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# **PRACTICAL SAFETY, AN ETHICAL CONTRIBUTION TO RESILIENCE**

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## **Abstract**

As environments are becoming more and more complex, and less and less predictable, resilience and safety lie on ad hoc actions, decided by individuals in actual situations, in addition to adequate system design. We build on the work of a contemporary philosopher, Paul Ricoeur, to develop an approach of safety which articulates a system of rules with the confront them with the singularity of specific situations, through a process of “deliberation” which superior goal is to respect the principle of “solicitude” towards others, hence contributing to the ultimate goal of leading an ethical life. Such an approach requires that rules are applied autonomously by individuals, and that more broadly, they can express their “practical humanity”. This possibility depends on the organizational environment in which they are set. Ricoeur calls the ideal-typical environment “just institution”. We build on data gathered in the work practices of a gas distribution company to show that traces of practical humanity and deliberation are indeed present, although the organizational environment prevents them from developing fully. We term “practical safety” the approach of safety developed using Ricoeur’s philosophy. A factor of “successful action”, practical safety is favourable to organizational resilience.

## **1. INTRODUCTION**

As Hollnagel has shown, (cf. for instance Hollnagel, 2014), in an unpredictable world, it is in specific situations that safety is preserved, thanks to successful action. Building resilient organizations therefore requires that the people who are the actors of these specific situations have the technical and behavioural skills to manage them adequately. Classically, “managing adequately” means preventing situations from cascading into a stage where they become out of control. It also designates the ability to regain control of a situation that has degraded up to that point, that needs to be brought back to a somewhat stable and functioning state, a process that is termed “entry into resilience” (Guarnieri, Travadel, 2014).

Yet, it seems a bargain to expect that people used to obeying general processes and rules established outside of them would all of a sudden be able to act and make decisions autonomously, as they have not had a chance to develop the necessary mechanisms prior to the situation where action is required (cf. Rasmussen, 1983). Therefore it is necessary for resilient organizations to articulate individuals’ technical and behavioural ability to act adequately by themselves in specific situations, to their requirements in terms of stable rules and processes. Our point is similar to one expressed by Grote, on the necessity to find an optimal balance between stability and flexibility (Grote, 2014), that is built on learnings established by resilience engineering (cf. Hollnagel et al., 2006).

In a manner different from Grote’s and resilience engineering’s, we conceptualize the problem using a philosophical and ethical framework. To do so we call up to a French contemporary philosopher, Paul Ricoeur. We refer in particular to his concept of “practical reason”, which can be quickly defined as reason anchored in an individual desire oriented towards an ethical goal. Underlying the concept is the articulation of morals and ethics, which confrontation culminates in practical wisdom. In a nutshell, according to Ricoeur morals and ethics are not essentially different. A distinction therefore has to be established through convention. According to the convention he sets, morals designate the rules that govern individuals’ daily actions. Ethics correspond to the superior aim to achieve “a good life, with and for others, within just institutions” (Ricoeur, 1992). Aiming

a good, ethical life is what allows individuals to fulfil their human nature. Moral rules are applied autonomously, i.e. recognized by individuals as justified and adequate to indeed act in a manner that achieves an ethical life, which they can therefore interiorize as rules they have given to themselves. In daily situations and relatively situations, they suffice to achieve this aim. There are also moments when the “tragic of action” surfaces, i.e. when rules contradict themselves, or when no rule exists to guide action in a specific situation. In such situations individuals have to carry out a process of “deliberation”, i.e. confront rules that may apply (but do not) to the overarching ethical principle of “solicitude” towards others. At the end of this process of confrontation, a decision is reached that can be considered a result of “practical wisdom”. Practical reason, the morals / ethics articulation, deliberation and practical wisdom are part of a broader conceptual framework that may be termed “practical humanity”. Practical humanity refers to a set of sentiments, such as self-respect and solicitude, and acts, such as practical reasoning, hermeneutic analysis or deliberation (N.B: the list is non-exhaustive), that help achieve an ethical life, and conversely are signs that the individual is indeed following this path. Finally according to Ricoeur, depending on the “institutional” (i.e. organizational) environment, practical humanity is more or less favoured and subsequently, likely to be expressed. He calls the ideal-typical environment “just institution”.

