19). Accordingly, a good arguer is the one who adapts to her audience. However, given that

speakers more often than not face "composite audiences" holding heterogeneous opinions, the task of adapting one's argumentation becomes complex. Here, Perelman and Olbrechts-Tyteca's distinction between *particular* and *universal* audiences becomes crucial. Apart from seeking the adherence of the embodied particular audiences, a speaker may argue as if addressing the universal audience. The universal audience is an ideal reasonable audience that a certain speaker wishes to influence, and that she defines depending on the context and purposes of the argument.

Perelman and Olbrechts-Tyteca emphasize that in order to increase the adherence of the audience, argumentation needs to be anchored in a "basis of agreement" between the speaker and her audience. In order to secure that, the arguer needs to choose "facts," "truths," and "presumptions" that are accepted by her audience as well as "values," "hierarchies," and "loci" that are shared by them.

In making their inventory of argumentation techniques, Perelman and Olbrechts-Tyteca distinguish between two main processes that underlie them: (i) *association*: "schemes which bring separate elements together and allow us to establish a unity among them"; and (ii) *dissociation*: "techniques of separation which have the purpose of dissociating, separating, disuniting elements which are regarded as forming a whole" (1969, p. 190). The techniques that rely on a process of association include making use of quasi-logical arguments, appeals to the existing structure of reality, and arguments that establish a new structure of reality. Argumentation by dissociation divides a seemingly united concept into two contrasting aspects ("pairs"), such as "appearance–reality," typically in response to incompatibilities.

Perelman and Olbrechts-Tyteca view their rhetoric, wedded to dialectic, as a general theory of ordinary argumentation. They provide an immense reservoir of insights into techniques of argumentation and its general audience-dependence (Tindale, 2015). For its merits, *The New Rhetoric* has had a lasting influence on argumentation scholarship in general, and especially on rhetoricians and legal rhetoricians.

Hamblin's dialectical fallacies: Similarly to Toulmin and Perelman, Charles Hamblin—an Australian (1922–1985)—was among prominent 20th-century philosophers frustrated with the limitations of the formal logical treatment of argumentation. He developed his constructive critique through an in-depth historical and theoretical study of bad arguments, or fallacies (Hamblin, 1970).

Hamblin starts by identifying the historically dominant "standard treatment," which defines a fallacious argument as "one that seems to be valid, but is not so" (1970, p. 12). This definition appears to correctly capture what fallacies are: seemingly reasonable but in fact deceptive arguments that attempt to persuade us with some covert illogical trick. Take, for example, the argument from ignorance (*ad ignorantiam*): "ghosts exist because nobody has ever proven they don't." However, as Hamblin extensively argues, many classic fallacies do not fall under this definition; some actually seem *in*valid, but logically speaking are valid. For instance, circular arguments—such as "the soul is immortal because it never dies"—are logically correct but hardly persuasive inferences.

Overall, "the standard treatment" is not consistent with logical theories and offers only a superficial analysis of an eclectic collection of fallacies. Next to Aristotle's fallacies dependent on language (e.g., equivocation) and outside language (e.g., hasty generalization), the field is replete with later additions. Most famous among them are various

"ad" fallacies such as *ad hominem* (personal attack), *ad baculum* (threat), *ad misericordiam* (appeal to pity), or *ad populum* (crowd appeal). (Despite their Latin names, they were mostly coined by modern English scholars, starting from John Locke in the 17th century.) Hamblin's chief critique is that there is no one consistent account of why such diverse arguments are actually fallacious.

His solution is to return to the original context in which Aristotle's study of fallacies was first undertaken, namely, to "ancient Greek patterns of public debate" (1970, p. 39). "Fallacies find their true modern home," Hamblin argues, within "the theory of the use of language in practical situations: what [philosopher Rudolf] Carnap called Pragmatics and what we shall find reason to call Dialectic" (p. 40). Accordingly, he proposes that it is a systematic study of argumentative dialogues—*dialectical systems*—that can give us a consistent and comprehensive account of fallacies. It is such dialogues, rather than logicians' invented isolated arguments, which embrace all kinds of argumentation-relevant "linguistic acts": in addition to arguments (inferences), also questions, challenges, or concessions. Arguers should use their own standards of premise acceptability, and follow certain rules (defining, e.g., what they are committed to or what counts as a relevant response). Fallacies, in the most general sense, are violations of these rules.

