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Fraud phenomenon seen from Luhmann's systemic perspective

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Abstract

The paper aims at mobilizing Niklas Luhmann's sociology to fraud — the only perspective that is likely to account for the fraud phenomenon according to Luhmann —, both to try to apply a radical framework to a never-ending and fast-growing phenomenon and to criticize previous work related to the field. This research merges two empirical works that aim to encourage antifraud measures and applies Luhmann's sociology and notably its major distinction between risk and danger to assess their (in)validity. Luhmann's sociology helps understanding the distinction between these two notions of risk and danger; therefore, the analysis succeeds in explaining why fraud — be it external or internal — should be considered from this perspective. Thence, this research calls for a true long-term horizon when addressing the danger of fraud, but also and above all, calls for expanding the limited vision we have of the world we are contributing to.

Keywords: fraud management; Niklas Luhmann; systemic sociology; risk and danger distinction, appropriation

Fraud phenomenon seen from Luhmann's systemic perspective

Introduction

Fraud is a never-ending, ongoing activity that might need radical thinking to be reduced. Therefore, the aim of this article is to apply Niklas Luhmann's (radical) systemic sociology to fraud in order to obtain another comprehension of the involved mechanisms that can lead to the development of refined tools to lessen fraud occurrences.

Fraud, a white-collar crime, substantially costs society. Though this seems to be a perilous exercise, some studies tried to assess the total cost of fraud (Button, Gee, & Brooks 2011; Gee & Button 2017) and the 2017th report measured a cumulative loss of \$4.39 trillion for 2016... As such, fraud has inspired numerous studies, a review of which can be found in (XX¹). Some of these studies are related to the sociology of risk and promote a new way of thinking about risk management (Giddens 2005; Meric, Pesqueux, & Sole 2009; Pesqueux 2011), especially after the financial crisis of 2007-2008 (Mikes 2011; Power 2007, 2009), while also suggest a way to avoid the pitfalls of the *technè* by steering clear of pure quantitative or methodological frames (Pesqueux 2011; Power 2009; Reynaud 2007; Weick 2001b).

Some essential sociological works have already provided a conceptual framework for this risk control issue (Beck 2008; Giddens 2005; Perrow 2014). However, as (Luhmann 2012:16; 2013a:4-5) stated, all previous works have to be reexamined for the underlying methods considered fraud to be exogenous, whereas sociology must *structurally* include fraud schemes. From our standpoint, this is of major interest, fraud has always existed and will never be stopped entirely (Gandhi 2015; OECD 2010); therefore, it might well be constitutive of our social system. In some ways, this concept is vital because it permits one to adapt to the social order (de Certeau 1990) since for de Certeau and (Luhmann 1989:74) an antisocial action is a social action.

In the first part of this work we present Luhmann's theoretical framework. Then, we develop how fraud can be conceived in this systemic sociology and explain why other sociological frameworks failed to address fraud issues. In a third part, we evaluate two propositions related to fraud reduction, namely, cross-appropriation (XX) and the RaAS' approach (Responsibility of actors, Autonomy, Sanction) (XX). We conclude by discussing the contributions of Luhmann's sociological framework to the field and we identify avenues to reduce fraud occurrences; mainly by improving the sense, considering the danger and enhancing confidence, with the pairings of risk/danger and trust/confidence being two major Luhmannian distinctions.

1 Theoretical framework: a paradigm shift with Niklas Luhmann

We first want to apologize for the following overview of such a complex sociology as it certainly deserves a much more detailed introduction. We also warn the reader

¹ XX replaces references to some works of the authors. This is done to respect the blind-review process. References will be integrated when the document will be ready for publication

that Luhmann's sociology — as it is the case for many masterpieces — offers many interpretations, some of them being concurrent. Striking examples lie in the Luhmann-Habermas debate (see for example Bausch 1997; Kjaer 2008; Leydesdorff 2000) or in specialized dedicated volumes (Riegler & Scholl 2012). The following should then be considered both over-simplified and disputable...

1.1 Key issues in Luhmann's sociological theory

Niklas Luhmann (1927-1998) offers a new sociological framework in response to what he considered a failure of existing approaches, which are neither sufficiently critical of previous studies nor able to properly address modern issues (Luhmann 1995b:xliv; 2013a:1). "*Sociology is stuck in a theory crisis*" (Luhmann 1995b:xliv) in that it is using concepts created before the current modern complexity we are living in and which have not been re-conceptualized. For Luhmann, the crux of the crisis lies in the almighty power conferred to the subject with the consequence that subjects are *explanans* for such things as "*technology and ecology; the volatility of international investments; discrepancies in the progress and retardation of development...*" (Luhmann 1995b: xlii) and such diverse things must clearly show "*how helpless a sociology must appear that still attempts to reduce all of this to "subjects"*".

He then proposes to replace the "*paradigm of the whole and its parts with the paradigm of system and environment*" (Luhmann 1977), and advocates a paradigm shift from a subject-oriented sociology to a systemic sociology or, as (Von Foerster 2003:284) puts it, from the traditional explanatory paradigm of causality/deduction to a systemic one.

This is of particular interest for our study for three main reasons. First, fraud is very dynamic and loss numbers are self-explanatory of the problem society is facing. Despite huge resources to combat fraud, its pace does not weaken, therefore it might benefit of a paradigmatic change. Second, fraud is said to be a question of people as fraudsters are individuals.

In considering that the focal point should not be the subject, interesting perspectives might uncover. Finally, no existing structural framework include deviance or criminality, despite the fact that these behaviors are part of the social system (Luhmann 2013a:4-5). In the Luhmannian perspective, fraud has to be considered consubstantial with social system and not as a deviance of society. This deserves to be investigated...

Luhmann based this sociological framework on many fields of research, such as second-order cybernetics (see for example Von Foerster 2003), systems theory (Maturana & Varela 1992), Shannon's theory of information (Shannon 1948) and Spencer-Brown's theory of forms (1972). Last but not least, Luhmann also took many concepts from (Parsons 1991), although he regularly rearranged them. With such a wide extent of inspiration sources, there is no other way but a subjective and arbitrary one to begin explaining Luhmann's sociology, so we decided to start with the concept of *form* and of *differentiation*.

1.1.1 Form and differentiation

According to (Spencer-Brown 1972:84), a *form* exists everywhere a *distinction* can

be made (or found, seen, described, defined, drawn...) and such a *distinction* creates a boundary which separates the two sides (ibid:25). By drawing a distinction, one is indicating which side of the distinction is intended and in doing so recursively, the indication is reinforced and the form *condenses*, which means that it takes its true and absolute relevance (ibid:81), grows thick and becomes more and more familiar (Luhmann 1988:95).

(Luhmann 2013b:10) uses the term *differentiation* to refer to distinctions inside social systems considered as forms and stands for the creation and maintenance of the *unity of difference*. In this rather abstruse key wording, Luhmann seeks to explain that a differentiation permits to differentiate in a consistent way, this consistency assuming its unity. Traditional spatial boundaries of the forms (of a circle drawn in a sheet of paper) are replaced by meaningful distinctions (Luhmann 2012:76).

(Luhmann 2013b:12) explains that our society has lived four differentiation forms in its recent history, the first three being *hierarchical* differentiations: a *segmentary* one, based for example on descent; a *center/periphery* one as can be seen in clan systems; a *stratificatory* one as in caste systems and a functional one as it is the case in our (post) modern society. Progressively, functional differentiation replaced hierarchy with the emergence of autonomous and self-contained function systems such as market economy, arts, science... (Luhmann 1996a:8). The prevailing semantic of “*individuality of individuals*” was undermined and societal positions of individuals now mostly result from their careers and least from their lineage, (or race, or gender, or anything related to hierarchy) (Luhmann 2008:26).

Luhmann describes many functionally differentiated systems, among them are the political, legal, scientific or economic systems, each of which are being a form described with a special purpose vehicle: its binary code.

1.1.2 Coding and medium

This coding differentiates the systems (Luhmann 1986:45) and draws the contour of the form. Being binary, this code has a positive and a negative value — we will go back to this true/false notion — which is chosen according to “programs” belonging to the system. For example, in the scientific system — in which the binary code is “true/false” —, a research paper can be qualified as either “true” or “false” upon publication, but this can be reversed as knowledge evolves. The codes of the aforementioned social systems are respectively government/opposition, legal/illegal, true/false and payment/non payment. It sounds odd that complex states of affairs are given a yes/no answer with no place in-between, but this is the condition for allowing substantial fluctuation in the field. In other words, the binary form of the code is a condition for adaptability.

The code expresses itself through a (symbolically generalized) medium, for example, (elective) *power* enables one to be in the government (in the political system), *money* enables one to pay (in the economic system) and some of them are also supplemented with a secondary coding. Law sustains power in the political system while money sustains property in the economic one (Luhmann 2005:64; 2012:213). Luhmann refers to “*the code of the medium*”, “*suitable for defining the unity of a system in distinction to other systems of its environment.*” (Luhmann 2012:226).

A social (sub)system is thus a form differentiated by its binary coding sustained by a symbolically generalized medium. Luhmann offers also a description of how forms grow and adapt to their environment, first and foremost he proposes that forms are

autopoietic.

