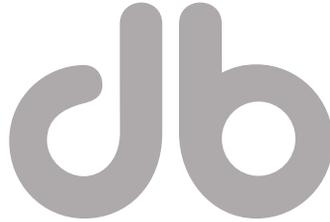


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# Some challenges of interdisciplinarity

## Working with different experts in adaptation to climate change stakeholders' teams

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This piece explores dialogue analysis inside a particular ongoing collective work, a regional adaptation to climate change research-action project in the southern part of Québec province, the Memphrémagog MRC. First, some precision is given to better understand what it means to work in interdisciplinary contexts such as this one, continuing the development of a terminology to be able to better identify collaboration between and with different professionals. These problems are then expressed in two case studies of dialogues as they have been documented in the research project.

**Keywords:** dialogue, adaptation to climate change, (inter/multi/trans)disciplinarity, interprofessionalism

### 1. Introduction

The specific context of dialogue that will be referred to here has to do with climate change adaptation (CCA) at the regional level. This research-action project was already discussed in Létourneau (2019). It calls for and sets up the participation of actual actors of the concerned municipalities on a given territory known as a County Regional Municipality (called MRC in French, the language in use by everyone in the project). It takes place in the Memphrémagog MRC (Ouranos-Mitacs-Sève-MRC 2017–2020), and is funded by Ouranos, a climatology consortium based in Québec, with contributions by Mitacs and Centre Sève (Létourneau and Thomas 2017–2020). It is *de facto* a very interdisciplinary and interprofessional project. It involves two main researchers coming from different fields: urban planning about adaptation on the one side, and a practical philosophy of governance based on the study and practice of dialogic exchanges on the other. Governance theory is itself at the crossroads of political science and management studies, as well as being addressed in organizational communication. We

can assert that the recent developments in applied ethics (since the 1980s) have all stemmed from a preoccupation with governance (Boisvert, Jutras and Legault 2007; Létourneau 2007).

People will easily accept that, when confronted as we often are with intricate and multifaceted problems, a plurality of angles and perspectives is quite necessary, which is a common rationale for aiming at interdisciplinarity. Either the issue to understand is deemed too complex to be captured by just one discipline, or we express the idea that disciplines have limits. Furthering dialogue as the way to overcome these limits seems to follow albeit this appeal to dialogue might sometimes be implicit. Most of the time, a critique of “working in silos” comes along; it is found in professional, laymen and scientific discourses (Cilliers and Gravenstein 2012).

The epistemic and practical difficulties that go with this plurality of lenses (so to speak) are quite abundant when we discuss environmental issues. Not only do researchers have disciplines, but issues have many sides. Environmental problems are natural, cultural and social at the same time (including therefore economical, historical and political dimensions). Most of the time, the environmental field is populated by people from the natural and applied sciences, and not so much by those in the humanities and social sciences. Considering the number and complexity of issues concerned, no wonder it is difficult to actually advance for the better in what we can call our “environmental practices” at the social and collective level. Because they literally touch every aspect of human life, it seems reasonable to say that so-called environmental issues should not be reserved, as they are most of the time, to a single bureaucratic entity like a specialized office or ministry in a government. For instance, if we consider only what concerns the government level, these issues will touch transportation, energy and infrastructure, construction permits, health care practices, property and riparian rights, etc. – all issues that are treated in specialized and different departments, according to the old maxim of the division of labor (Durkheim 1893; Holden 2005).

Speaking about interdisciplinarity means referring to many kinds of expertise: scientific, professional and/or practical. Most of the time, these so-called expert contributions are portrayed as helpful to face complex issues. However, not everyone agrees on the respective importance we should give, for instance, to the scientist’s perspective compared to that of the common person who actually experiences phenomena “in the field.” Sometimes, people talk of interdisciplinarity but do not distinguish between professionals working together, but having different scientific backgrounds and curricula, from the application of a *plurality* of scientific frames, methods and approaches in a research project. After all, one thing is to seek out knowledge, but it is another to care first and foremost about resolving practical issues. In any case, no actual practice of interdisciplinarity

would be possible without dialogue, especially if we admit that interdisciplinary work requires actual people coming from different disciplinary backgrounds in research projects. They will need to find a way of working together in a fruitful and productive manner and to arrive at mutual understanding (Weigand 2010). The same goes if you look at collaboration between professionals, even though in this case the setup is going to be different – the orientation will be more practical than knowledge-oriented.