Hamblin stresses that the study of argumentative dialogues should consistently combine descriptive and formal analysis. He focused on the formal analysis, and so did many of his followers within philosophy and computer science who develop formal models of dialogues used in decision-making, law, or education. Many others, such as pragma-dialecticians, turned to seriously investigating argumentative discussions in ordinary language.

Contemporary developments

Schemes and structures of inference

The nature of the inferences underlying arguments has been the subject of much AT scholarship. Toulmin took the study of inferences, which was until then mostly a domain of formal logic, to the realm of *informal* logic, where inferences are field-dependent relations grounded in the content of the premises. Perelman and Olbrechts-Tyteca took it more toward the realm of rhetoric, where arguers adapt to their audiences in choosing the appropriate argument schemes. Despite its diversity, research on this particular issue can be divided into two main lines: (i) *argument schemes* connecting premises to their conclusions in a single inference, and (ii) *argument structures* through which complex inferences are organized.

Douglas Walton published numerous works each devoted to the investigation of one particular scheme, such as "argument from authority" or "argument from popular opinion." Overall, he identified over 60 types of informal inferences that underlie arguments and formulated *critical questions* that can be used to assess each of them. Figure 3 is an example of Walton's schemes and critical questions (Walton, Reed, & Macagno, 2008, pp. 56–62).

Walton's schemes have been used for teaching critical thinking classes, as well as in developing argument diagramming tools.

Argument from Analogy:
Major Premise: Generally, case C1 is similar to case C2.
Minor Premise: Proposition *A* is true (false) in case C1.
Conclusion: Proposition *A* is true (false) in case C2.

Critical Questions:
CQ1: Is *A* true (false) in C1?
CQ2: Are C1 and C2 similar, in the respects cited?
CQ3: Are there important differences (dissimilarities) between C1 and C2?
CQ4: Is there some other case C3 that is also similar to C1 except that *A* is false (true) in C3?

Figure 3 Walton's argumentation schemes: analogy.

Unlike Walton, van Eemeren and Grootendorst (2004) propose that inferences linking arguments to their standpoints can be classified into three main types, under which a few more subtypes can be identified. The "linking premises" can be grounded in: (i) *analogy*, or (ii) *symptomatic* or (iii) *causal* relationship. On this account, an argument based on metaphor is a subtype of the argument scheme from analogy, the argument from expert opinion is a subtype of the symptomatic scheme, and the pragmatic argument is a subtype of the causal scheme. Here too, critical questions are formulated: general questions relevant to each of the types of schemes as well as specific questions relating to the subtypes.

One of the most recent developments in the study of argument schemes, although deeply rooted in classical Aristotelian and medieval scholarship, can be found in the argumentum model of topics (AMT) developed by Rigotti and Greco Morasso (2010). They emphasize that a complete representation of the inferential configuration of arguments needs to include not just a procedural component but also a material, that is, contextual and cultural one. In the AMT, this is achieved by means of two intersecting branches: a procedural one where the *loci* and *maxims* appealed to are represented, and a semantic/material one where the *endoxa* and *data* involved in the arguments are represented. The model has been used for analyzing argumentation in different contexts ranging from mediation disputes to newsroom discussions.

Despite its being equally important, the study of argumentation structures has not been as diverse as the study of argument schemes. The main typologies of structures identified by different scholars are very similar. Informal logicians distinguish between three main structures: (i) *serial*, where premises support one another in a chain that leads to the conclusion; (ii) *linked*, where several premises constitute together one support for the conclusion; and (iii) *convergent*, where premises constitute several independent lines of support for the same conclusion (Freeman, 2011; see Figure 4).

The three main structures identified by in the pragma-dialectical theory (respectively: *subordinative*, *coordinative*, and *multiple*) are distinguished along similar lines, although with a dialectical justification (van Eemeren & Grootendorst, 2004). Arguers resort to different structures depending on the type of criticism they anticipate (or respond to).