1.1.3 Autopoiesis

A functionally differentiated social system is a form of which the interior is differentiated by a binary code of a medium considered as a unity. As a form, there is a strong separation between what it is (a legal system for example) and what it is not, its environment, everything else, including other social systems. But this is not sufficient to describe social systems and Luhmann relies on “autopoiesis”, a term coined by (Maturana & Varela 1980:v) that refers to “*self-contained unities whose only reference is to themselves*”. While Maturana and Varela applied their works to biology, Luhmann transposes their concepts to sociology (for discussion about this applicability, see Cadenas & Arnold 2015; Riegler & Scholl 2012). He posits that social systems are autopoietic and as such are autonomous, self-referring and self-constructing closed systems. The essence of autopoiesis can be grasped with the figure of a cell: a cell is operationally closed as all its operations are made by the cell itself and make its reproduction conceivable. The cell is then self-reproducing, aware of an environment but only knowing itself. Social systems should be understood in such a way.

A social (sub)system is thus an autopoietic form differentiated by its binary coding sustained by a symbolically generalized medium. To bind all of the above, Luhmann develops a very proper concept of communication.

1.1.4 Communication

Based on the code of the medium, this autopoiesis can take place thanks to communication. The only basal operation in the system is the communication (Luhmann 2012:76) and this communication operates on the basis of its own communications. Such communications arise “*through a synthesis of three different selections, namely, selection of information, selection of the utterance of this information, and a selective understanding or misunderstanding of this utterance and its information*” (Luhmann 1992:252). A few paragraphs before we have introduced the notion of “positive” and “negative” values of the code, this notion has nothing to do with morality but rather with continuity: if, during the communication, the positive value of the code is selected, then the communication can be understood by the system and becomes available for further selections in future communications. We understand that communication depends on the selection of previous communications and of the propension of the system to remember and link communications. This is why this binary coding is different from the yes/no coding of the language. “*It manifests itself in the first place as preference for the positive value*” (Luhmann 2012:219). This task is also dedicated to the medium (Luhmann 2012:226). This constitutes the “structures of expectations” (Luhmann 1995b:289). For a communication to happen it supposes selections (of information, of utterance and of understanding) each requiring previous recursive communications eventually allowing the selections, as one can easily imagine, “*such a state of affairs is extremely improbable*” (Luhmann 2012:113).

A social (sub)system is thus an autopoietic form made of and by (improbable) communications, differentiated by its binary coding sustained by a symbolically generalized medium. Communications are located *in* the form and only rely to its *interior*, this is for Luhmann the only way to cope with the complexity of our (pre)modern world. Social subsystems are operationally closed.

1.1.5 Operational closure

Being autopoietic, each social system is operationally closed and, according to Luhmann, this has many implications. Operational closure is the only way to cope with high levels of inner complexity (Luhmann 2012:34) as it permits the system to develop a high understanding with this never-stopping recursivity of communication reflecting upon itself. When understanding of (self-)observation and (self-)description fails, when this reflection fails to bring a solution to the communication, when complexity and uncertainty increase, the system faces undue complexity and may then differentiate (create a new inner form) that offer another way of thinking as we may be dealing with different matters (Luhmann 2012:78ff; 2013b:98ff&104-105). Because of their closure, systems are not constrained by external operational competition and can adapt to pursue their autopoiesis in developing structures that prove compatible with autopoiesis (Luhmann 2012:258).

A social (sub)system is thus an autopoietic — and so operationally closed — form, made of and by (improbable) communications, differentiated by its binary coding sustained by a symbolically generalized medium. Because of this closure, systems are changing only through their own operations but react to changes in the environment, and this evolution mostly occurs on the form of couplings (Luhmann 2012:275).

1.1.6 Structural couplings and programs

If systems were only connecting their own operations to their own operations in isolation, they could not evolve and adapt to their environment, hence why they are effectively connected to it (Luhmann 2012:109). Therefore, systems structurally integrate, for their own functioning, parts of their environment that are essential for their autopoiesis. Not only is this compatible with the operational closure of the system but operational closure is also a condition for structural coupling as, without such couplings, the autopoiesis will come to a standstill and the system will die — as it cannot adapt to its changing environment. (Luhmann 2012:55) gives a striking idea of the phenomenon: it could be said that — borrowing from informatics terminology — “*structural couplings digitize analog relations*”. Coupling systems are connected to highly complex environmental conditions in a simplified way that can be handled with the either-or schema of the binary code, sufficient to its autopoiesis (Luhmann 2013b:108).

(Luhmann 2013b:111-113) offers examples of couplings between system: “*The coupling of politics and the economy is achieved primarily through taxes and charges. [...] The coupling between law and politics is regulated by the constitution. [...] In relations between the law and the economy, structural coupling is achieved through property and contract*”. Let’s continue the economic/legal coupling example further. When a money-based transaction occurs, it wholly stands in the economic (sub)system, with no idea of what will precisely be done in its environment after the transaction, and particularly in the legal system. This is because the economic system has internalized the *digitized* legal system to keep only for-the-moment relevant information. This assures that transactions will be done on legal-compatible goods or services and that a contract will bind parties.

For systems to evolve, they must have processes providing malleability permitting to change the selection of the code. This is done by “programs” (Luhmann 2012:217), sort of softwares — to stay in the terminology of informatics — reprogramming

themselves because of either irritation of the system by its environment — which confers its plasticity to the system (Maturana & Varela 1980:xxi) — or by a change in its own set of expectations. Thus, the economic system is affected by the legal system when the latter issues new regulations and something that proved tradable became not, as has been the case with elephant tusk for example.

A social (sub)system is thus an autopoietic form made of and by (improbable) communications, differentiated by its binary coding whose value is selected accordingly to programs, sustained by a symbolically generalized medium and adapting to its environment throughout couplings. The very mechanism which permits this digitization is observation.

1.1.7 Observation

Luhmann differentiates between first-order observer and second-order observer. This is not specific to his work, as notably (Maturana & Varela 1992) and (Parsons 1968) did it². The problem can well be exemplified by the submariner's metaphor used by Maturana and Varela (1992:136-137). This submariner never leaved his submarine and drove his submarine successfully among reefs and other underwater dangers. We (observers) see then the submarine “gracefully surfacing” and congratulate — by radio — the submariner for having avoided all these dangers and surfaced in such a beautiful manner. The submariner did not understand what we are talking about, he knew nothing about reefs or surface and was only reading and interpreting his navigation instruments and piloting accordingly. In this metaphor, the submariner is a first-order observer, localized in the form delineated by the hull of the submarine. While as second-order observers, we were observing the form in its environment. It should be kept in mind that the boundaries of the form (here, the hull) is made of meaningful distinctions in social systems and not of spatial ones (Luhmann 2012:76). Hence, the metaphor of the submarine is reductive and boundaries are moving with meaning.

The first-order observer has no other connection with its environment than what the form has digitized and conversely, for the second-order observer, the internal dynamics of the form in unattainable. This offers two complementary descriptions of the same behavior whose coordination — the same things at the same time — cannot be explained but by structural couplings. Therefore second-order observation (the observation of the observer) permits causal attribution (Luhmann 2012:79) with the limitation that each attribution is contingent. For the first-order observer, things feel natural (the pilot drives his submarine naturally, according to the information he receives) while for the second-order observer, things feel contingent (a change in direction to avoid a reef) (Luhmann 1995a:37).

A social (sub)system is thus an autopoietic form made of and by (improbable) communications, differentiated by its binary coding sustained by a symbolically generalized medium and adapting to its environment throughout couplings arising *via* second-order observations.

But what drives system's processing? Are they goal-oriented? Do they obey to any transcendental order or do they pursue any immanent entelechy? None of this answers Luhmann, they are only concerned by their own reproduction driven by their ever-

² It is clearer in Maturana's and Varela's work than in Parsons' for the later made a difference between “the actor himself” and an “observer”.

changing meaning.

1.1.8 Meaning

(Luhmann 1992:255) gives a clear answer to these questions: communication has no goal and follow no order, “*It occurs or it does not — that is all that can be said about it*”. But communication has its own meaning, produced by the concatenation of all the previous communication (Luhmann 2012:233) and creates the condition for future communications (Luhmann 2012:28). As we said a few lines before, by its self-observation, systems are communicating on themselves, on what they are and therefore, on what they are not; thus, they are constantly redrawing their boundaries.

Meaningful identities are emerging from a recursive process (a *re-entry* in Spencer-Brown’s formulation), this recursivity is an ongoing process and exhorts to think in duration. In Bergson’s (2014:52) acceptance of time, the “duration” is the possibility of a future rich in things that have not (yet) been thought of, a “*continuous overflow of novelties* (our translation)”. The future is then much more than an actualization of possibilities; it is the possibility for creation. For this very reason, and because systems simplify a world that is too complex to be embraced in its full complexity (Luhmann 1995b:84f), communications — an hopefully in a complex society, inconceivable communications — can happen and support future communications.

Finally, a social (sub)system is an autopoietic made of and by (improbable) communications, differentiated by its binary coding sustained by a symbolically generalized medium, driven by its ever-changing meaning and adapting to its environment throughout couplings arising *via* second-order observations.

This summation would be perfectly unsatisfactory without a word on the hottest topic when considering Luhmann’s sociology: the place of the individual.