In this paper, (1) I will start by suggesting a vocabulary to discuss how people situated in different disciplines can actually work together with different degrees of integration between them, without implying a required order of progression. (2) After that, I will briefly describe the four-year ongoing project of field philosophy about adaptation to climate change at the regional level to better contextualize the discussion (the actual funding of the project ran 2017–2020).<sup>1</sup> (3) Finally, I will look at a few examples of how this interdisciplinary and interprofessional setting surfaces in the exchanges actually held between people during the project's deployment. This will allow for showing how dialogue can be a source of knowledge not only about the object domain pursued, but also on the processes of knowledge seeking, more broadly understood. As we will see, they are also a source of knowledge about the difficulties that come with trying to address climate as an adaptation problem!

Sometimes we forget that knowledge is always the knowledge of some individual. For us, a way to insure actual knowledge contributions by the actors was to practice a recognition of the partners and contributors' knowledge as relevant and as needed by us. Exchanges and discussion with and between these persons go hand in hand with expressing expectations, and also creating expectations among the partners. Dialogue analysis has to be attentive to these different elements in their interplay. There are three features to be kept together along the way: the value and limits of the recognition of practical expertise on the field; the selection of issues that come with providing relevant scientific information; and, the emergence of complexity awareness among actors and researchers in the process of dialogue.

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1. The expression field philosophy is more frequently used since a few years to describe a philosophical practice with people outside the academic sector. Here is a very interesting definition, not to be commented here: "... we think of field philosophers as being housed in the university (thus afforded the free speech protections of tenure), but doing much of their thinking (like Socrates), with people out and about in the world who are struggling to define and solve problems" (Frodeman and Briggle 2016, 123).

## 2. Reflecting on interdisciplinarity

There has been a lot of discussion about the importance and challenges of interdisciplinarity, and some research has been done on actual work in interdisciplinary contexts (Nicolescu 1996; Resweber 2000; Turner 2000; Létourneau 2008; but see especially Thompson-Klein 1990, 2011). As for dialogue, clearly studies about it have been pursued in many different academic circles and disciplines: an uncomplete list would include linguistics, pragmatics, communication studies, management, political science, rhetoric, psychology, philosophy, mediation studies, applied ethics, conflict and negotiation studies, with overlaps among some of those. In that sense, dialogue analysis can be seen as a specific set of tools that can be integrated in a plurality of disciplines – and for some, it might be in the process of becoming a distinct field. But we can wonder if and to what degree these studies on dialogue proceed inside one discipline at a time, or if there are actual interactions and exchanges between some of these other disciplines that try and integrate it.

It might be useful to introduce here a distinction previously suggested in another article, between four variants of relationships to disciplines or disciplinarity, the radical describing the fact that we are situated in disciplines, at least in academia. But before entering into this terminological excursus, there are also a few elements to be said about disciplinarity, which is most of the time not discussed in the uses of interdisciplinarity.

Disciplines are kinds of collectivities that include a large proportion of persons holding degrees with the same differentiating specialization name, which are organized in part in degree-granting positions and powers to persons holding these degrees; persons holding degrees of this particular specialized kind are employed in positions that give degree-granting powers to them, such that there is an actual exchange of students between different degree-granting institutions offering degrees in what is understood to be the same specialization.

(Turner 2000, 47)

This is a basic definition, linked to the market of disciplines, and very closely in tune with the university system; it does not distinguish between professionals formed in a discipline for intervention, and others formed to actually teach or do research inside a given domain. Furthermore, another element is ignored here: in the disciplines as we practice them, something of the moral sense of the term remains – no scientific achievement is possible without perseverance, continuity in work and fidelity to a given field (Sloterdijk 2015). The research actor also has to accept some very clear limits: there are things that are defined as outside of the discipline. The definitions that are proposed in the following

part are what is called stipulative definitions in argumentation studies (Govier 2014; Plantin 2016).

