

ISSA Proceedings 2014 - Toward Polylogical Analysis Of Argumentation: Disagreement Space In The Public Controversy About Fracking

Abstract: This paper offers a new way to make sense of disagreement expansion from a polylogical perspective by incorporating various places (venues), players (parties), and positions (standpoints) into the analysis. The concepts build on prior implicit ideas about disagreement space by suggesting how to more fully account for argumentative context, and its construction, in large-scale complex controversies.

Keywords: argumentation, controversy, deliberation, disagreement space, fracking, polylogue.

1. Introduction

Deliberation in the contemporary globalized, mediated environment presents an opportunity for reflecting on method in argument analysis. As we have argued before (Lewiński & Aakhus, 2014), one key conceptual issue is this: while multi-party and multi-position argumentation (*polylogue*) is prevalent, the analytic apparatus in argumentation studies tends toward dialectical analysis of dyadic disagreements. Such an analysis is posited on a set of often tacit assumptions about argumentation: it typically takes place in a fixed and definable setting where two parties (proponent vs. opponent) exchange reasons and criticisms in order to justify (or refute) some standpoint over which they disagree. Argumentation is thus presumed to be a communicative activity which expands along the lines of a disagreement space co-constructed by the two parties through their argument-relevant speech acts (see Jackson, 1992; van Eemeren et al., 1993, pp. 95ff.).[i]

In this paper, we propose how to make sense of disagreement expansion from a polylogical perspective by incorporating various *places* (venues), *players* (parties), and *positions* (standpoints) into the analysis. We use a case about transporting oil

by train drawn from the broader controversy about extraction of shale gas and oil resources using hydraulic fracturing (“fracking”), to which various players (e.g., companies, federal regulators, local communities, environmentalists, professional associations) contribute their conflicting views and arguments. In this way, the controversy develops as a polylogue, which is discourse (*logos*) among many (*poly*), that is, a dia-logue more complex than simple dialogue (discourse between two) typically used to model and analyze argumentation (Lewiński, 2014). The paper contributes to argumentation theory by developing polylogical analysis, which is important for advancing understanding of large-scale, multi-party argumentation (Aakhus & Lewiński, 2011).

2. Argumentation analysis of public controversies over energy production

To see how the dyadic assumptions about argumentation hide the polylogical character of disagreement expansion in public controversies, we consider some analyses of argumentation over energy production, as it is a constant source of contemporary public controversy. The economic, social, political, and environmental impacts of various technologies (coal, natural gas, oil, nuclear power, hydropower, wind and solar energy, etc.) are hotly debated between all the parties involved: from producers, distributors, state regulators, environmental groups, consumers, to local communities affected by energy production.

A good example of such a controversy extensively analyzed with the tools of argumentation theory is Royal Dutch Shell’s involvement in the oil production in Nigeria in the 1990’s (van Eemeren, 2010, Ch. 6; van Eemeren & Houtlosser, 1999, 2002; Johnson, 2002; Leff, 2006; Tindale, 1999, Ch. 5). Among the key issues of this public debate was Shell’s cozy relationship with the Nigerian military regime, its lack of concern for the environment and local communities and, in particular, its alleged complicity in the death of Ken Saro-Wiwa, a prominent Nigerian dissident and environmental activist. Shell decided to manage these issues by publishing an advertorial “Clear thinking in troubled times” in major world newspapers in November 1995 – which served as the basis for analyses mentioned above.

In their pragma-dialectical analysis, van Eemeren & Houtlosser clearly identify the complexities of the argumentative situation in this case. Shell addresses “the general public” with an attempt to refute the accusations leveled against the company by campaigners such as Greenpeace. Therefore: “Dialectically speaking we have here two opposing parties – Shell and the campaigners – and a third party – the public – that is supposedly neutral” (2002, p. 148). Later, using an

updated terminology, van Eemeren argues that the skeptical “general public” is Shell’s *primary audience* accessed via an ostensible argument with the oppositional *secondary audience*, the campaigners. Indeed, careful management of disagreement with the two is “a crucial element in Shell’s strategic maneuvering at the confrontation stage” (van Eemeren, 2010, p. 169). This is achieved by “dissociating the general public [...] from the campaigners who reacted against Shell’s involvement in Nigeria. [...] This strategic separation between the public and the campaigners has the advantage to Shell that the company can treat the public as a possible ally” (pp. 169-170).