Shape and role of argumentative discussions

While the study of argumentative inferences originates from philosophical curiosity in the leap from the known (premises) to the unknown (conclusion), many theories,

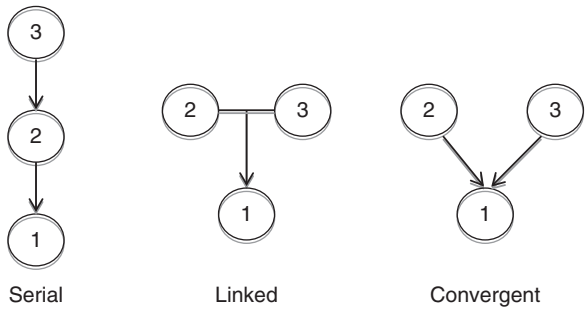

Figure 4 Diagrams of basic argument structures.

following Aristotle's *Topics*, include an important dialogical element. The leap then rests on a collaborative effort of two speakers who negotiate their common assumptions and mutually test the inferential steps taken. In this way, an argument becomes "the distillate of the practice of argumentation" (Johnson, 2000, p. 168) and, consequently, it is the study of argumentative practice that gains priority (Lewiński & Aakhus, 2014). This practice has traditionally been theorized as a form of interpersonal argumentative exchange between two speakers (questioner–answerer, proponent–opponent). Today, however, new lines of communication research take the study of argumentative exchanges beyond simple one-on-one dialogues.

Current studies of the shape and role of argumentative discussions come in many different shades: from decidedly descriptive work by conversation and discourse analysts to formal and typically normative models of dialogue used by logicians and computer scientists. Central to this research are, however, approaches that combine pragmatic study of ordinary language with normative considerations under the heading of "normative pragmatics" (van Eemeren & Grootendorst, 2004; Jackson, 2015).

The influential pragma-dialectical theory of van Eemeren, Grootendorst, Houtlosser, and their colleagues at the University of Amsterdam systematizes the main lines of argumentation research into one comprehensive account. Their point of departure is a philosophical ideal of critical rationality, which requires that reasonable agents thoroughly test their positions against relevant objections and questions. Pragma-dialectics embodies this ideal in the theoretical model of a *critical discussion*: a regulated argumentative dialogue aimed at the rational resolution of the difference of opinion between "the protagonist" and "the antagonist" on the merits of their arguments and criticisms. Through its *dialectical* rules (van Eemeren & Grootendorst, 2004), the model serves the normative objectives of AT: Any violation of the rules obstructs the exercise of critical argumentative rationality and constitutes a fallacy. The rules stipulate, for instance, that "discussants may not prevent each other from advancing standpoints or from calling standpoints into question" or that "standpoints may not be defended by non-argumentation or argumentation that is not relevant to the standpoint" (2004, pp. 190, 192).

The model of a critical discussion also fulfills crucial heuristic and empirical functions thanks to its *pragmatic* component. The argumentative moves in the model are defined in terms of ordinary *speech acts*: expressing a standpoint, challenging it, agreeing on common starting points, advancing argumentation, asking critical

questions, defining. This allows for a methodic reconstruction of ordinary argumentative discourse in terms of clearly defined, argumentation-relevant moves. Pragma-dialectics assumes that whenever we seriously enter into argumentation, we can be seen as aiming to perform something like a critical discussion—whether we eventually succeed or fail.

In a further development, pragma-dialectics focused on the concept of *strategic maneuvering* (van Eemeren et al., 2014, chap. 10.8) grounded in the recognition that we ordinarily argue to get our message across, to convince others; in short, to win. To this end, we employ the resources of rhetoric: We adapt to our audiences by opportune stylistic and topical choices. This, however, needs to be strategically balanced with the dialectical norms of a critical discussion: If we overdo our rhetoric without reasonable justification, our maneuvering "derails" and we commit fallacies. Strategic maneuvering captures particularly well the old Aristotelian idea that argumentation is always a form of cooperative competition.

Pragma-dialectics stands somewhere in the middle of the range of studies of argumentative dialogues. A number of more abstract and formal models have been developed. An important contribution is due to Walton and Krabbe (1995), who distinguish six basic *types of dialogue* based on their initial situation, the main goal, and participants' aims: persuasion dialogue, negotiation, inquiry, deliberation, information-seeking, and eristic dialogue. Their account starts from a theoretical and normative stance and then seeks to apply their concepts—often not without difficulty—to "typical conversational settings."