In some cases, people will just present disciplinarity as your anchoring in a determinate field, and consider the term “interdisciplinarity” for the fact that we have to also be open and learn about other disciplines (Queen’s 2019). This can certainly work, but I suggest we need more precision to be able to discuss further. *Multidisciplinarity* could be taken to describe the situation where a plurality of actors, situated in different disciplines, form a team to work on a specific issue, but without really trying to integrate the other disciplines’ perspectives, or having a shared perspective. *Interdisciplinarity* would characterize a step further: in this case we still have a plurality of people coming from different disciplines, but they exchange enough of their methods of research and postulates to be able to construct a meaningful overlap of ideas about the same theme or object of study. This contrast between multidisciplinarity and interdisciplinarity is now broadly accepted (Thompson Klein 2011). I suggest reserving the term *pluridisciplinarity* to the fact that after having had collaborations with people from other disciplines for a prolonged period of time, a given researcher will have integrated points of view, methods and expertise coming from some other field, sometimes in a quite important manner. Without pretending to have equalled tenants of a discipline with those who have practiced it for the essential of their careers, this person is more than an amateur and has become a kind of hybrid between a plurality of fields. Quite frequently we will find references to *transdisciplinarity*. Instead of seeing in it a superior attitude contrasted with the other terms, I suggest seeing it as the basic attitude in any quest for knowledge: inquiry about a given theme of research or domain, openness to what can be known about it, either by disciplinary approaches, in between the approaches, or as in a prelude and a successor to the disciplines. Thompson-Klein is right in assuming also an element of transgressions as linked to transdisciplinarity (Thompson Klein 2011). To give a simple example, knowledge of chemical phenomena is not limited to learning chemistry or physics in school or in a scientific career; it starts with seeing vapour getting out of the kettle, to give an example. The same goes with social sciences and dialogue, plant life, etc.

We should also discuss, in a similar way, about *professionalism* as some variable or distinct group of fields. In the usual language about it, interdisciplinarity means two different things at the same time: researchers using different lenses, and professionals using different tools in their professional agency (as doctors, as engineers, etc.). There is an obvious overlap between professional and scientific work, but they are not identical. Theoretical and empirical research will eventually lead to professional consequences, but they are different practices. For instance, we can have a group of professionals working together, using their complementary exper-

tise, to discuss the case of a given patient, with the perspective of making decisions about his/her care. It is quite another endeavour to put together a group of scientists to determine the relevant characteristics of a given kind of patient.

We could then talk about their *multiprofessional* setting, or describe their *interprofessionality*, that would happen when people have worked together enough, obviously with a copious amount of dialogue between them, to understand and partially integrate the other's point of view. A given individual can also become what could be called *pluriprofessional*, but that would require some official work to really integrate the abilities and be recognized as such. Nobody says this last part of the acquisition is obvious or can be taken for granted; it is neither the case in research nor in science. Here, as in the situation between scientists more devoted to obtaining knowledge than to curing practices in society, *transprofessionality* would both be the condition of the work in the professions and between them (for more detail about this model, see Létourneau 2008).<sup>2</sup>

From all of these suggestions, we already can suppose that dialogue practices might not be the same in these different settings. Some kinds of dialogues are more demanding, and require more time and dedication than others.

### 3. A research-action project

To actually practice collaborative work with colleagues from different fields with efficiency is easier said than done. I would like to mention here some issues of interdisciplinary and interprofessional dialogue, by considering phenomena involved in a limited and specific project: adaptation to climate change in the southern part of Québec, Canada, in the so-called MRC Memphrémagog in particular (Létourneau 2019). The program pursued aims to help a regional city (comprising many different towns on a given territory) to give itself some actions to be integrated in its urban planning (called a Schéma d'aménagement) as a means to better adapt to a changing climate. In this particular case, the relevant disciplines certainly include urban planning, city management, geography, climatology, governance theory, dialogic and communication theory, and landscape architecture. These comprise both the professionals and the scientific approaches developed as methodologies and techniques. Some of these fields have more practical importance than others.