1.1.9 People

The place devoted to people in Luhmann’s sociology is “*one of the most discussed and controversial theses of Luhmann’s systemic sociology*” (Sosoe 2017:7). This is well known and assumed by Luhmann (1995b:xliv) himself, for in other sociologies the subject is an *explanans* for too many and too diverse things. By the way, we have been very cautious not to introduce in the above any reference to individuality: systems are reproducing themselves, are observing themselves, are hosting communications that (re)produce communications... Nevertheless, besides autopoietic social systems there are two other autopoietic systems, namely the psychic and the living ones, which constitutes the individuals, each respectively (re)producing conscious and life with the autopoiesis of mind and living bodies.

The functioning of the psychic system is the same as social system except for its operation: they (re)produce consciousness from consciousness to allow for future consciousness. They both are meaning-constituting systems (Luhmann 2012:32) and are structurally coupled together. As we know, because of its form each system is unreachable for the other but thanks to the coupling it can be imagined. Moreover, “*conscious states in the environment of the system have to be presupposed at any moment in time, in every single communicative operation*” (Luhmann 1997:72). Psychic systems have a peculiar place among systems, they are coupled directly to societal systems and this is the sole coupling of this kind (Luhmann 1997:73). This direct coupling indicates straightforward irritations of social systems from psychic ones and contributes to social sense-making. Psychic systems lie in environments of

social systems as reproducer of conscious always irritating systems. More, psychic systems are in an asymmetrical relationship with social system because system of consciousness can be active without communication (for example at its very first days) while there is no (social) communication without the mind (Luhmann 2002:171-172) and even no durable communication, no structural plasticity, no “conservation of adaptation” (Maturana & Varela 1980:xxi; 1992:112) — without the mind’s communicating. In that sense, the autonomous and reflexive ‘subject’ has not been deconstructed but solely off-centered (Teubner in Ferrarese 2007:94).

Therefore, when it is said that in social systems the only operation is communication and only communication can communicate, it does not refer to any transcendental communication: psychic systems are involved in the communication but the communication can take place only if it respects the coding of the system and the communication succeeds solely if its concern matches the structure of expectations of the system. In particular, (Luhmann 2002:180ff) refers to a dialog form instantiated by “Alter”, creating an “Ego”, an “*analog to itself*”. Because communication is a three steps selection process (information-utterance-understanding) an “Ego” is able to differentiate utterance from information and acts its proper way. Alter addresses its own utterance in respect of how it thinks Ego will receive it and, conversely, Ego receives this utterance knowing that it has been addressed by and Alter that it itself created as an analog to itself. Luhmann inherited this dialogic from (Parsons 1991) who referred to it as the concept of “double-contingency”.

This paragraph referring to people is key in two aspects. As we have noted, it is first key to make clear Luhmann’s acceptance of subjectivity and its role in social systems — unescapable as no communication can take place without the mind but limited as social systems are operationally closed — and for the topic of fraud as it is considered a matter of the subject (the fraudster).

2 Luhmann’s sociology and the question of fraud

Research on fraud — a white-collar crime — and control as started long ago with (Sutherland 1940) and (Cressey 1950) in an attempt to develop a theory of criminal behavior on bridging two bodies of knowledge: crime and business. This theory eventually ends up considering that fraudsters knew no other solution to their non-sharable problems than to violate trust, justifying this violation by rationalization (Cressey 1950:742). Cressey identified three elements creating favorable conditions for committing fraud: pressure, motivation and rationalization; in the white-collar crime literature, this is referred to as Cressey’s “fraud triangle”. This scheme became famous and is regularly updated by new researches (Kassem & Higson 2012; Mackevicius & Giriunas 2013; Ouaniche 2015). Nevertheless, (Cressey 1950:739) reckoned that “*trust violation is caused by the existence of institutions whose functioning depends upon varying degrees of trust*” and pointed the economic system of our modern society. This is specified years later by (Sutherland, Cressey, & Luckenbill 1992:13775s) for whom criminal behavior is an effect of the economic, political and social order. In this work we are not saying that a Luhmannian perspective is the only one to account for fraud, but that a change of perspective may be of some interest to help coping with fraud. In doing so, we tentatively go one step ahead Cressey’s intuition.

Before going into details, we should define what organizations are in Luhmann's framework. As for any other social systems, they are autopoietic, but of a special kind in which communication are decisions (Luhmann 2005:187s). Organizations are driven by decisions that permits decisions in a recursive manner so that they can adapt through this sense-making. Economic organizations belong to the economic system and obey its structure while specifying it. In other terms, decisions in economic organizations build recursively a sense for further decisions and then for the organization itself while respecting the overhanging code payment/non payment.

Luhmann wrote little about fraud but he dedicated an entire book to risk (2005). Thus, we extracted what we thought relevant in regard to fraud and made a distinction regarding this notion. This was a rather subjective task, as there is not a shared acceptance of what fraud is. In some countries — notably in the USA — fraud is characterized differently depending on which state it occurs (West 2014). This has been well known for decades (see for example Cressey 1950:740; 1986:208), and the fact that fraud has persisted despite the emergency of the situation suggests that society does not think of fraud as a matter of sufficient importance or, worse, that it believes that it can take no action to efficiently fight it. Even if there is no current acceptance of the notion of fraud, some main traits are being acknowledged. Fraud is an immoral action, an antisocial behavior (Akerlof & Shiller 2009; Blanqué 2003:61; Kindleberger & Aliber 2005:165) that betrays confidence (Akerlof & Shiller 2009; Blanqué 2003:61; Cressey 1950; Kindleberger & Aliber 2005:186; Stichweh 2011:1362-1363). This immoral action refers to the selection of the *bad* value of the code in a Luhmannian sense — a selection that provides no possibility for the communication to pursue — while the betraying of confidence represents a *danger* as the communication of the system itself is jeopardized.

In more traditional sociological frameworks, fraud involves both a notion of morality and ethics and a notion of risk. We shall then make a detour *via* these concepts and their Luhmannian acceptance.

2.1 Moral and ethics de-socialized

Moral communication is an important topic for Luhmann. It is driven by the code *good behavior/bad behavior* (Luhmann 2012:231) and draws a form considering people involved in the communication leading to include or exclude people from communication. In that sense, morality serves “*to reduce the complexity of both social interpenetration and interhuman interpenetration*” (Luhmann 1995b:234). But, despite its importance, morality is not primarily involved in social systems as they are operationally closed but intervenes secondarily through the coupling of minds and social systems. “*A society differentiated into functional systems must accordingly renounce moral integration*” (Luhmann 1991:86) “*because it excludes the identification of the code values of the function systems with the positive/negative values of the moral code*” (Luhmann 1996b:35). In brief, moral inclusion but not moral integration. Social systems bear no (good or bad) morality, they are amoral by nature.

If morality is defined by the conditions of the market of respect/disrespect then ethics is a theoretical reflection of morality that takes a critical look on rational foundations of moral judgments (Luhmann 1991:84). The question ethics addresses is to know whether or not *good* or *bad* is in itself a good distinction. Is condemning a child to

death always bad? If this condemnation saves more children, is the previous question still implying the same thing? For (Luhmann 1991:86-87) resolution of such paradoxes has been left to social systems and ethics “*spared itself a standpoint of its own*”. This is what is at stake in organizations when confronted with a choice: alternatives are evaluated, risks are objectified, and the decision is made after “rationally” considering the monetized aspects of each. Ethics has surrendered, the choice is made without questioning moral values but mostly in reference to the system.

Therefore, (Luhmann 1991:84) calls for a “*cooperation of sociological theory of society and ethical reflection*”. In fact, by focusing on morality, ethics lost reference to social reality (Luhmann 1991:89) and cannot take part to society. Finally, as moral communication cannot integrate society ethics must limit the scope of morality as it is intolerant, dogmatic and conflict-enhancing (Waldkirch 2000) and should be thematized as a second-order observation in which an (ethical)observer can observe what distinction, be it good or bad, is used by a (moral)observer to observe what is observed (and ignored) (Luhmann 1991:90-91). Ethics is then a reflexive theory of morality of which the aim is to monitor “*how the moral code – as a circulatory and fluid mode of communication – is applied to systemic communication*” (Mascareño 2011b:186).

Risks under discussion are risks that can be evaluated in alternatives. Evaluations have then the double disadvantage of having only short-term perspectives and to consider only risks that have influence on the project. All other risky aspects are forgotten, and to avoid this (Luhmann 1991:87; 2005:33ff) suggests a new distinction, between *risk* and *danger*.

2.2 The risk/danger distinction: a call to think in “duration”

(Luhmann 2005:33ff) substitutes the risk/security distinction with the risk/danger distinction. Because seeking absolute security is illusory, security is not opposable to risk. However, it is critical to distinguish what Luhmann termed “risk”, which represents a choice among many possibilities and a vehicle for opportunities, from what he termed “danger”, which is an often-remote consequence of a constellation of “risks”.

“Dangers” are not retrospectively attributable (both because of the passage of time and the too numerous risks at stake) and are supported by third parties, although they are usually not involved in the decisions. Luhmann and (Beck 2008) join on this topic by stating that while older organizations’ primary concerns were “dangers,” “*modern society has until recently preferred to mark risk, being concerned with optimizing the exploitation of opportunity*” (Luhmann 2005:25).