The pragma-dialectical study meticulously analyzes the textual and contextual elements in Shell’s advertorial, and precisely reconstructs the structure of its arguments. Yet, despite openly conceding there are (at least) three parties to the controversy, and that this fact is one of the main vehicles for Shell’s strategic maneuvering, pragma-dialectics still relies on a dyadic model of communication. For instance, in the *dialectical profiles* of the reconstructed discussion between Shell and its opponents, the primary audience – “the general public” – merges with the secondary audience – “the campaigners” – into a single category of “opponents”, presumably to clear room for a dyadic dialectical analysis (van Eemeren, 2010, pp. 171-173). We see this as a blind spot, which significantly weakens the purported goal of the entire analysis: the “determining of the strategic function of argumentative moves” in this controversy (van Eemeren, 2010, Ch. 6; see Lewiński & Aakhus, 2014).

What is evident in Shell’s advertorial is argumentative dynamics that goes beyond a simple dyadic clash between a proponent and an opponent. There are, instead, numerous distinct groups which might oppose, doubt, or be concerned with Shell’s position. Tindale makes this clear in his analysis of the case: Shell “can expect a wide audience ranging from the hostile to the sympathetic to the indifferent” (1999, p. 127). While “the indifferent” largely correspond to the neutral general public in van Eemeren’s analysis and “the hostile” are “the campaigners”, Tindale discusses yet another “subgroup of principal interest” for Shell’s argument: the “sympathetic, but concerned” “members of the business community, particularly investors in the company, who have an economic interest in the issue” (1999, p. 127). Interestingly, for Tindale, Shell’s argumentation is heavily driven by the appeal to “the business component of its audience”, entirely left out from van Eemeren’s study: “A bottom-line position that permeates the

discourse is that Shell has no expectation of pulling out from Nigeria. The company's future economic success in the region rests in part on convincing investors of this." (1999, p. 128).**[ii]**

With this rhetorically-based analysis, we arrive at an understanding of a disagreement where at least four parties play a part: Shell, anti-Shell campaigners, Shell's concerned investors, and the general international public. This, arguably, is still a simplification. One can easily see Shell's competitors in the region, the Nigerian government, potential litigants (Saro-Wiwa's family), affected communities in Nigeria, and legal authorities in Nigeria and Holland (Shell's headquarters) as other possible stakeholders/players/parties in this very controversy.**[iii]** If Shell's text indeed "has been constructed with care and deliberation" (Tindale, 1999, p. 127), then we can reasonably expect that such (actual or potential) sources of doubt and disagreement have been carefully and deliberately managed in this one-page message.

The analyses of energy production controversies based on dyadic assumptions thus hide important complexities of argumentation as it happens in public controversies. Most notably, there are many players claiming a stake in the production process and its consequences, which leads to many positions being advanced and refuted in many places where energy production is carried out and discussed. If we want to analyze and evaluate such a controversy for what it is – a multi-party dispute, that is, multi-party argumentative interaction – we need a model of such an interaction. We call this model a *polylogue*. If the aim of argument analysis is only to assess the rationality of a single argument or evaluate the maneuvers of a particular arguer, then dyadic assumptions might suffice. However, public controversies are dynamic, multi-party activities that unfold over time in a variety of places. Such controversies often take on a particular form of life that is in turn constitutive of the content, direction, and outcomes of the very matters and activity that gave rise to the controversy in the first place (e.g. Schön & Rein, 1994). Understanding the logic of an argument or the reasonableness of a particular move by an actor is necessary but wholly insufficient for establishing an argumentative analysis of the controversy. What is needed is an argumentative understanding of the logic of the controversy, which can be developed through analysis of the polylogical expansion of disagreement.

3. Reconstructing argumentation as polylogical expansion of disagreement

3.1 Public controversies as polylogues

Some basic assumptions of argumentation theory are still greatly shaped by the way legal proceedings are conducted – a lasting influence that began with Aristotle and was perpetuated in the work of Toulmin (1958) and Perelman & Olbrechts-Tyteca (1969). Argumentation happens in a fixed venue (court of law), has pre-defined rules and a cast of characters, and amounts to a dyadic clash of two contradictory positions (guilty vs. innocent in a criminal trial) sustained by two confronting parties (accuser vs. accused). The analysis of Shell's advertorial using the pragma-dialectical model is a good example of this approach.