In our article we defend the idea that Paul Ricoeur’s practical humanity offers a heuristic to conceptualize safety preservation and helps shed a new light on such issues as the articulation of individual, autonomous action, with set organizational processes and rules. We believe it could help strengthen resilience engineering, by engaging a dialogue on how individuals can carry out “successful actions” and therefore, contribute to the preservation of safety, organizational stability and ultimately, resilience. Furthermore the model of “just institution” could help shed a different light on the stakes underlying the conception of resilient organizations. Building on data gathered in a gas distribution company, we show that Ricoeur’s philosophy is not only heuristic, but also anchored in tangible safety practices. First, we outline the methodology used to gather data, the organizational environment in which they were collected. Then we describe and analyze cases where workers have carried out a process that contains germs of deliberation. Finally, we show the many ways in which Ricoeur’s practical humanity can provide a heuristic for safety preservation, and even give birth to a new approach of safety that we term “practical safety” (Blazsin, 2014).

## **2. INDIVIDUAL INTERVIEWS TO IDENTIFY TRACES OF PRACTICAL REASON IN THE PRACTICES OF WORKERS AT THE SHARP-END OF A GAS DISTRIBUTION COMPANY**

The idea that Ricoeur’s practical philosophy could offer not only a heuristic, but also tangible tools to develop a new approach of safety preservation, had to be confronted with field realities. This was carried thanks to an industrial partner, a French gas distribution company. We focused on the company’s core activity, i.e. operating the gas distribution network. Following an initial 5-week phase of non-participant on-site observation, twenty-one interviews were carried out in order to dig deeper into the way workers experience their work and safety practices and possibly, identify traces of practical humanity.

### **2.1 Gas distribution, an old trade relying more and more on procedures and organizational work**

Our research was carried out in partnership with a large gas distribution company, which is responsible for the delivery of natural gas from the transport network to the end-user. To do this, it must operate and maintain nearly 200,000 km of pipeline. This involves: monitoring the status of the network and carrying out any maintenance operations that are necessary to avoid leaks; connecting new customers (expanding the network, creating connections); disconnecting parts of the network (removing connections, regulators, sections of pipeline); finally, coordinating with other companies whose activities may have an impact on gas installations.

We decided to focus research on operations, which is both the company’s central and oldest activity. As such it has been subjected to many transformations, from a technical, procedure and subsequently cultural perspective. Therefore it seemed relevant to try and access the profound level of identity and behaviour that Ricoeur describes. Indeed considering that practical humanity is an essential (in the strongest sense of the word) component of the individual, it should not be impacted by variations on techniques or representations. Therefore a changing environment may be considered as a test by itself.

What’s more the operations department is also where workers are confronted with everyday safety preoccupations. Indeed they work in an open environment surrounded by people who may suffer from the consequences of an accident. Similarly, if their intervention on the network is not carried out correctly, it may trigger to harmful consequences in the mid or long term, for instance by leaving a small leak on the network which will progressively accumulate in a nearby building and possibly, in extreme circumstances, lead to an

explosion. Yet in comparison with the safety stakes, the actual work that has to be carried out requires very little technical expertise. Workers carry out such operations as creating or deleting connections. An important part of their job is also to carry out maintenance operations, such as checking that a network valve is indeed accessible for manoeuvre in case it is needed, for instance to stop the gas flow from coming in a specific part of the network if there is a leak. Such an act is obviously simultaneously crucial for safety, all the while requiring hardly any technical skill. Therefore although this is particularly true for valve checking, overall, operations now rely more and more on procedures and less and less on technical expertise. The situation raises a challenge in terms of meaning, and implication.