Among the disciplines contributing to this project, urban planning could be seen as the encompassing umbrella under which other specific approaches come

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2. For a different perspective, see the basic definitions offered on Queen's University website: <https://www.queensu.ca/strategicplanning/academic/disciplines>

into play. Seen from another perspective, the principal locus of research is the processes of governance at the regional-municipal level, constructing and reflecting on it in action (Schön 1983). *Adaptation to climate change* is certainly also a speciality with its own literature, but it is probably not yet a “discipline” as such – even though it could easily become one, with its own process of professionalization. Among the relevant disciplines also contributing, geography (which is very diverse), the environmental sciences, and climatology are the most important, but economy also plays a part.

Since it might be useful, I define my own situation inside what is called practical philosophy; I also use the term field philosophy. The first is concerned with questions of action, and in particular structured practices, and it consists in selecting a number of relevant questions to ask to a practice domain: in particular ethical, political and epistemological questions, among others (Létourneau 2019). As for field philosophy, it refers to the necessity of doing philosophical work with other discipline bearers, along with problems as they surface in practice, in my case it is in the Deweyan tradition (Dewey 1920, 1925). By trying to use a method of dialogue analysis in some parts of that work, I certainly do not represent the dominant trend in adaptation to climate change.

Challenges come up with the interplay of many factors: the specific terminologies used in specialized language; expertise considered as a means of status, recognition, a specific value in society; issues of distribution of the relative importance of the discourses involved in the case, and of their discourse bearers at the same time. For instance, the idea that verbatims are useful as ways to stay attentive to what is actually going on in the actual speeches, is not necessarily a largely shared presupposition. In urban studies, thematic analysis is seen as quite sufficient most of the time. Below, I use a résumé validated on the basis of an audio recording.

In fact, the first year of the project was dominated by the concrete realization of the peculiarities of each researcher in contrast with the other. Even if the broad differences were theoretically known from the start, it was still practically assumed that the explanations given at the start would suffice. But in practice, each researcher would suppose that the other had a better understanding of the other’s methodology. In the process of the research, a better knowledge came that this was not the case. In fact, it is during the second year of the project (2018–2019) that these peculiarities were better understood by each one and could be more adequately put into play in a complementary way.

#### 4. Two meetings

Meetings planned for co-constructing knowledge were set up as spaces in which people received some background information, could express their expertise and knowledge, and discuss the issues deemed relevant. Each event was structured towards a series of successive steps; there was an agenda of debate, and the participants were asked to provide answers based on the questions that were formulated in session.

One typical workshop, held in the five different sectorial tables (urban management, health and social services, tourism, agriculture and security) in the first year of the research (2018), was centered on determining vulnerability. This issue of vulnerability analysis was explained to the participants of the sectorial table on security. Afterwards, it was taken as a given in the Climate cafés as will be discussed in the following section. But vulnerability requires a few words of explanation.

*Vulnerability* analysis seems to be a part of many CCA (climate change adaptation) programs on a given territory (Hinkel 2011). As such, it has some “disciplinary” content. The theory goes like this: if we consider *vulnerability* as a whole, it can be understood as composed of a series of elements: *sensitivity* both *physical/geographical* and *socio-economical*, while taking into consideration *resilience*. We talk about *physical/geographical sensitivity*, for instance when people actually live in plains having a high risk of flooding (floodplains). As for *socio-economical sensitivity*, it refers to other factors: when people are less mobile or autonomous, for instance in an elderly residence or hospital; or if being of poorer conditions, they do not have the mobility and resources of more fortunate individuals; language proficiency issues can also be of importance, isolation by lack of a good social network. But groups have also a certain bundle of capacities and resources, which will typically be described as their *resilience*; their vulnerability is then taken to represent the sum total of the following operations: adding the two kinds of sensitivities ( $a + b$ ) and then subtracting resilience ( $c$ ) gives us the overall vulnerability ( $v$ );  $(a + b) - c = v$ . Data of different kinds are available (official statistics on population distributions, GIS data, etc.) and can be aggregated in a productive way, on different geographical scales: the whole territory, a subregion, a city; some maps will showcase socio-economical sensitivity, some will show the territorial sensitivity, some will provide a template for the overall vulnerability (Thomas and Bleau 2012). The great advantage of this tool is to furnish a physical and visual device in the form of maps with contrasted colors on which participants can write, draw, or place stickers on as cooperative means of making sense of them.