We argue that public controversies such as oil production and transportation quite clearly break these assumptions. The venues are constantly shifting and are strategically selected, designed, and argued about; players are numerous and fluctuating; and positions do not amount to a dyadic contradiction but rather involve a set of multiple contrary standpoints. In this way they become polylogues, that is, dialogues other than simple dialogues, or dyadic interactions. This, in itself, is unremarkable, given that most public interactions are in fact multilateral. What is remarkable, though, is that argumentation theory applies its dyadic, legally-inspired models to capture the strategic shape and rational quality of such polylogues.

Our main argument is that such complex situations – quite typical for public controversies – cannot be easily “fit into” the simple dialectical framework consisting of an opponent facing a proponent. As we argued before (Lewiński & Aakhus, 2014), it is possible for some localized episodes of argumentative exchanges, but it does not add up to an adequate account of the entire multi-party dispute. Similarly, the somewhat static and asymmetric rhetorical account of an *arguer qua speaker* facing (possibly multiple) *audience(s)* does not do full justice to the interactive discursive dynamics of an ongoing public dispute of this sort (Lewiński & Aakhus, 2014).

3.2 Activity breakdown and the emergence of argumentation

A breach or breakdown in human activity provides an important point of entry for argumentation analysis as suggested in the pragmatic theory of argument advanced by Jackson and Jacobs (e.g. Jacobs, 1989). Argumentation from their perspective is not a standalone activity or practice but is woven into the very tapestry of communication. Central to their theory is that argument functions as repair in human activities – that is, argument arises because it functions as a method for repairing the content or process of some ongoing activity. The activity in which people engage offers the natural grounds for raising doubts, objections,

and disagreement as well as for proof and justification (e.g. Jackson & Jacobs, 1981). Moreover, the substance and direction of any human activity is subject to the capacity of participants, and any third-parties or systems, to jointly manage the shape of the disagreement space through the relevant or digressive design of their argumentative moves (Jacobs & Jackson, 2006). While Jackson and Jacobs develop their account within settings of interpersonal argumentation, we find that the insight is remarkably scalable to any human activity (e.g. Aakhus, 2013).

Our point of entry into our current reflection on method for polylogical analysis is a news story published in the *New York Times* on January 25, 2014 entitled “Accidents surge as oil industry takes the train” (Krauss & Mouawad, 2014). Unlike Shell’s advertorial, this is not a dramatic and carefully crafted piece of rhetoric but instead a news story reporting on a turning point event. By selecting this text, we move away from focusing on an exceptional speech or a speaker towards a text that openly reflects on the social, political, and technical infrastructure that enables large-scale coordinated human activity. This is important for polylogical analysis, which seeks to articulate not only the arguments made but the argumentative activity and the function of arguments and argumentation in human activities. Since the text used here reports a breach or breakdown in human activity, it provides the analyst a form of “infrastructural inversion” where what is otherwise taken-for-granted in human activity as normal and unnoticed is exposed and made temporarily strange and ready for examination (see Bowker & Star, 1999). Among other important methodological concerns for analyzing argument, infrastructural inversion is a method for a pragmatic analysis such as advocated by Jackson and Jacobs. In particular, it draws analytic attention to making visible how argumentative activity is embedded within broad human activities and how argumentation shapes and is shaped by the conduct of human activity.

3.3 *Exploding trains*

Fracking (or: hydraulic fracturing) is a method of extracting natural gas and oil (the so called ‘shale’ gas and oil) from deep layers of ‘shale’ rock. It consists of an older technology and a new technology. The older technology involves fracturing rock by injecting high-pressurized liquids (water with added chemicals and sand) and thereby releasing the gas and oil trapped there. The newer technology involves drilling that can maneuver in nearly any direction rather than simple vertical drilling of prior eras. This method has been recently used on a massive

scale in the USA, increasing its oil production by 50% (from 2008 to 2013). This has turned the USA into one of the biggest gas and oil producers in the world and changed the availability of petroleum resources for consumption around the world. Because of this, the fracking business has been hailed as the chief agent of the USA's energy security, a job creator, and provider of cheap energy to American industry and consumers. Yet concerns remain. There are environmental hazards (documented cases of water pollution, methane emissions, micro-earthquakes, etc.), questions about the actual economic impact on local communities, and shifts in energy policy and investment away from non-carbon based energy sources. Consequently, there is an ongoing public controversy over fracking's economic, environmental, social, and political impact that stretches from local communities around extraction sites to USA's oil-driven global politics.