(Luhmann 2005:41ff) argues that we are held hostage by a wrong conception of time because “*the unity of time is not the unity of a movement,*” and the present is not the preferred time for distinguishing between past and future. Both Bergson and Luhmann consider a society in motion that is rich in its memory of past elements that lead to actual and simultaneous events (Bergson 2009:59).

(Luhmann 2005:76s) suggests a systemic explanation for this “overflow.” As we have seen, systems reproduce themselves through communication based on binary coding. Programs will then evolve to foster the selection of the positive value of the code,

finally leading “to further breaches in symmetry between past and future. It is only on this condition that the future can differ from the past, and only thus are risks conceivable” (Luhmann 2005:77). Systems are developing and, since they are evolving in an unpredictable manner, the future cannot be foreseen.

Luhmann’s proposition, to which Bergson would probably have subscribed, is that modern society is located in a spatialized time that conceals movement and provides an anchor that secures and enforces a reference point. By insisting on the distinction between risk and danger, Luhmann thinks of time as a “danger” and as a phenomenon that can be grasped over time through movements induced by numerous previous decisions. For example, a carmaker can bear the risk of deciding to make powerful cars based on the opportunity to obtain higher profits. The carmaker marks the risk-side of the distinction and takes the risk that these cars might be too expensive to be sold. Another observer may choose to mark the danger side of the distinction by considering that it is a danger as these cars, increasingly powerful and polluting, are detrimental to the environment and lead to poorer quality of life. At that time, both observers are right in making their selection as future cannot be inferred from the past. This is what Luhmann meant when he wrote that the symmetry breaking makes risk conceivable: the risk to make the distinction...

Here, we would like to emphasize the question of fraud regarding Luhmann’s framework in light of the distinction risk/danger.

2.3 *The question of fraud*

As Luhmann (1995b:370; 2012:16; 2013a:4-5) stated, all previous works have to be reexamined, for the underlying methods considered fraud exogenous, whereas sociology must *structurally* include fraud schemes. We have to remember that, in a systemic perspective, solely communication can communicate, and that the selection of the value of the code is unpredictable. Correlated to this improbability of value selection is, said (Luhmann 2012:245) the probability of sabotage. And once a sabotage occurs, it stands in the memory of the system and is available for further communications (Luhmann 2013b:36-37; Waldkirch 2000:66).

Internal and external fraud are often considered differently. Internal fraud occurs in an organization, such as rogue trading. External fraud occurs in a more global social system. Healthcare insurance fraud involves insurance companies, healthcare providers and policyholders. In any case, as for the carmaker example, a selection between the two sides of the risk/danger distinction has to be made. As a second-order observer marking the ‘risk’ side of the distinction, we can notice that the risk linked to fraud is twofold. First, the fraudster takes the risk of being caught (weighed against the potential gain), but the fraud also impinges on the organization both as the victim and as a responsible party, weighted against the gain that represents fewer financial resources dedicated to fighting fraud.

As a second-order observer marking the ‘danger’ side of the distinction we can fear that confidence in the system erodes, and, that after a certain threshold, a disaster take place as consequence of a myriad of non-retrospectively attributable actions (Luhmann 2005:26). As far as fraud is concerned, the danger lies in the betrayal of confidence. If this were the case, its autopoiesis could not be pursued because its structure — its code or programs selecting code values — would appear suspicious

to its environment. The very point here is to remind that every system makes a copy of its environment through coupling. When a system communicates a way expected (and notably with a “standard” level of fraud), their copies in other subsystems duplicate properly the functioning of the system, couplings are accurate. On the contrary, when a system communicates quite differently of what it was used to, all other systems it is coupled with need to reassess their coupling. Structural couplings become loose. While this is the normal course of evolution (Luhmann 2012:253) is the system dramatically changed, couplings may not renew and, as we wrote in the paragraph devoted to couplings, with no coupling the autopoiesis will come to a standstill and the system will die.

This mechanism was at stake during the Great Depression, when, in 1931, Callisthenes, an editorialist of the *Times* of London made a vibrant call for confidence in the system and not to people (Akerlof & Shiller 2009:71).

This danger seems obvious when we examine the economic system and particularly its financial component, frauds are numerous and are widely occurring in the public sphere.

2.4 *Trust and confidence*

(Luhmann 1988) considers this distinction between risk and danger with the help of two kinds of faith, “confidence” and “trust.” This distinction is made based on the possibility of a choice. If there is no choice, “confidence” is at stake, just like one leaves their house every morning with no weapon to protect themselves. However, if the situation has alternatives, then “trust” is at stake. Having faith in systems (in the Luhmannian sense, in political, legal, and economic systems for example) pertains to “confidence,” and conversely, while systems are sense-makers, their autopoiesis can only occur in the case of “confidence”. Like for any distinction between forms, the frontier between each side is blurred, and relationships exist between the two. They can support each other because confidence encourages trust, and it is easier to make choices in stable environments. Trust, when internalized in a system’s expectations, produces confidence. However, when one is defective, it can also serve to lessen the other and this is why it is said that sabotage carries sabotage (Luhmann 2013b:40; Waldkirch 2000:66). Lost confidence triggers the necessity of making the choice of whether to trust the system or not, and eventually leads it to die. Being aware of danger instead of being focused on risk is a way to build confidence, since strengthened confidence results in the ability to better distinguish between risk and danger. According to (Luhmann 1988), this can be obtained by taking micro-level actions because it is possible to build trust at the micro level and to protect the system against a loss of confidence at the macro level.

When this distinction fails to be sufficiently clear, a sort of benevolence toward fraudsters can develop from second-order observers and be seen as an act of resistance against the system, such as a “Robin Hood syndrome.” Indeed, that is what was revealed by a UK government-sponsored insurance think tank for which the fraud against insurance companies was ordinary for English people because they consider insurance companies to be of a lower level of trust in comparison with other industries (IFT 2016:8). (Luhmann 2001:44s) termed such stories « schema » of public opinion, which is a form used by the system to build a set of expectations. Again, Luhmann joins (de Certeau 1990), for whom such stories are “*repositories of*

schemes of actions". Unfortunately, such "schemes" are becoming institutionalized, especially in the finance sphere because of the unethical³ behavior of some financial institutions. Striking examples are related by (Dillian 2011:204) when he reports that in Lehman Brothers, "*it [was] better to ask for forgiveness than to ask permission*" (i.e., making forbidden deals cannot be formally allowed, but implicitly it is allowed as soon as it can generate money) or by (Lewis 2010) telling how Howie Hubler, a star trader at Morgan Stanley, manipulated the CDO market and made a lot of money but encouraged the crisis.

The distinction between risk and danger is also difficult for another reason, termed "*bounded willpower*" by (Jolls, Sunstein, & Thaler 1998:1480), which is "*most relevant when decisions have consequences over time; our example is criminal behavior [...], where the benefits are generally immediate and the costs deferred.*" Because the costs are deferred, sometimes far into the future, danger dissolves and does not penetrate the systems' expectations. Accordingly, both to (Luhmann 2012:245) and (King & Thornhill 2003:70s), only the law can help and the legal system should encourage this distinction and give strength and resonance to the "danger" side of the form to the detriment of the "risk" one.

In this section we have explained why fraud is both ineluctable and an important topic to be addressed in a systemic perspective. Systems are self-(re)forming thanks to their binary coding and adapting thanks to the plasticity of their programs selecting code values. For all these operations, they rely on a recursive stream of communications which operates as a memory. When a "sabotage" occurs, it stays in the memory of the system and is available for further communications, and when many sabotages occur, the system becomes less efficient, its aim is questioned and its autopoiesis is threatened. Luhmann proposes two helpful distinctions to help us understand what is at stake: trust/confidence and risk/danger. These distinctions can be bound together, risk with trust and danger with confidence as both risk and danger face a situation of choice while confidence and danger do not. To overcome this problem, the distinction between risk and danger should be clearly made by systems and this can be done by two means: 1) strengthening the legal response and 2) taking micro-level actions to articulate co-enhancement of trust and confidence.

2.5 An ethics of contingency

Sanctions are the subject of political or legal systems whose irritations help the crucial distinction between risk and danger to be made. Some Head of State or of government, exasperated by recurring scandals and their dramatic social and economic consequences (the "danger"), expressed their determination to pursue personally the managers of companies convicted of fraud (Gibb 2016; Reuters 2017; Silver & Martinuzzi 2017). In this case, as (King & Thornhill 2003:70s) suggested, the political system spurs the distinction between risk and danger, emphasizing the "danger." While strengthening the legal response is a very well known — and used — way to combat irregularities, but we can doubt of the political room for maneuver in our globalized world to set up adapted regulatory policies. Consider for example the trillions given by States to rescue financial institutions after the financial crisis

³ Or immoral? It was good for the system on a short-term basis and we can doubt it was bad for it on the long run. In fact, during the bubble the system inflated and when the bubble burst the system was rescued by States. Moral or not, it seems to be a question of ethics...

of 2008 and the few — if any — counterparties given by these institutions to forbid the incriminated criminal mechanism. Nevertheless, in compliance with micro-level actions, this strengthening can be located at the level of the organization.