In the context of an interdisciplinary action-research program with strong time constraints, there had to be a mutual acceptance of competences and a

corresponding division of labor among the team. Practicing dialogue sometimes means asking for precision or presenting claims, but it also means functioning on mutual good faith, recognizing competences already established. But it can be said here without any polemic charge that this vulnerability theory functioned for some researchers, and probably also for some participants, like a “black box” in Latour’s sense (Latour 1987).<sup>3</sup> People not familiar with vulnerability analysis do not exactly know the trade secret, e.g. how we actually combine these sets of data. They then have to accept (or not) the product as a kind of given. In what follows, we will discuss the vulnerability analysis of one city, Magog, and of the whole of the Memphrémagog MRC.

#### 4.1 A meeting of the public security table

This general frame of reflection on vulnerability, as contributed to by a large number of experts in adaptation to climate change, was presented at the start of the Public security Table. The table held on security issues (during May 2018) was particularly interesting. The idea was to meet with the people responsible for security in cases of emergency and hazards like fires, but also floods or mudslides. Since we are discussing climate change, the natural variability of weather will also take the form of stronger variations from the usual mean, for instance a violent storm, etc. In that meeting held during one full afternoon, we had members of the research team (comprising seven persons, two of them being observers), and nine persons responsible for security issues either globally for the region or at the city level, notably the head of the fire department of a city, an officer of the regional police, a representative of the Red Cross.

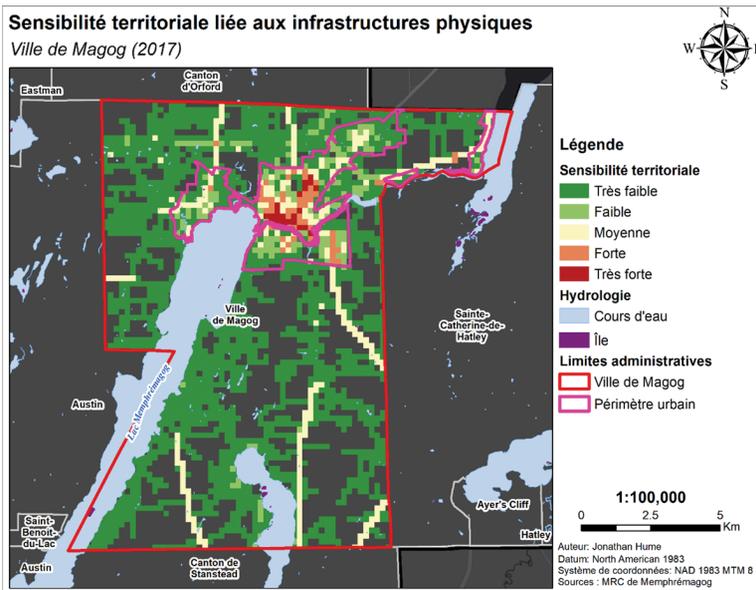
In preparation for the sectorial tables, among which was the one on security, the task of my co-researcher’s assistants was to prepare the vulnerability maps, and to present the results of a public animation including other introductory elements: goals of the research, etc. These maps of the sensibilities of the region were constructed by the supervised assistants (students completing their MA in Urban Studies), using both GIS data and statistical data from different government offices. This table was organized along the following steps: (1) a presentation of the project: of what is meant by vulnerability and adaptation, and of the importance of that specific table; this was done by the co-head of the project; (2) a presentation of the vulnerability maps by the principal graduate student involved

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3. A detailed justification of the method was provided by their creators, see Thomas and Bleau (2012). The way it was adapted in the context of this action- research will be detailed in our Final Report, which will probably be available on the Ouranos website during the year 2021. See [www.ouranos.ca](http://www.ouranos.ca) under the names Létourneau and Thomas.

in their production; and, (3) an exchange between all participants in the form of a general meeting (not working in separate teams in that case).

As previously said, we put in front of everyone the maps containing already a certain determination of the sensitivities as we understood them, some on particular cities, some assessing socio-economical, territorial and overall vulnerability of the whole territory of the MRC. An example of such a map is provided below, expressing territorial sensitivity as linked to infrastructure: bridges and roads are particularly affected at the heart of a city with a more densely populated center.