An important but overlooked aspect of shale oil and gas production is its transportation. Fracking takes place in new areas otherwise disconnected from traditional oil and gas production pipeline infrastructure. Hence a massive surge in the amount of oil shipped by rail: from 9,500 carloads in 2008 to 400,000 in 2013 (4,200% more). Not unexpectedly, rail supplies can hardly keep up with the increasing demand for efficient and safe large-scale transportation. Tragic accidents occur, such as the explosion of a train in Quebec, Canada, in July 2013 which killed 47 people. In 2013 alone, there were more spills than in the entire 1975-2012 period (Krauss & Mouawad, 2014). One of such major spills occurred in the town of Casselton, North Dakota, on December 30, 2013 where a train carrying crude oil crashed into a derailed grain train causing a major fire and oil spill. This has been a widely reported accident that further fueled the public debate about the safety of shale oil production and transportation.

Shale gas and oil production is a massive human undertaking made up of an interconnected web of activities coordinated through communication across time and space through many kinds of venues. The text of the news story thus opens up the landscape of the controversy and makes visible many parties and their beliefs and opinions about how the transportation of shale oil should be conducted. It is these beliefs and opinions that get drawn out and into the explicit discourse about transporting oil. The argumentative activities through which disagreement space around human activity is expanded and contracted can be understood by examining its possible venues, parties to the disagreement, and contended positions.

4. *Analysis*

4.1 *Places*

The news account reveals many places, or venues, where disagreement about the transportation of shale oil is managed. The news story provides some insight into and appreciation of a labyrinth of venues that are connected in more-or-less relevant ways around the matter of transporting shale oil.

There are five venues that stand out in the account. First, there is reference to informal public encounters, such as Kerry's Kitchen "where residents gather for gossip and comfort food especially the caramel rolls baked fresh every morning." **[iv]** Second, there is reference to formal closed 'disciplinary' meeting between principal actors in shale oil transportation: "Railroad executives, meeting with the transportation secretary and federal regulators recently, pledged to look for ways to make oil convoys safer - including slowing down the trains or rerouting them from heavily populated areas." Third, there is reference to formal private meeting where 'negotiations' between the industry representatives and regulators take place: "After the recent meeting with regulators, the American Petroleum Institute pledged it would share its own test data about the oil, which they have said is proprietary." Fourth, there is reference to private, informal deliberation: "Adrian Kieffer, the assistant fire chief, rushed to the accident and spent nearly 12 hours there, finishing at 3 a.m. 'When I got home that night, my wife said let's sell our home and move,' he said." And, finally, there is the news story itself which points to a privately structured public media space for communication about the incident.

While it is not possible to offer an extensive analysis of these venues referred to in the news story, it is important to note that the juxtaposition of these venues in the account suggests that there is no one institution, field, sphere, or conversation that defines and contains the disagreement. Instead we begin to see a complex infrastructure of venues where those with a stake in the shale oil production and transportation engage each other. Each venue is a means for argumentation to repair the breakdown in the shale oil production and transportation caused by the explosion. Each venue suggests argumentative conduct aimed at the various doubts, differences, and disagreements brought to life by the derailment and explosion.

While conventional pragmatic analysis of argumentation has begun to take into account the rules of the settings where argumentation happens by considering

the formal argumentative activity types characteristic of various institutions (e.g. legislative assemblies in political argumentation), conventional pragmatic analysis treats these as stable social structures to better understand the arguments and maneuvers of particular actors within the setting. By contrast, the news account offers an infrastructural inversion that draws into light the dynamic relationship of venues that is otherwise tacit, taken for granted, and even hidden from plain sight. From this vantage point, an analyst begins to see the varying ways disagreement expands through the creative struggle among the parties to pursue and place argumentation. There are concerns by industry and government over where best to handle the issues, whether through formal judicial proceedings or, as in the present case, a private disciplinary meeting among regulators and industry. This may illustrate a form of *venue shopping* where parties seek the most favorable place to handle a difference (e.g., Pralle, 2003). There are concerns by industry over the information available about oil and gas production and, in the present case, there may be a form of *venue entrepreneurship* where some participants seek to strategically alter some rules of engagement, such as when an industry representative worked with government to create a site where industry controls the dissemination of official industry information to stakeholders. Closer analysis of additional background may also reveal efforts at *venue creation* where parties seek to create an entirely new place to engage in argumentation. Thus, venues become part of the argumentation as parties seek to shape and discipline the pursuit and expansion of disagreement by selecting, altering, or creating venues for argumentation.