Then, as naive as it may sound, taking micro-level actions deserves to be explored and one evident type of actions is to be directed to the minds, to the direct structural coupling between the mind and social systems. This what is referred by (Mascareño 2011a, 2011b) as “*ethics of contingency*” allowing for compensate for the inefficiency of compensatory institutions in reflexively modifying the prioritization of individual concerns (Mascareño’s *modus vivendi*). Interestingly, Mascareño draws on Margaret Archer’s (2003, 2012) internal conversations and reflexive imperative and both are in stake in (Luhmann’s) double contingency. Reflexivity is defined as “*the regular exercise of the mental ability, shared by all normal people, to consider themselves in relation to their (social) contexts and vice versa*” (Archer 2012:1) and it is imperative for reflexivity to cope with our complex and ever-changing world. “Internal conversations” refers to the fact that minds have reflexively to diagnose their situations in relation to their vested interest (Archer 2003:9).

In the double-contingency, Alter, involved in the communication, selects an information and an utterance after having reflexively “built” an Ego. In the same manner, Ego, also involved in the communication, receives utterance and information knowing that Alter have anticipated what Ego may think of, and so forth.

Such an ethics of contingency is to prevent decoupling between vested interest and social selectivity. (Mascareño 2011b:187) essentially addresses discrimination (inequality, poverty...) “*resulting from a sense of distrust towards institutions*”, but we see few differences in using ethics of contingency for fraud purposes as fraud is also resulting from distrust towards systems.

We have noted that psychic systems were important for Luhmann’s sociology at least because the minds participate to communication with an effect of morality in the Ego selection from Alter. Finally, we consider that enhancing ethics of contingency and strengthening rules at the micro (organizational) level improves systemic confidence leading to less fraud occurrences.

3 Reading of two fraud risk management approaches with Luhmann’s lenses

In this section, we evaluate how Luhmann’s sociology proves helpful to understand two approaches designed to lessen fraud occurrences. One approach is relating to internal fraud in a context of financial markets, the other one concerns external fraud and relies to fraud experienced by insurance companies.

It is very easy for one to expose themselves, even involuntarily, to a retrospective justification confirming that previous works fit well within a given framework. For this very reason, we reassess the context of each approach and offer a reading of each in a Luhmannian way. In particular, we characterize both sets of expectations, depict the different levels of faith in the system and solely conclude on the adequacy with Luhmann’s propositions.

3.1 Internal fraud: an approach of cross-appropriation

This work sought to understand fraud mechanisms in financial markets, it suggested an approach to reduce fraud and a tool to operationalize it. This approach was based on the notion of “appropriation” (or enaction should say Weick, see Giraud et al. 2009), permitting strategies of circumvention (for example, de Certeau 1991; de Vaujany 2006) and its three perspectives (rational, sociopolitical and psycho-cognitive) to better understand one’s environment.

Starting from the widely acknowledged point that (internal) frauds are very costly and occur at a high pace, this work questioned the environment of financial market operators and their controls. It suggested that a third type of control, qualitative, might be a useful complement to the quantitative controls (Vranceanu 2005b).

Market finance: a systemic context encouraging fraud

The initial context was that of organizations engaged in financial market activities. From a Luhmannian perspective, these organizations are located, like any economic organizations, in the economic system and have a structure of expectations that permits decision-making. Each decision affects this set of expectations and permits the systemic autopoiesis (the evolution of the organization). The decisions under review concern the buying, selling or conservation of a financial asset.

It is not possible to describe the set of expectations of all such companies, since they are unique. However, we can draw some inferences that apply to firms of the sector: (XX).

- Financial market operators (fund managers or traders) deal with and earn huge amounts of money;
- The sole aim of these operations is to save money;
- For the “excluded” (Godechot 2005), financial operators are remarkable because they have a job that only they can do, and they are well compensated;
- Such organizations carry stories around that have now turned into a myth, which can be especially strong because these stories did take place and are still taking place. Eliade (1963) wrote that myths tell incredible, yet real stories and in fact, some operators did build huge fortunes in the financial markets from scratch (Schwager 2006). Because of their exceptional nature, these stories involve exceptionally talented people, and “*the investing public is fascinated and captured by the great financial mind*” (Galbraith 1993:17) so that operators can identify with “*Supernatural Beings*” (Eliade 1963:30). As such, operators can deem themselves above the laws that apply to others, “natural” beings. Operators are given supranatural skills which put themselves often reluctantly on a pedestal provoking a splitting of the self (Tuckett 2011). It follows that operators often (are forced to) find themselves so superior that they consider the controllers to be incompetent and think that they have implicit permission to take on more risk than what they have been allowed to explicitly;
- Fraud is an operational risk that has only recently been recognized as such. Indeed, this risk is less internalized and integrated than others, such as credit risk or counterparty risk;
- Financial institutions have an asymmetrical risk-profile that encourages risk-taking. They can earn a lot of money when their operations are successful, but

their losses are limited because large financial institutions are usually protected from bankruptcy by governments, as the 2007/2008 financial crisis showed.

It seems to us that these points feed a type of deviant communication. In particular, we can notice that the system expects fraud because operators think that they can take on more risk than is permitted. Yet we know that only people who have never committed fraud have never exceeded the permitted limits (Christensen 2010). Moreover, they are subject to the “Robin Hood” syndrome because fraudsters have taken money from institutions with “*a culture of dishonesty*” (Cohn, Fehr, & Maréchal 2014), especially because they have huge earnings while being exposed to an asymmetric risk. This last point is an underlying factor of the proposition made by the European Institute of Financial Regulation to split banking activities into two parts, investment banking and commercial banking (Liikanen 2012). Finally, the structure of expectations of such organizations encourages fraud on another point: since controllers are considered to be incompetent, the controls might be inaccurate.

Systemic evaluation of the approach of cross-appropriation

In order for a system to change, its structure of expectations must change accordingly. There are at least two types of responses. A macro response would be delivered through irritations perceived from the environment, and a micro response would originate from the system itself. These two types of responses are possible for Luhmann because the political system and the legal system can force changes. This is what (Liikanen 2012) suggested by supporting the separation of investment and commercial banking activities into two legally independent structures, with one of them having financial market activities that are deemed hazardous. Unfortunately, because of the globalization of financial markets and sovereignty of stakeholders, loads of stumbling blocks are to overcome...

As stated previously, for (Luhmann 1988), it is also possible to solve a macro problem using a micro solution, even within a systemic sociology. The change can be performed systematically from the inside, and this might be the most effective method (Blomquist & Ostrom 1985; Callon 1986; Weick 2001a).

The appropriation of an environment is an individual and thoughtful process that requires one to internalize it in their everyday life so that it becomes constitutive of their personality (Jouët 2000). What we are suggesting in this approach is not simply one but two appropriations, a cross-appropriation in which controllers appropriate the work of the operators (at least the work that relates to the controllers) and conversely so. Thus, cross-appropriation seeks to examine and question the differences in the respective views of two sets of people. It is a sense-making-based approach that promotes cooperation, thus leading to the development of trust (in the Luhmannian sense) between the two groups. The controllers understand some of the structural difficulties of the operators and, with this new proximity, they can gain a better understanding of people themselves. The operators understand both that the controllers are competent and that they can drop their pursuit of the “*Supernatural Beings*” (Eliade 1963). In the latter case, it is a question of self-confidence (more so than self-trust if we keep in mind Luhmann’s distinction) because the operators will know that they are not required do extra-ordinary things, just financial management.

In this approach, first-order observations are at stake: every observer belongs to the organization and what is required from the organization point of view is to reinforce

structural couplings with the minds. This calls for an ethics of contingency of which the aim is to modify reflexively the prioritization of individual concerns. Appropriation favors mind's reflexivity (de Vaujany 2005) and individual concerns are questioned as Alter and Ego vested interests are different: one is focused on financial gains through risky operations in financial markets while the other is concerned by financial dangers embedded in these operations.

Lastly, in this work (XX), were considered fraudulent all intentional operations that 1) were explicitly forbidden by any local (decreed by the organization) or global (decreed by the industry) rule (as in the Kerviel case, see TGI Paris 2010) and 2) that would have been explicitly forbidden if all the stakeholders had a clear understanding of the embedded risk (see, for example, the Hubler case in Lewis 2010). A definition for fraud is not of peculiar interest for this part, except that it exemplifies the match between cross-appropriation and Luhmann's framework. Indeed, if the first point does not call for any comments, it seems interesting to underline that the second point is precisely about "danger."

This approach then precisely helps providing a better distinction between risk and danger with the help of ethics of contingency and suggests that fraud occurrences can diminish by building confidence through trust. In case of internal fraud, cross-appropriation then seem well in accordance with Luhmann's systemic social description of society.

Unlike financial markets, fraud is not "expected" by the insurance companies' systems; it is not included in their structure of expectations. Fraud comes from the outside and is perpetrated in response to fraudsters' opportunism and (or) by healthcare providers trying to leverage the process for their own profit. Insurance companies do not promote fraud, it is quite the opposite as their functioning is based on mutual assistance and national solidarity.

3.2 External fraud: an approach based on actors' responsibility, autonomy and sanctions. The case of health insurance organizations

This work made the statement that fraud is multifaceted and flourishes in different contexts, thus requiring strong relationships between stakeholders.