In addition to the importance of operations for the industrial partner, the gap between safety and actual work made it particularly interesting to study, as one could assume that all that remained for workers to be stay alert on safety issues was their consciousness of the potential consequences of their actions on third parties – ultimately, their humanity. Therefore it made sense to try and understand how this humanity is practically expressed, through sentiments, ideas and actions, to preserve safety.

## 2.2 Individual interviews, an opportunity to move beyond collective representations, into personal experience of the field

To carry out our research project, a phase of non-participant on-site observation was first carried out. Three sites were observed, in order to balance the limitations resulting from an anchor in a specific territory, with its technical as well as cultural history, its specific team dynamic, etc. This phase was crucial to develop an understanding of gas distribution as a technical and organizational activity, the way it is carried out, impediments the teams face and the way those are dealt with. Yet it was insufficient to dig deeper into the way workers experienced their work, their relationship with safety, and possibly expressed their practical humanity.

To do so, twenty-one interviews were carried out with field-level workers. The group included twelve “operators”, i.e. those workers who carry out the actual fieldwork; five “chief of operations”, who are in charge of ensuring that operations do not impact the rest of the network and are in line with procedures; four “team managers” and “preparers”, who respectively manage the team of operators from an HR perspective (affectations, holidays, trainings, etc.) and prepare the fieldwork (technique, procedures, administrative work, etc.). This distribution reflects the way teams are structured in real life.

Interviews were semi-structured, carried out individually, and revolved around workers’ representations of their work, the organisation, their individual and collective contribution to safety. An important part of the interviews was dedicated to asking them to reflect on past experiences that had left an mark on them, where they thought they had “acted well” or on the contrary, where they thought they had made a mistake.

## 2.3 An ad hoc grid analysis to identify traces of practical humanity

To analyse the data hence collected and identify potential traces of practical humanity, an ad hoc grid analysis was developed, using the main components described by Ricoeur as composing it. The below figure (figure 1) is a screenshot showing the way the data was treated:

	Ethical sentiments			Ethical acts				Standards of excellence
	Desires, motivations, motives	Self-respect, Self-esteem	Respect of others, solicitude	Hermeneutic analysis	Practical Team management	Narrative configuration	Deliberation	
Operator 1								xx
Operator 2	x	x	x			x		xxxx
Operator 3	xxxxxx	x	xx		x	xx		xx
Operator 4	xxxx					x		xx
Operator 5	x							xx
Operator 6	x				x	x		x
Operator 7	x	xxx				xx		xx
Operator 8	xxx	xx	x		xx	xx		xxxx
Operator 9	x					xx		xxxx
Operator 10			xxx			xx	xx	xx

Figure 1. Analysis grid developed using Ricoeur’s “practical humanity”.

The three main categories composing practical humanity are “Ethical sentiments”, “Ethical acts” and “Standards of Excellence”. The latter, that are not so to speak qualities, ensue from the work of another contemporary philosopher, Alastair MacIntyre. Ricoeur calls up to him to build his practical philosophy. MacIntyre defines practice as “any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those *standards of excellence*<sup>1</sup> which are appropriate to, and partially definitive of, that form of activity” (MacIntyre, 2007, p.187). Standards of excellence therefore offer a heuristic to analyse a profession and, in our case, determine whether safety preservation appears as a central feature.

In order to address the question raised during this symposium, regarding the matter of adaptability and (un)predictability, we will focus the rest of the article on one specific item of this grid, namely the instances of “deliberation” which were traced in the discourse of interviewees. Indeed as mentioned, deliberation is the activity where rules and context are explicitly articulated and confronted, if rules do not apply. It is therefore the most relevant to determine whether interviewees demonstrate conscious adaptability in their work and safety practices and if so, what form it takes. We consider being “conscious” of adapting as a key aspect of relevant adaptation, as it appears to be the only way for workers to remain aware of straying from the initial plan and therefore, ensuring that they evaluate the potential consequences of such straying.