4.2 *Players*

The initial framing of the controversy in the *New York Times* news report is noticeably dyadic. The journalist is clearly trying to put in motion some simple adversary dialectics between oil “producers” and their “critics”: “In the race for profits and energy independence, critics say producers took shortcuts to get the oil to market as quickly as possible without weighing the hazards of train shipments.” Such two-sidedness has become a landmark of modern journalistic writing as a vehicle for impartiality and comprehensiveness (Cramer, 2011).

In its entirety, however, the news story reveals a complex network of distinct players and their multilateral, rather than bilateral, relations: local residents (coffee shop owner, firefighters), North Dakota state authorities (state governor), federal “safety officials” (National Transportation Safety Board, NTSB chair) and “regulators” (Federal Railroad Administration, Pipeline and Hazardous Materials

Safety Administration, Department of Transportation, DoT Secretary), third-parties (former administrator of the PHMSA, rail transport consultant), and industry groups (Association of American Railroads, The Railway Supply Institute, American Petroleum Institute). At a certain level of abstraction, one can of course extract some basic disagreement between the pro-side (producers) and the contra-side (critics). This, however, is not a level interesting to an argument analyst who wants to understand the “logic” behind taking up particular lines of disagreement, design of arguments and criticisms, as well as constraints and affordances a given social or institutional role carries. Since these differ, so do different players’ positions and arguments. Take for example the difference between federal “safety officials” and “regulators”. The former are tasked with investigating the causes of accidents and suggesting adequate recommendations. The latter are to develop and implement concrete and binding regulations, something they do in negotiation with all the parties involved, including the industry. Regulators might be, then, “critics” of the “producers” but likely in a way different than safety officials are. Similarly, local residents, who care for the safety and well-being of their communities, cannot be taken to constitute one argumentative party with the state authorities concerned with having a sustainable, revenue-generating business at home. The former argue that “we should slow the production, and the trains, down”, the latter’s “first priority was improving tank cars” so that, supposedly, they can better serve the burgeoning oil business. Both, then, take up some disagreement with “producers” regarding the way oil is produced and transported, but take it into a markedly different direction.

To conclude, there appears to be no *Public* or *Opponent* in the classic rhetorical or dialectical sense – instead, the controversy involves a variety of stakeholders, as determined by those who call-out and make claims on actions of others.

4.3 *Positions*

The multilateral network of relations among the players makes it hard to reconstruct this controversy in dyadic terms also at the level of positions various players defend. Again, the dyadic tendency of argumentation theory would guide us into seeing it as, basically, a two-sided disagreement. The main bone of contention would be the activity of shale oil and gas production. On the one hand, we would get those who claim, “Yes, let’s frack as much as we can!”, on the other those who would want to ban fracking altogether (clearly, there are actual

players who claim just that – arguments of some oil industry actors vs. radical environmentalists). Then, however, we quickly notice a variety of mediating “yes, but” positions: from “YES, let’s frack, but improve slightly the drilling technology so that less spills occur” to “yes, let’s conditionally frack BUT ONLY IF other sources of energy are unavailable.” The disagreement space becomes populated with all kinds of incompatible positions and arguments that do not easily fit the simple pro-con divisions.

The *New York Times* report indeed reveals a complex, polylogical network of disagreements on the issue of transporting oil by train. The Railway Supply Institute, an industry group representing freight car owners, defends their current practices by maintaining that “existing cars ‘already provide substantial protection in the event of a derailment’.” This position is challenged by another industry group, Association of American Railroads (companies that manage the railroads). According to them, tank cars should be “retrofitted with better safety features or ‘aggressively phased out’.” Their arguments for this position seem purely prudential – without safer transportation, oil business will not grow as expected; in the words of a former administrator of the Pipeline and Hazardous Materials Safety Administration: “Producers need to understand that rail-car safety can become an impediment to production.” Additionally, as other third-party consultants claim, “railroads and car owners can no longer ignore the liabilities associated with oil trains, which could reach \$1 billion in the Quebec accident.”