On the other end of the continuum there are a group of scholars—such as Mark Aakhus, Robert Craig, Marianne Doury, Jean Goodwin, Sally Jackson, Scott Jacobs, Fred Kauffeld, Karen Tracy, and others—whose research stems from a genuine interest in actual happenings of argumentative interactions. Rather than descending from philosophical theories of idealized dialogues in search of their empirical counterparts, they employ empirical methods of conversation and discourse analysis to investigate the practical theories and message designs arguers themselves resort to. According to Jackson and Jacobs (Jackson, 2015), argumentation functions as a natural part of our daily communication, responsible for "disagreement management." When arguing, we navigate through our "disagreement space" to "repair" broken conversational episodes (e.g., a rejected invitation), larger language games (e.g., stalled mediations), and eventually larger social activities, where the give-and-take of arguments is typically necessary to achieve goals such as policy-making. Increasingly, our argumentative exchanges are governed by intentionally designed interaction formats, many of them employing novel information technologies. This calls for a development of a "design perspective" that would employ the empirical and normative resources of AT in the service of innovative designs for improved argumentation (Jackson, 2015).

Such studies reveal complexities of argumentative interactions that pose challenges to some of the assumptions underlying idealized models of dialogue. Lewiński and Aakhus (2014) critically investigate the dyadic assumption that argumentation is always about two adversaries arguing "on both sides of an issue." They argue that many forms of argumentative interactions today are instead *polylogues*, in which multiple parties defend their distinct positions and cases across various communicative venues. Reducing such

complex communicative encounters to simple dyadic units does not do justice to the argumentative choices arguers resort to.

Contexts of argumentation

From its very beginnings, AT is posited on the assumption that argumentation never occurs in some pure cognitive space: It is instead always a communicative practice occurring in various contexts of our daily life. The study of these contexts is thus indispensable to understanding how argumentation functions, how it is to be evaluated, and how to improve it.

The notion of "context" is, admittedly, hopelessly polysemic. In general, it refers to the textual and extratextual surrounding of discourse that is relevant to the production and understanding of that discourse. Pragma-dialecticians recognize at least four different levels of context that serve as useful heuristics in grasping contextuality in AT (van Eemeren et al., 2014, p. 538). The linguistic *micro*-context (co-text) refers to the text adjacent to the currently analyzed piece of argumentative text. This is different from the intertextual *discursive* context of other texts that current argumentation addresses. The *meso*-context is constituted by the situational, historical setting of argumentation, including the current state of debate on a given topic. Finally, the *macro*-context of larger institutionalized social practices (legal proceedings, political deliberation, classroom instruction) can be distinguished.

Most of the current work in AT relates to the last two levels of context. In particular, concepts defining the *macro-context* proliferate: from Toulmin's "argument fields" to Walton and Krabbe's "dialogue types," van Eemeren and Houtlosser's "communicative activity types," Rigotti and Rocci's "interaction fields and schemes," and Aakhus and Jackson's "communication designs." Within their respective theories of argumentation, these concepts seek to comprehend how varied institutional settings and forms of communication affect the ways we argue.

To use the language of Aakhus and Jackson: Our argumentative practices are always shaped by the affordances and constraints of the "communication designs" of a given society. They influence the types of issues to be debated, the range of acceptable premises (e.g., what counts as evidence in a criminal trial) and argument schemes (e.g., who can be invoked as an expert in a scientific argument), the relevance of argumentative moves (e.g., whether "third parties" can contribute content to the ongoing argument), acceptable ways to conclude arguments, and so forth. Moreover, what counts as a good argument rests typically on a contextual judgment. Appeal to public opinion typically constitutes a legitimate form of argument in democratic politics but less so in a scientific debate or legal proceedings. Systematic investigation of how social institutions shape our argumentation is thus crucial to understanding and appraising argumentation, as well as to understanding and appraising these institutions.

Such investigation is well underway in different corners of AT today. Argumentation is largely recognized as a form of communication that constitutes, or significantly contributes to, a wide array of fundamental social activities: public policy-making, legal proceedings, healthcare provision, education, social activism, interpersonal communication, and so forth.

Isabela Fairclough and Norman Fairclough (2012) analyze deliberative discourse across mostly institutionalized venues, such as the British Parliament or televised debates. To this end, they integrate their schema of practical argumentation with the methods of critical discourse analysis. They draw conclusions regarding the types and quality of arguments commonly used in the debates over the global financial crisis that started in 2008. Moreover, they turn to some general claims over the deliberative genre in argumentation, taking British parliamentary discourse as a prime example.