### **3. DELIBERATION, A RARE BUT EXISTING PRACTICE WHEN RULES CAN'T BE FITTED TO SITUATIONS**

Deliberation is the process through which general, moral rules are confronted with specific situations. Ultimately, it leads to “practical wisdom”, which Ricoeur defines as resulting from “situated moral judgment”, (Ricoeur, 1991, p.281), which consists of “inventing the just behaviours adapted to the singularity of cases”<sup>2</sup> (ibid., p.313). Far from being arbitrary, the confrontation of general rules to specific situations results in practical wisdom thanks to the overarching aim of the “good life” and specifically, solicitude towards others. Translated into safety-friendly terms, this relates to the adaptability of general rules to unexpected situations and ultimately, to the flexibility / stability balanced mentioned in this paper’s introduction.

#### **3.2 Deliberation, primarily a managers’ thing**

Six instances of deliberation were identified in the data, mentioned by four interviewees. This is a small sample. As a comparison, fifteen interviewees mentioned twenty-four instances of hermeneutic analysis, which is the ethical act best represented in the data that was collected. Generally, ethical sentiments gathered more instances than ethical acts<sup>3</sup>.

However few, some instances of deliberation were still identified in the data. One operator, two chief of operations and one team manager expressed them. There is one additional mention (which is not part of the count) where a second operator mentions the necessity to confront rules to situations where they cannot be applied and to determine an ad hoc solution, which he says is the responsibility of the chief of operations,

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<sup>1</sup> Our highlight.

<sup>2</sup> Our translation.

<sup>3</sup> Ethical sentiments were identified as follows: 28 instances of respect for others / solicitude mentioned by 14 interviewees; 26 desires / motives by 13 interviewees; 12 expressions of self-respect / self-esteem mentioned by 9 interviewees; amounting to a total of 66 instances.

Ethical acts were identified as follows: 24 instances of hermeneutic analysis by 15 interviewees; 10 instances of practical reasoning by 6 interviewees; 6 instances of narrative configuration by 5 interviews; 6 instances of deliberation by 4 interviewees; amounting to a total of 46 instances.

Finally, let’s note that the sole “Standards of excellence” category gathers 50 instances, mentioned by 15 interviewees. This both attests to an existing “ideal” of the profession, and needs to be related with the low number of expressions of self-esteem and narrative configuration, which may be interpreted as a difficulty to relate the ideal model of work with actual, experienced practices.

therefore disengaging himself from the process and associated responsibility.

The two instances mentioned by the operator focus on the perceived conflict opposing two general principles, one that could be termed “duty” or “job well done”, and the other being immediate safety. The two chief of operations develop a general discourse on the fact that by definition, rules can’t be applied to all specific situations; when they don’t apply, the safety of workers takes precedence without question. Finally, the team manager comments on the fact that general rules are subject to different interpretations and that it is necessary to confront them with field situations and tangible goals, such as being able to stop the gas from flowing in case a fire occurs, to interpret these rules in an appropriate manner.

### **3.1 Deliberation, a relative rarity to be accounted for**

Two main elements emerge from this description of deliberation instances. First, the fact that it is to be found primarily in the discourse of managers leads to thinking that deliberation requires some level of perceived liberty to question and possibly, bend the rules conceived by the organization. Second, the fact that there are so few instances is astonishing, compared with the abundant documentation provided by the Safety Sciences community (cf. for instance Marais, Dulac & Leveson, 2004 ; Hollnagel, Woods, Leveson, 2006 ; Hayes, 2013). This second point is to be related to the many instances which were not counted as “deliberation”, where interviewees denied the necessity to confront rules with situations as in any case safety is what primes, a self-sufficient rule rendering any attempt at confrontation useless.

We interpret them as confirming the relevance of practical humanity to conceptualize safety preservation and of its dependence on the institutional / organizational environment. Indeed, it fits Ricoeur’s conceptual model, according to which the just institution is key to express practical humanity, deliberation included. As current organizations are based on rational, engineered models (cf. Blazsin, 2014), at odds with the ideal-typical just institution, one may conclude that it is indeed the organizational environment that is responsible for sentiments not being translated into actions.