Taking back Edda Weigand’s notion, we could say the maps were used as declaratives (Weigand 2010). There was a great number of them (17 total); they were shown, but only two of them could be used to provide a basis for discussion, inside a general explanation about what is meant by climate change adaptation. Here we find one of the two maps in question. The idea was to discuss, to test the maps, and if possible, try and enrich them with more detail and specificity.

In what follows, I will consider only a small part of the exchanges, summarizing the main phases of step three, the exchange between all participants. For the current discussion, I used the audiotape, with the help of an extensive written account.

One reviewer suggested treating adjacent pairs involving speaking in turns, as is commonly seen in language and social interaction treatments or in dialogue analysis. This was not possible here, since quite a large group of persons was

involved in the meeting, a total of sixteen. People were raising hands, they were given their time to speak but sometimes, they would answer a question asked a few minutes before. What I did instead was to select, among what was said, the spoken interventions following the question-answer structure, along the normal direction of time but, for the sake of brevity, I had to give up immediate adjacency between pairs.

Forcibly, since all exchanges were in French, I had to translate the text. I followed the chain of events as it presents itself, but I changed all the names of the research group members or associates with the first letters of the alphabet, and changed the names of the MRC participants with the last letters (respectively: A-K; L-Z). In the sequence presented below, RG refers to the Research Group participants, MRC to all participants, including public servants from the MRC itself but also others, for instance a Fire security officer in a given city. In the present context, it makes sense to distinguish a “request”, which comes down to asking for something that is needed but very general, from a simple “question” which focuses on a specific point. One basic question consists of asking if we have dialogues here in Weigand’s sense: the answer is positive if we find on the one side the articulation of a claim, and on the other the fulfilling, in a positive or negative sense, of the claim (Weigand 2010).

1. “A” presented the vulnerability analysis maps of the territory, while stopping at two of them, one for the whole MRC and one of the biggest city. He invited (**Request 1 from RG 1 to MRC**) the participants to express their opinion on the information presented, in order to be able to provide more details, and to make adjustments to the map if necessary.
2. “B” suggests that the City of Magog validate if there are more up-to-date data sources (**Request 2 from RG 2 to MRC**) than those from the Statistics Canada 2011 census, which had to be used by “A”.
3. “K” asked if the relatively important presence of vacationers (**Question 1 from MRC 1 to RG**) was taken into account in determining the vulnerability factors.
4. “A” puts back writing on the territorial sensitivity map linked to physical infrastructure, which takes this particularity (vacationers) into account (**Answer 1 from RG 1 to MRC 1 question 1**). He noted that for the Public Security Ministry, second homes are not eligible for compensation and financial assistance.
5. “L” explains that different flood zones have been studied over the years, during the construction of the dam and other infrastructure. The adjacent wetlands are considered by the fire services to be anthropogenic and not natural (**Answer 2 from MRC 2 to RG 1 request 1**).

6. “M” wants the participants to get the maps at home so they can study the areas in more detail (**Request 1 from MRC to RG**). “N” emphasizes that the information must be validated by all the municipalities (**Request 2 from MRC to RG**).
7. “A” presents the index card of global vulnerability, integrating social and territorial sensitivity (**Answer from RG 1 to Request 2 from MRC**).
8. “O” points out that in its municipality, citizens of the areas identified as susceptible to flooding have never been flooded (**Answer from MRC 2 to Request 1 from RG**). This addresses the issue of social acceptability of the areas identified as flood-prone. O added that following the construction of the new dam, the recurrence of floods seems less significant. The village core is only 3 km<sup>2</sup>, quite densely populated.
9. “P” explains that the City is working on specific intervention plans for various vulnerabilities (**Answer from MRC 3 to Request 2 from RG**). The prevention follows up on inspection reports provided after their visits, and the data are compiled by the fire department. These data must be used to revise the intervention forces (“forces de frappe”) recorded in the fire risk coverage plan prepared by the MRC.
10. “K” points out that the MRC’s floodplains have been revised recently, using Lidar data. Changes have been made to the layout (**Answer from MRC 4 to Request 2 from RG**).<sup>4</sup>

In 1., the opening declarative is followed by a request; 4., 5. and 8. are providing answers to that request. All these different statements could be explained in detail, but that would take a longer space than that allowed here. In some cases, we have to wait a few steps to obtain a more specific “fulfillment” of a specific demand, either by a positive or a negative response. In some cases, we find functioning adjacency pairs. Line 4 obviously responds directly to line 3, whereas line 5 is really a specific answer to line 1; line 10 is an answer to line 2. Line 6 is a more general request to the Research Group, asking for more time to be able to validate the data and to raise more relevant and complete issues, if deemed useful; it is also a way to respond to the line 1 general request. But this kind of response (in a way, delaying a complete answer) is not the last word, since 8, 9 and 10 show participants continuing to answer the main requests of the passage, formulated in 1.