The context concerns organizations that must provide a refund to policyholders on a declaratory basis. In a Luhmannian perspective, it is a question of second-order observations concerning relationships between multiple stakeholders of different systems impacting the whole insurance industry. This can be shown in the example of fraud with respect to the price of glasses (UFC - Que Choisir 2014), in which opticians optimized insurance reimbursements by altering the amounts dedicated to eyeglass frames and to lenses. An insured person, as first-order observer knew this was an optimization favoring himself but detrimental to the insurance company. Insurance companies (first-order) facing lower revenues raised their prices to offset this decrease the increased fraud. Then, the customer became the losing one. In that case, all insurance companies faced the same fraud, and the stakeholders were the insurance companies, the healthcare providers (opticians) and policyholders.

Even if we are not able to provide an exhaustive inventory of all sets of expectations of all stakeholders, we can still raise some commonalities (XX).

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- Managing fraud is a regulatory requirement, namely Solvency II, and is a financial necessity;
 - Healthcare professionals are accountable for medical expenditures through justification for their (para)medical acts;
 - The autonomy of healthcare professionals makes fraud easier;
 - The lack of deterrents has sectorial impacts;
 - Fraud can be perpetrated by policyholders or/and healthcare professionals, since they become each other's accomplice;
 - As shown by the eyeglasses' fraud, fraudulent operations cause damage to insurance companies and raises policy prices higher. Thus, policyholders pay for the fraud.

While external fraud is also a matter of first-order observations (internal control), it is mostly an affair of second-order observations, as the coupling of systems between each other are at stake. Moreover, there are three types of healthcare insurance companies: mutuals, which are regulated (in France) by the Mutual Insurance Code; private companies, which are regulated by the French Insurance Code; and provident institutions, which are regulated by the French Social Security Code. Thus, we have to distinguish the three subsystems, each of which is coupled with a different legal and political subsystem. In particular, Article L111-1 of the Social Security Code states that *“the organization of social security is to be based on the principle of national solidarity.”* Article L111-1 of the Mutual Insurance Code states that *“mutuals are nonprofit legal persons governed by private law [...] that can engage in, notably thanks to premiums paid by their members, and in their best interest [...], any action of solidarity and mutual assistance (our translation).”* The Insurance Code states that their affiliates are recorded in the commercial register.

Despite these differences, the method of accessing healthcare is the same: the patient gets (para)medical attention, and all or part of the amount due is paid by the insurance company on a declarative basis. From the fraudster's perspective, operationally speaking, there is no difference with regard to the type of insurance company. There is also no difference in public opinion, and because of its low level of trust *“insurance is ‘fair game’ for fraud”* (IFT 2016:8). The “Robin Hood” syndrome is still at stake, and this can be seen in the eyeglasses' fraud case where the weak (people and small healthcare professionals) ally against the strong (insurance companies). In practice, this syndrome is supported by reality, whereby legislation protects fraudsters because companies are asked to prove any fraud within a very constraining framework. For example, an audio recording of a transaction in a call center cannot be kept for more than 15 days, and by the time one realizes that a fraud has occurred, the 15 days timespan is usually over. Such delays rarely permit accurate investigations.

Considering these points, an anti-fraud approach is being used in this environment: the RaAS approach (XX). RaAS revolves around three points: the **R**esponsibility of **a**ctors, their **A**utonomy and the **S**anctions they face in the case of fraud. Responsibility stands for the capacity (and incentives) of actors to take their environment into account, especially relationship between all stakeholders. Autonomy relies on room for maneuver that actors have in potentially threatening affairs like billing, reimbursement... Sanction refers to the capacity of the organization to react to fraud events and impose sanctions.

Systemic evaluation of the RaAS approach

For (Schnebel 2000:86) responsibility is key for Luhmann's framework as it empowers "*the personal responsibility needed to create transparent organizational structures as well as to overcome the restrictions given by institutions, organizations and the economic system.*" In addition, taking into consideration the consequences of our actions (marking the distinction *risk/danger* in favor of the latter) is a way to access what (Luhmann 1991:87) calls "*an ethics of responsibility*". As in for (Painter-Morland 2010), such an ethics acts as a governance principle that should drive systemic evolution when they develop improperly; see for example the ecological problem or the worldwide surge of fascism in mid XXs (Luhmann 2013b:108). As a governance principle, such an ethics also condenses in Mascareño's ethics of contingency.

While responsibility can hardly develop with no autonomy — not being autonomous is doing what we are told to do — we cannot be deemed responsible for having done what we are told to⁴. Here is a first apparently a paradox: in the RaAS approach, the more the autonomy, the more risk of fraud. The paradox is easily ruled out since the couple responsibility/autonomy apply for different observers. Indeed, RaAS' responsibility applies to second-order observers while RaAS' autonomy refers to the system (the organization) itself. Nevertheless, even if no paradox exists, we hardly find any contribution of Luhmann's framework to this point.

As an operationalized approach, RaAS' sanctions refer to intra-organizational punishment. As anticipated, in compliance with micro-level actions, the strengthening of the (not legal but) legalistic response can be located at the level of the organization.

When confronting external fraud, more than one system is involved. This intuition was asserted very early by the pioneers of "white-collar" crimes, notably (Sutherland et al. 1992:13775s) and (Cressey 1950:739), for whom criminal behavior is an effect of the economic, political and social order. Many systems are involved in case of external fraud. Since the minds are coupled with all social systems, an efficient way to impact their structure of expectations is through irritations by the minds of systems (unavoidably) coupled with the minds. As for internal fraud, this can be done in reference to ethical contingency.

In some respect, the RaAS' approach also relies on ethics of contingency, this is what presupposes the responsibility dimension. As for cross-appropriation, this suggests that fraud occurrences may diminish. We are not sure that the dimension of autonomy (and its reduction) could help reducing fraud, not at least as far as such a systemic framework is concerned, as diminishing systems autonomy is also impoverishing them.

3.3 Reading's summary

From these two readings, we include the following table to represent how fraud-related key concepts can be understood in Luhmann's framework.

⁴ While this can be disputable, even during the Holocaust, great criminals felt no guilt for having obeyed. See for example the "banality of evil" raised by Hannah Arendt.

1 - Fraud and Luhmann's framework

Systems Concept	Luhmann's definition	Significance for Fraud	Example or Context
System	The system encourages organizations to give their own meaning to concepts	Fraud, beyond regulatory definitions must be defined and contextualized by organizations	No shared definition of fraud for health insurance companies. It is up to each insurer to draw a line between what is abuse and what is fraud.
Environment	Everything that is not the system itself	Everything that is not directly involved in the scheme and that may or may not encourage a person or group of people to commit fraud.	Financial market operators facing <i>implicit</i> strong pressure might engage in fraudulent operations.
Risk	A vehicle for opportunities (risk/reward thinking). Decision is made after "rationally" considering all monetized aspects.	Fraud might be considered as a risky position and hence, might be monetized.	Fraud Risk Management for Insurers is an arbitrage between the cost of risk, the ability to combat fraud and the reputational impact related to the severity of a fraud.
Danger	An often-remote consequence of a constellation of risks. No danger/reward thinking.	Thinking in terms of danger helps consider long-term implications of fraudulent operations.	When manipulating eyeglass prices, the risk is to be caught, the reward, to pay less. The danger is to enter a vicious circle in which confidence is betrayed and the customer eventually pays more...
Confidence	Internalized faith. No alternative (wake-up each morning). Macro-level notion.	Confidence in a system (a functional one or an organization) can only take place if it runs normatively. This cannot be if it offers too much rooms for fraud.	The French healthcare system generates a strong moral hazard: fraud by health professionals is widespread. The implementation of a so-called responsible health contract in 2016 was intended to limit the consumption of care and limit fraud.
Trust	Refers to the preferred choice of a decision. Micro-level notion as it has to be enacted in system's expectations or programs. Continuous trust leads to confidence	How to decide not to fraud... Must be enacted by organizations in their expectations (internal control policies, local sanctions...) or by programs <i>via</i> irritations coming from their environment and mostly from the political and legal systems.	Howie Hubler encouraged the recent financial crisis but neither him nor Morgan Stanley (its employer) was charged. In fact, they both earned hundreds of millions. They trusted their game against the environment, and they won while danger actualized.

4 Discussion and conclusion

Here, we would like to go back to our carmaker example. This example was taken from recent headlines, since European carmakers are in the midst of “*dieseldate*” turmoil. In 2015, the VAG group (Volkswagen-Audi) was convicted of cheating on their gas emission tests by making their cars appear far less polluting than they actually were. A special program, conceived to cheat, was detecting when the engine was to be tested. At that time, it asked the engine to burn some more particles, so that extra particle burning was done only while on test bed. This process of extra burning was not deactivated outside test bed because, even if it had positive effects on the environment (fewer particles) it also had two supposedly bad effects on sales: 1) more fuel was used (to burn the particles), and 2) less engine power was available for the car. VAG (the first one to get caught, but other carmakers are also involved) took the risk of cheating but did not consider the danger. The danger is that air quality would be poor, partly due to fine-particle emissions such as those that heat engines release. As stated by the French Institute of Health Watch (Pascal et al. 2016), air pollution is the top environmental cause of death in the world and third in France (behind tobacco and alcohol, but 12 times greater than car accidents). A report from the European Environmental Agency (EEA 2017) substantiates these data: fine-particle pollution was responsible for 428,000 premature deaths in Europe in 2014. It seems obvious that carmakers failed to properly make the risk/danger distinction by deciding to cut short the lives of their own children to sell more cars.