Furthermore, the fact that safety is considered as an overarching principle, without its tangible, situated implications being even questioned, may be considered as counterproductive in terms of safety. Indeed it leads to apply this principle without having confronted it with its relevance, to it being obeyed as ensuing from an outside order and therefore, to safety resting on an heteronomous, rather than autonomous, dynamic.

## **4. CONCLUSION**

In this paper we have endeavoured to illustrate the relevance of Ricoeur’s conceptual framework of “practical humanity” by focusing on one of its specific components, “deliberation”. In our perspective deliberation offers a heuristic to analyse the question of situated tradeoffs, which resonates with the necessity to reach a balance between flexibility and stability at the organizational level. By conceptualizing an articulation of general rules with a superior, ethical aim, which provides guidance when general rules are confronted with singular cases and do not apply, Ricoeur offers a way out, and even a way up, to preserve safety and strengthen resilience.

Indeed in his perspective, general rules are conceived to help individuals reach “the good life for oneself and with others within just institutions”, i.e. excellence in their practice leading to self-respect and solicitude towards others, allowing for self-esteem. As such, the worth of rules is not intrinsic. On the contrary it lies on their ability to guide situated, singular action towards the good life. Furthermore, aiming the good life is a fundamentally individual path, necessary for a person to fulfil its human nature and as such, anchored in what one deeply wants to build for one’s life. Therefore the rules to be followed cannot come from an outside source and be obeyed out of sheer respect for authority. They need to be truly experienced as just, and therefore adequate to achieve this essential aim. Consequently they can only be *autonomous* rules, ones that the individual has confronted to ethics and recognized as indeed adequate to achieve the good life. One telling example of how essential autonomy is to resilience can be found when reflecting on the Fukushima Daiichi disaster. At the time, a team of workers decided to remain at the plant in order to contain damage (cf. Guarnieri et al., 2015). Making the decision to sacrifice one’s own life in order to save others is likely the strongest form solicitude can take, and it cannot be enforced by an outer source of authority. This is particularly true in such extreme situations, where all pre-existing systems of rules, including symbolic ones, collapse. This illustrates the role played by individuals’ inner will, i.e. autonomy, in the management of such situations, and the essential role it plays to enter into resilience and regain some level of stability. Therefore through his articulation of morals and ethics, Ricoeur provides us with an opportunity to conceive systems of rules that can be applied in a truly autonomous manner, favouring implication to obey them, and that individuals have the liberty to question and possibly, bend them, should the situation requires so. As such, he

offers a key to help build more resilient organizations.

Obviously, such an approach of rules and autonomy requires a radical shift in the way organizations currently manage these rules, and the people applying them on the field. This is consistent with Ricoeur's theory of the just institution. More broadly, it provides a tangible proof point in favour of Ricoeur's practical humanity and its relevance to shed a new light on safety preservation and organizational resilience. Such items as solicitude towards others and standards of excellence offered intuitive motives to postulate its relevance. What has been said on the importance of autonomy to build a system of rules that would be simultaneously stable, and allowing for ad hoc action, combined with the profoundly intimate relationship between moral rules and the ethical aim of leading a good life, offers the possibility to renew the way we conceive individual implication in the preservation of safety within organizations. We term this new way "practical safety", and propose a tentative definition according to which practical safety is "the ability of individuals to appropriate safety as an internal value, which enables them to decide on a course of action that preserves the safety of others as well as their own, when a situation requires them to do so". Such an approach asserts the idea that safety can only be managed by people in organizations, rather than by organizations through people. It offers a way to tie together the autonomy indispensable to situated action with a coherent system of rules, hence addressing the question of adaptability in unpredictable environments: in this perspective, predictability is no longer an issue. It also provides an opportunity to renew individual engagement for safety and therefore favour attention and implication, which are key to organizational resilience.

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