What clearly happened and can be seen here is that many people are asking questions, and providing answers, but not in the linear order of things. The ques-

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4. This is a translation of p.2, section two of the following document: Alexandra Roy, « Stratégie d’adaptation aux changements climatiques pour la MRC de Memphrémagog. Compte rendu de la 1<sup>ère</sup> rencontre de la table sectorielle sécurité publique », 24 janvier 2018.

tioning is constantly and slightly shifting. The basic interrogation stays the same in its generality, expressed by members of the research group who convened the meeting. But the expressions, the specific demands and to whom, are varying all through the different formulations. People face a series of different questions, sometimes reformulate them, but the result is the displacement of the question, which implies the surfacing of new problems since all questions point to specific kinds of answers. Therefore, the complexity of the issues appears, difficulties arise as the meeting continues, even though some specific answers are given along the way. Some questions that were asked were aiming at obtaining specific information from people recognized from the start and throughout as competent professionals, experts of practice, to be able to gain a better knowledge of vulnerabilities. We did obtain some specific answers, but not on all issues and fronts. All of the meeting cannot be reviewed here, but other important issues were raised, found an opportunity to be expressed and shared by an extensive group, probably for the first time in such a forum.

Questions asked either by the co-researchers or by the research assistants to the participants obtained answers from some participants, whereas other participants came forward with questions of their own for the research group. With these questions, people were asking but they were also requiring, pleading for specific actions, in a set of demands that were formulated to anyone present. These formulations address connected but different issues, and these questions were received by the participants, including the researcher's team. To this series of questions, one participant replied that the people working on the ground on security issues needed more time, both in the relevant services and at the different city levels, to be able to assimilate and discuss the data, test it among colleagues and maybe complement it in a more precise way. In other terms, as a way to adequately answer the different questions that were asked, the solution proposed by one participant, with no disagreement expressed by others, was to postpone and require more time with access to the data. In a way, by this virtual postponing, the discussion was returned to the playing field of the actors themselves, outside of the confines of a research group's activities. One of the difficulties of the research team, preoccupied with validating graduate students' progression, was to allow for them to validate and integrate new elements, which required a good amount of time after the meeting.

This having been said, overall we did get a sense that preoccupations about emergency preparedness were shared. In the broad strokes presented here, there was no disagreement about the matters at hand or about the seriousness of the issues. Flood plains were identified, confirmed and given more specificity by participants; the question of the validity and sufficiency of the emergency plans also

surfaced, the main hubs for defense on the territory were clearly identified, but these issues could not be treated thoroughly in a three-hour plus meeting.

#### 4.2 A climate café

It is now the time to look more closely at another specific exchange activity held inside the project. In May 2019, we held meetings called the climate cafés in five different cities of the MRC territory. The objective of these meetings was twofold: obtain information at the level of specific cities, and secure the participation of ordinary citizens, either as individuals or as part of NGOs involved in the field; people were not invited on the basis of their professional status, as was the case with the sectorial tables. This was very important for us, since it meant opening up the research-action process to people situated outside the usual circles of collaboration of the MRC.

Each café was structured in the same way: people had to identify: (1) what are the main hazards you are facing in your town and in the MRC; (2) what are the vulnerabilities this shows in your different sectors of activity; (3) what actions are already taking place towards adaptation to climate change; and finally, (4) supposing, in a playful mode, that you just became a decision-making unit, what is the one action that you would put forward as a priority at the level of your town, and what action would you prioritize at the level of the whole MRC? It should be noted that during the second year (2018–2019), we wanted to focus more on decision processes, while keeping in mind that there was a deadline in 2020.