Rhetorical analysis of argumentative contexts started with a similar attention to different genres of public discourse distinguished by Aristotle: deliberative, judicial, and epideictic (see the earlier section on Aristotle). However, rhetorical scholars tend to turn to the *meso*-context, that is, to the particulars of given "rhetorical situations." They therefore typically focus on "the historical-critical study of specific texts or moments of rhetorical significance" (Zarefsky, 2014, p. 2). Zarefsky's (2014) analyses of the finest accomplishments of American public oratory, from the framers of the constitution to Barack Obama, fruitfully explore the intersection between historically particular rhetorical insights and generalizable conclusions about "political argumentation."

A different perspective on argumentation contexts is offered in Dale Hample's (2005) study of interpersonal argumentation. Hample combines quantitative and qualitative methods of communication research (questionnaires, think-aloud protocols) to illuminate our understating of why and how people argue in familiar situations of face-to-face disagreement.

Finally, arguments conveyed in the context of visual, and in general multimodal, communication have recently become objects of the concerted attention of argumentation scholars such as Leo Groarke, Michael Gilbert, Ian Dove, or Jens Kjeldsen. The key idea is that all kinds of semiotic systems, rather than language alone, can fulfill argumentative functions such as providing support for claims or convincing.

AT and other disciplines

By investigating various contexts, AT—in itself an interdisciplinary endeavor—encroaches on the disciplines that already have their own subject theories: political studies, law, communication (health, organizational, or environmental), education science, computer science, and others. In parallel, these disciplines take a deep interest in argumentation as a phenomenon central to their problematics. This results in joint projects and theoretical exchanges. Lewiński and Mohammed (2015), referring to political deliberation, propose that argumentation scholars can integrate with such subject disciplines at three different levels by: (i) using examples of parliamentary or classroom argumentation for largely illustrative purposes; (ii) producing more systematic accounts of, for example, deliberation or classroom instruction; or (iii) mutually aligning their understanding of argumentation and their methods and goals of argumentation study with political or education scientists. While such broader integration is still pending, significant advances have been made in this direction.

To start with, through reference to argumentation scholars, Jürgen Habermas (1984) examines argumentation as a process, procedure, or product in his philosophical "theory of argumentation." Habermas's *communicative rationality* is grounded in

the procedures governing rational-critical discussions, allowing for a free and open critical verification of arguers' "validity claims." His concept of "the force of the better argument" as the main vehicle of rational deliberation in the public sphere has inspired the ideas of "deliberative democrats" such as Simone Chambers, Joshua Cohen, John Dryzek, William Rehg, and others who explicitly acknowledge that argumentation is always central to deliberative democracy. In a similar vein, Frank Fischer and John Forester talk about "the argumentative turn" in policy analysis and planning.

The practice and theory of legal argumentation have constantly inspired AT: from Aristotle to Toulmin, Perelman, and Habermas, who all built their theories of argumentation explicitly taking legal argument as a model. This tradition continues today, with legal philosophers (such as Robert Alexy) and argumentation scholars (such as Eveline Feteris) alike inquiring into the conditions for rational production and interpretation of legal argument.

Argumentation is also a key concept in the educational movement of "critical thinking," which sees a chief method for improving our critical cognitive capacities in organized argumentation training and practice across the teaching curriculum. Other education scientists such as Deanna Kuhn or Anne-Nelly Perret-Clermont stress the centrality of argumentation skills in our cognitive development, tracing the importance of argumentative discussions to the foundational work in the field, such as that of Jean Piaget. On a somewhat larger scale, Hugo Mercier and Dan Sperber posit in their "argumentative theory of reasoning" that human reasoning skills have evolved largely as a result of our need for competent participation in argumentative encounters.

Last, but not least, there is dynamically evolving research on argumentation within the fields of computer science and artificial intelligence. Given our ever-growing dependence on information and communication technologies, these technologies' capacity to automatically identify, represent, or even conduct some of our argumentations becomes crucial. Research on argument mining, argument diagramming, and formal models of argumentation dialogues used in automated multi-agent systems continues across computer science departments, including important contributions from Katie Atkinson, Trevor Bench-Capon, Peter McBurney, Simon Parsons, Chris Reed, Bart Verheij, and many others.

SEE ALSO: Aristotle; Artificial Intelligence; Discourse Theory; Narrative Rationality; Persuasion and Social Influence; Pragmatics; Public Sphere; Relevance Theory; Rhetoric; Rhetorical Theory

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