This framework is critical for the distinction between risk and danger to be promoted. Risk is immediate and is primarily carried by decision makers, while danger effects last over a significantly longer period and concern a large group of people. Systems must clearly make this distinction to characterize danger when it exists. Another conclusion is that internal fraud can be fought on the micro level by encouraging “trust”. When this trust is “appropriated”, it will change into “confidence”. If external fraud can also be confronted by developing such mechanisms, the political and legal systems and their coupling with organizations must also be considered.

This framework helps considering fraud in a peculiar way: it is encouraged by systems as they impose their own meaning, which, because of its amorality, conveys an unfamiliar sense. People are involved in systems they cannot escape (for example, they cannot live outside the economic, political or legal systems) that are conveying a sense they might not accept and are engaging in strategies of circumvention (de Certeau 1990; de Vaujany 2006) sometimes involving fraud. Here is one reason why fraud is consubstantial with social systems: meanings cannot be clear and adopted by everyone in all systems, therefore strategies of circumvention will always exist. This is precisely also a way to fight fraud efficiently, by giving sense to the operation people do within the system they are in, by helping them marking the “danger” side of the distinction risk/danger. This will lead to confidence and a call for “*another form of life*”, with less “*technicization*” or “*calculativeness*” so that people could be present to the operations they themselves carry out (Bidet & Jany-Catrice 2017; Deslandes 2018; Farjaudon & Morales 2013; Morin 1990; Power 1992; Vranceanu 2005a, 2005b). Involving people in this sense-giving directed by the selection of the “danger” is also a powerful way to disseminate a new sense in social systems since the minds disturb and irritate them all. This is not contrary to Luhmann as for (Mascareño 2011b) and an ethics of contingency.

When confronted with danger, society defends itself, and Luhmann (2005:102ff)

hypothesizes that forms of social solidarity emerge from danger. This suggests that an efficient way to fight fraud is to illustrate the danger it represents. A conclusion of significant importance is then that the distinction between risk and danger must be reinforced (Luhmann 2005:114) so that systems can better address fraud issues. Because systems are operationally closed and functionally autonomous, it is their local responsibility through the structural effects of differentiation in which control can occur, since systems cannot control their subsystems (Luhmann 2012:17). In other words, the self-observation capacities of systems must be enhanced (Luhmann 1995b:36). One can wonder if it does not contradict O'Leary (2015) for whom the more the system imposes its own sense and minds are barren, the more failure of responsibility arises and the more the organization is vulnerable to fraud. In a systemic perspective, failure of responsibility arises because of a 'bad' selection in the communication when systems fail to distinguish between risk and danger... A proper distinction will make less probable this failure of responsibility as Alter (and then Ego) will be more oriented toward danger.

5 Limitations and future research

The main interest of this work is not in its retrospective justification of a Luhmannian framework, for we believe that this sort of justification could have been performed with many other sociological frameworks. The true value of this research is in the mobilization of a radical framework that has hardly been mobilized and that sheds light on some fundamental differences between internal and external fraud schemes and gives some clue of a Luhmann-compatible anti-fraud scheme. Hence, this research does not pretend to give a recipe, and this is a clear limitation: so much reading for so little... Anyway, this anti-fraud Luhmannian' style proposition is of interest to evaluate anti-fraud measures. We are neither claiming that Luhmann's framework is the best sociological explanation, but we take for granted that anti-fraud measures that prove compliant with both frameworks (subject-oriented and systemic) must be preferred to others.

As we have already said, a major limitation lies in concurrent acceptations and/or misinterpretations of Luhmann's work. Another clear limitation is that we have not designed and used a "pure" anti-fraud Luhmannian framework and what is precisely in our agenda is to apply this theoretical framework in the context of internal fraud, based on other intervention-research in the financial sector.

References

- Akerlof, G. A., & Shiller, R. J. (2009). *Animal spirits. How human psychology drives the economy, and why it matters for global capitalism*. Princeton (N.J.): Princeton university press.
- Archer, M. S. (2003). *Structure, agency, and the internal conversation*. Cambridge, UK ; New York: Cambridge University Press.
- Archer, M. S. (2012). *The reflexive imperative in late modernity*. New York: Cambridge University Press.
- Bausch, K. C. (1997). The Habermas/Luhmann debate and subsequent Habermasian perspectives on systems theory. *Systems Research and Behavioral Science*, 14(5), 315-330. doi:10.1002/(SICI)1099-1743(199709/10)14:5<315::AID-SRES173>3.0.CO;2-Z

- Beck, U. (2008). *La société du risque. Sur la voie d'une autre modernité. Préface de Bruno Latour*. Paris: Flammarion.
- Bergson, H. (2009). *Durée et simultanéité. À propos de la théorie d'Einstein*. Paris: Presses universitaires de France.
- Bergson, H. (2014). *La pensée et le mouvant*. Paris: Flammarion.
- Bidet, A., & Jany-Catrice, F. (2017). Quantifier les qualités. *Revue Française de Socio-Économie*, 19(2), 19. doi:10.3917/rfse.019.0019
- Blanqué, P. (2003). Crisis and fraud. *Journal of Financial Regulation and Compliance*, 11(1), 60-70. doi:10.1108/13581980310810417
- Blomquist, W., & Ostrom, E. (1985). Institutional capacity and the resolution of a commons dilemma. *Policy Studies Review*, 5(2), 383-393.
- Button, M., Gee, J., & Brooks, G. (2011). Measuring the cost of fraud: an opportunity for the new competitive advantage. *Journal of Financial Crime*, 19(1), 65-75. doi:doi:10.1108/13590791211190731
- Cadenas, H., & Arnold, M. (2015). The Autopoiesis of Social Systems and its Criticisms. *Constructivist Foundations*, 10(2), 169-198.
- Callon, M. (1986). Éléments pour une sociologie de la traduction. La domestication des coquilles Saint-Jacques et des marins-pêcheurs dans la baie de Saint-Brieuc. *L'Année sociologique*(36), 169-208.
- Christensen, C. M. (2010). How Will You Measure Your Life. Retrieved from <http://hbr.org/2010/07/how-will-you-measure-your-life/ar/1>
- Cohn, A., Fehr, E., & Maréchal, A.-M. (2014). Business culture and dishonesty in the banking industry. *Nature*, 516, 86-89. doi:10.1038/nature13977
- Cressey, D. R. (1950). The Criminal Violation of Financial Trust. *American Sociological Review*, 15(6), 738-743.
- Cressey, D. R. (1986). Why managers commit fraud. *AUST & NZ Journal of Criminology*, 19, 195-209.
- de Certeau, M. (1990). *L'invention du Quotidien. I. arts de faire* (Nouv. ed.). Paris: Gallimard.
- de Certeau, M. (1991). *L'invention du Quotidien. I. Les arts de faire (Fiche de lecture)*: Folio.
- de Vaujany, F.-X. (2005). *Réflexivité comme alternative à la rationalité : Le rendez-vous manqué des sciences de gestion ?* Paper presented at the XIVe Conférence Internationale de Management Stratégique, Pays de la Loire, Angers.
- de Vaujany, F.-X. (2006). Pour une théorie de l'appropriation des outils de gestion : vers un dépassement de l'opposition conception-usage. *Revue management et avenir*, 3(9), 109-126.
- Deslandes, G. (2018, 16 mai) *La révolte des premiers de la classe contre les métiers à la con/Interviewer: X. Canal*.
- Dillian, J. (2011). *Street freak : a memoir of money and madness*. New York: Simon and Schuster.
- EEA. (2017). *Air quality in Europe — 2017 report* (European Environment Agency, 13/2017). Retrieved from https://www.eea.europa.eu/publications/air-quality-in-europe-2017/at_download/file
- Eliade, M. (1963). *Aspects du mythe*. Paris: Gallimard.
- Farjaudon, A.-L., & Morales, J. (2013). In search of consensus: The role of accounting in the definition and reproduction of dominant interests. *Critical Perspectives on Accounting*, 24(2), 154-171. doi:10.1016/j.cpa.2012.09.010
- Ferrarese, E. (2007). *Niklas Luhmann, une introduction*. Paris: Pocket-la Découverte.
- Galbraith, J. K. (1993). *A short history of financial euphoria* (New ed.). New York, N.Y.: Whittle Books in association with Viking.
- Gandhi, R. S. (2015, 26 June 2015). *Financial frauds - prevention: a question of knowing somebody*. Paper presented at the 2nd National Conference on Financial Frauds Risks & Preventions, New Delhi.
- Gee, J., & Button, M. (2017). *The Financial Cost of Fraud 2017*. Retrieved from