The cafés started with a presentation of climate change by myself, helped with data provided notably by Ouranos climate specialists: what it means to be in a changing climate, and how adaptation makes sense as a complementary kind of action compared with mitigation of the climate – which aims at taking measures to diminish GHG emissions in the atmosphere. Our whole discussion and questions referred to the specific issues of adaptation to climate change. The different steps presented before were followed, with the help of animation provided by the funded students involved in the project.

In one of the cafés, we had two teams of discussion, around physical tables with papers and markers; in one of them, the dominating conceptual frame was watershed management, a kind of environmental governance frame of reference that is important notably for many people on the field, around lakes in particular, since the development of the watershed management policy in Québec Province (Québec 2002). It could be described as centered on water basins, and it is much more complex than what can be presented here (Baker, Ffoliott et al. 2000). Some important actions inside that frame are protecting the wetlands, respecting the limits of the watershed, refraining from river diversions and dams, being attentive

to invasive species, and regulating the phosphorus and nitrogen outputs in the lakes and rivers. In one intervention, a participant said that the MRC (our partner in the project), did not know anything about the watersheds. The meaning of that phrase was to say that the political actors at the MRC level did not, from the critical point of view of that person, take sufficiently into account the requirements of healthy lakes and rivers in the territory, by staying more closely linked to a traditional, top-down approach. We were confronted then with a well-known tension between managing a territory according to the political divisions, or according to “natural” ones (defined by the watershed unit, which is itself determined on the basis of scientific expertise).

Some of these people had previously been very much involved in a lake committee of citizens and could be described as militants of that particular cause. This was the story they have been participating in, the general frame of action that proved relevant for them; our discourse about adaptation to climate change was not able to produce a new orientation. In fact, they did not take time to discuss climate change at length. If the concept of CCA was certainly understood at a theoretical level, it was not really established as the main frame of reference, able to generate new and productive information or debate. The situation we had was that a previous frame was setting the tone of the conversation and directing it, as a result of previous experiences.

In the other table for participants during that same café, one recurrent theme was diversity conservation, with much more obvious links to climate change adaptation, but it also had its own logic and demands independent of adaptation as such. This having been said, it was not really an obstacle for the following reason: climate change is an aggravator of problems already given. As an example, if you put more heat in a watershed, you aggravate problems already caused by too much nitrogen and phosphorus in the lakes; therefore, what is required is a reinforcement of the existing measures to protect the lakes and rivers. Most of the time, decisions to adapt to climate change have value even if the situation were to stay stable climate-wise. All good practices aiming at protecting the environment can be a betterment, for instance protecting a lake, but they need to be strengthened in a changing environment. This is what is called “No regrets” measures in adaptation (Mearns and Norton 2010). Correctly understood then, adaptation discourse could function as a reinforcement of watershed protection and conservation discourses, but the message got ahead better in the second case, e.g. conservation.

## 5. Conclusion

The exploration of dialogues in contexts where people start from different disciplines or professional contexts is not something that is as developed as it could be in the literature on dialogue. In any such exploration, starting with conventional definitions might be a good start, provided people can recognize themselves in the uses suggested; of course, only the reader can decide about the fate of this particular analysis. The two case studies presented before illustrate some characteristics of those collaborative settings. In the Security table, the Research groups started the meeting with a plurality of expertise combined, and dialogues intervened with professionals on the territory, arriving not only at practical issues, but also with knowledge and understandings. The requirements of some encounter the needs of others, and a certain path together is constructed along the way. To make a more explicit link with disciplines and professions, the Security table really had to do with interprofessionality: professors/researchers on one side with their own time constraints, and operating professionals on the other. People were given some time, but not much, to contribute their expertise; it was beneficial, but we are hoping to get more precise feedback during the last year. In the café case, people were not there as professionals. We could say the challenge came from interdisciplinarity: great frames of reference were present in the conversation, having less to do with professional status and more with diverse involvement in the field, including those of the research group. Biological conservation and watershed management questions were in the immediate foreground of the discussion. The particular difficulty of any case study of this kind is that readers have to enter into a field of discussion with which they might not be familiar, and that is also a challenge. An important issue then is to develop the ability to translate the requirements of some into the language of the others.

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