Now, these disagreements *within* the oil transportation business are just a side dish in the broader controversy. The main courses are made of opposition from government, local communities, as well as environmentalists (not referred to in this very report). Federal “safety officials” “have warned for more than two decades that these cars were unsuited to carry flammable cargo”, and their arguments are based in concerns over citizens’ and environmental safety, rather than prosperous business. Finally, local communities have a distinct position of their own: because they need now to restore “shattered calm and confidence”, “[m]ost people [in Casselton] think we should slow the production, and the trains, down.” They thus question not just the technical details of production and transportation, but rather the very rationale for these activities. This puts their position in opposition to all the above-mentioned, including the federal officials who might not be doing enough to protect the common people.

In this way, disagreement is not limited to contradiction. Accordingly, the expansion of disagreement space is not limited to a dyadic dynamics between two contradictions; instead, it involves a polylogical network of multilateral relations.

5. Conclusion

In this paper, we highlight how to make sense of disagreement expansion from a polylogical perspective by incorporating various *places* (venues), *players* (parties), and *positions* (standpoints) into the analysis. By articulating positions, disagreement expansion can be seen as something generated by players attempting to manage an interconnected web of commitments relative to their multilateral relations to others. Disagreement is not limited to contradiction. By articulating players, disagreement expansion can be seen as co-constructed through the calling-out actions of multiple players and the anticipation of being called-out. Disagreement is not limited to contending with one other party and thus argumentative strategy is not limited to message design but is opened to communication design as it is found in the variety of instruments for communication which parties develop to manage their role in a complex web of relationships. By articulating venues, disagreement expansion can be seen as something that happens through a network of communicative activities that develops in the course of managing broader human activities. The content, strategies, and parties to argumentation are not necessarily limited to the demands of one kind of communicative activity but are often relevant to and implicated in other communicative activities in the network. Disagreement is not limited to one given, fixed place but finds its way into a variety of places and often motivates the reconfiguring or invention of places for argumentation. Thus, by articulating the polylogical expansion of disagreement space, argumentation analysis can engage the logic of controversies rather than taking context to be given or treating it as static for other analytic aims.

While disagreement space has been treated as a dialectical product from a dyadic perspective, the original conceptualization affords a polylogical analysis. It is not an inherently dyadic concept and the concept needs to be developed to address complex, contemporary argumentation. By introducing particular analytic concepts (positions, players, and places) for reconstructing disagreement expansion, we are suggesting that the reconstruction of argumentation can more fully take into account the infrastructure for communication, which makes argumentation possible, at a variety of scales. Moreover, we are articulating a

means to account for how argumentative contexts are constructed and become a conscious target for strategic construction in order to shape human sense-making about broad human activities. For those interested in moving argumentation analysis beyond the assessment of a single argument or the evaluation of the maneuvers of a particular arguer, such conceptual and methodological considerations are needed (see Aakhus, 2013; Aakhus & Lewiński, 2011; Lewiński & Aakhus, 2014).

NOTES

- i.** There is nothing inherent in the disagreement space concept that limits it to the dyadic presumption. Indeed, a close look at the examples and analysis in van Eemeren et al. (1993), especially chapters 5-7, suggests that disagreement space is a discourse-centric phenomenon that can incorporate many parties and positions (see Aakhus & Vasilyeva, 2008). We develop this intuition in our present paper.
- ii.** Johnson (2002, p. 41) and Leff (2006, p. 203, n. 2) both make a similar argument in their analysis of this case. Indeed, looking from the perspective of the strategic objectives of a modern corporation, the entire argumentation in Shell's advertorial is eventually subordinate to its claim of "future economic success". Shell is addressing various stakeholders with complex argumentation, stating that they are a growing and socially responsible company which, therefore, is worth dealing with, whether as an investor, government, business partner, community member, activist, or customer.
- iii.** In an endnote, Tindale himself recognizes that "we can imagine other interested subgroups", and mentions Shell's competitors and Nigerian expatriates opposing the government (1999, p. 215, n. 1).
- iv.** All quotations in the analysis are from New York Times report "Accidents surge as oil industry takes the train" (Krauss & Mouawad, 2014).

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