- Gibb, F. (2016). Crackdown on white-collar crime. Employers face prosecution for failing to prevent corruption and fraud. *The Times*. Retrieved from <http://www.thetimes.co.uk/edition/news/crackdown-on-white-collar-crime-hwrqmc36j>
- Giddens, A. (2005). *La constitution de la société. Éléments de la théorie de la structuration* (M. Audet, Trans.). Paris: Puf.
- Giraud, F., Saulpic, O., Delmond, M.-H., Bonnier, C., De Geuser, F., Laulusa, L., . . . Zrihen, R. (2009). *L'art du contrôle de gestion : Enjeux et pratiques*. Paris: Gualino-Lextenso éd.
- Godechot, O. (2005). *Les traders. Essai de sociologie des marchés financiers* (Nouv. ed.). Paris: la Découverte.
- IFT. (2016). Insurance Fraud Taskforce - Final Report, 92. Retrieved from <https://www.gov.uk/government/publications/insurance-fraud-taskforce-final-report>
- Jolls, C., Sunstein, C. R., & Thaler, R. (1998). A Behavioral Approach to Law and Economics. *Stanford Law Review*, 50, 1471-1550.
- Jouët, J. (2000). Retour critique sur la sociologie des usages. *Réseaux*, 18(100), 487-521.
- Kassem, R., & Higson, A. W. (2012). The new fraud triangle model. *Journal of Emerging Trends in Economics and Management Sciences*, 3(3), 191-195.
- Kindleberger, C. P., & Aliber, R. Z. (2005). *Manias, panics, and crashes : a history of financial crises* (5th ed.). Hoboken, N.J.: John Wiley and Sons.
- King, M., & Thornhill, C. (2003). *Luhmann on law and politics : critical appraisals and applications*. Oxford ; Portland, Or.: Hart.
- Kjaer, P. (2008). Systems in Context. On the outcome of the Habermas/Luhmann debate. In A. Abegg & D. Wenger (Eds.), *Ancilla Iuris Yearbook 2006-2007* (pp. 66-77). Frankfurt am Main: Vittorio Klostermann Verlag.
- Lewis, M. (2010). *Le casse du siècle* (F. Pointeau & G. Martinolle, Trans.). Paris: Sonatine.
- Leydesdorff, L. (2000). Luhmann, Habermas and the theory of communication. *Systems Research and Behavioral Science*, 17(3), 273-288. doi:10.1002/(SICI)1099-1743(200005/06)17:3<273::AID-SRES329>3.0.CO;2-R
- Liikanen, E. (2012). *Groupe d'experts de haut niveau sur la réforme structurelle du secteur bancaire de l'UE*. Retrieved from <http://www.eifr.eu/article/3337>
- Luhmann, N. (1977). Differentiation of Society. *The Canadian Journal of Sociology*, 2(1), 29-53.
- Luhmann, N. (1986). The Theory of Social Systems and Its Epistemology: Reply to Danilo Zolo's Critical Comments. *Philosophy of the social sciences*, 19(1), 129-134.
- Luhmann, N. (1988). Familiarity, Confidence, Trust: Problems and Alternatives. In D. Gambetta (Ed.), *Trust : making and breaking cooperative relations* (pp. 94-107). New York, NY, USA: B. Blackwell.
- Luhmann, N. (1989). *Ecological communication*. Chicago: University of Chicago Press.
- Luhmann, N. (1991). Paradigm Lost: On the Ethical Reflection of Morality. *Thesis Eleven*, 29(1), 82-94. doi:10.1177/072551369102900107
- Luhmann, N. (1992). What is Communication? *Communication theory*, 2(3), 251-259.
- Luhmann, N. (1995a). The Paradox of Observing Systems. *Cultural Critique*, 31, 37-55.
- Luhmann, N. (1995b). *Social systems*. Stanford, Calif.: Stanford University Press.
- Luhmann, N. (1996a). Modern society shocked by its risks. *HKU scholars Hub*.
- Luhmann, N. (1996b). The Sociology of the Moral and Ethics. *International Sociology*, 11(1), 27-36.
- Luhmann, N. (1997). Globalization or World society: How to conceive of modern society? *International Review of Sociology*, 7(1), 67-79. doi:10.1080/03906701.1997.9971223
- Luhmann, N. (2001). L'opinion publique. *Politix*, 14(55), 25-59. doi:10.3406/polix.2001.1171
- Luhmann, N. (2002). How can Mind participate in Communication? In W. Rasch (Ed.), *Theories of distinction : redescribing the descriptions of modernity* (pp. 169-184).

- Stanford, Calif.: Stanford University Press.
- Luhmann, N. (2005). *Risk : a sociological theory* (1st paperback edition. ed.). New Brunswick, N.J.: Aldine Transaction.
- Luhmann, N. (2008). Are there still indispensable norms in our society? *Soziale Systeme*(14), 18-37.
- Luhmann, N. (2012). *Theory of society* (Vol. 1). Stanford, California: Stanford University Press.
- Luhmann, N. (2013a). *Introduction to systems theory* (D. Baecker Ed.). Cambridge, UK Malden, MA: Polity.
- Luhmann, N. (2013b). *Theory of society* (Vol. 2). Stanford, California: Stanford University Press.
- Mackevicius, J., & Giriunas, L. (2013). Transformational research of the fraud triangle. *EKONOMIKA*, 92(4), 150-163.
- Mascareño, A. (2011a). The Ethics of the Financial Crisis. In P. F. Kjaer, G. Teubner, & A. Febbrajo (Dirs.), *The financial crisis in constitutional perspective : the dark side of functional differentiation* (pp. 7700-8180). Oxford ; Portland, Or.: Hart Pub., (ebook Kindle).
- Mascareño, A. (2011b). The Function of Ethics from the Perspective of the Individual. *Soziale Systeme*, 17, 186-210.
- Maturana, H. R., & Varela, F. J. (1980). *Autopoiesis and cognition : the realization of the living*. Dordrecht, Holland ; Boston: D. Reidel Pub. Co.
- Maturana, H. R., & Varela, F. J. (1992). *The tree of knowledge : the biological roots of human understanding* (Rev. ed.). Boston & London: Shambhala.
- Meric, J., Pesqueux, Y., & Sole, A. (2009). *La "société du risque": analyse et critique*: Economica.
- Mikes, A. (2011). From counting risk to making risk count: Boundary-work in risk management. *Accounting, Organizations and Society*, 36(4-5), 226-245. doi:10.1016/j.aos.2011.03.002
- Morin, E. (1990). *Science avec conscience* (Nouv. ed.). Paris: Seuil.
- O'Leary, M. (2015). Work identification and responsibility in moral breakdown. *Business Ethics: A European Review*, 24(3), 237-251. doi:10.1111/beer.12072
- OECD. (2010). Corporate governance and the financial crisis - (lessons from 2008). Retrieved from <http://www.oecd.org/dataoecd/53/62/44679170.pdf>
- Ouaniche, M. (2015). *La fraude en entreprise comment la prévenir, la détecter, la combattre* (pp. 221).
- Painter-Morland, M. (2010). Questioning corporate codes of ethics. *Business Ethics: A European Review*, 19(3), 265-279. doi:10.1111/j.1467-8608.2010.01591.x
- Parsons, T. (1968). *The structure of social action : a study in social theory with special reference to a group of recent European writers* (2nd ed.). New York London: The Free press Collier-Macmillan.
- Parsons, T. (1991). *The social system* (New ed.). London: Routledge.
- Pascal, M., de Crouy Chanel, P., Wagner, V., Corso, M., Tillier, C., Bentayeb, M., . . . Medina, S. (2016). Analyse des gains en santé de plusieurs scénarios d'amélioration de la qualité de l'air en France continentale. *Bulletin Épidémiologique Hebdomadaire*, 26-27, 430-437.
- Perrow, C. (2014). *Complex organizations : a critical essay* (3rd ed.). New York: Echo Point Books & Media.
- Pesqueux, Y. (2011). Pour une épistémologie du risque. *Management & Avenir*, 43(3), 460. doi:10.3917/mav.043.0460
- Power, M. K. (1992). After calculation? Reflections on *Critique of Economic Reason* by André Gorz. *Accounting, Organizations and Society*, 17(5), 477-499.
- Power, M. K. (2007). *Organized uncertainty : designing a world of risk management*. Oxford ; New York: Oxford University Press.

- Power, M. K. (2009). The risk management of nothing. *Accounting, Organizations and Society*, 34(6-7), 849-855. doi:10.1016/j.aos.2009.06.001
- Reuters. (2017). Merkel rounds on German auto executives in opening election rally. Retrieved from <https://www.reuters.com/article/us-germany-election-merkel-idUSKBN1AS0FI>
- Reynaud, J.-D. (2007). Conflit et régulation sociale. Esquisse d'une théorie de la régulation conjointe. In J.-D. Reynaud (Ed.), *Le conflit, la négociation et la règle. 2ed augmentée* (pp. 109-117): Octarès Editions.
- Riegler, A., & Scholl, A. (2012). Luhmann's Relation to and Relevance for Constructivist Approaches. *Constructivist Foundations*, 8(1).
- Schnebel, E. (2000). Values in Decision-Making Processes: Systematic Structures of J. Habermas and N. Luhmann for the Appreciation of Responsibility in Leadership. *Journal of Business Ethics*(27), 79-88.
- Schwager, J. D. (2006). *Market Wizards, Interviews with top traders* (20th anniversary ed.): Marketplace Books.
- Shannon, C. E. (1948). A Mathematical Theory of Communication. *The Bell System Technical Journal*, 27, 379-423, 623-656.
- Silver, V., & Martinuzzi, E. (2017). How Deutsche Bank Made a \$462 Million Loss Disappear. A dubious trade leads to a criminal trial for Europe's most important bank. *Bloomberg Business Week*. Retrieved from <https://www.bloomberg.com/news/features/2017-01-19/how-deutsche-bank-made-367-million-disappear>
- Sosoe, L. K. (2017). *Systèmes psychiques et systèmes sociaux*. Hildesheim: Georg Olms Verlag.
- Spencer-Brown, G. A. (1972). *Laws of form* (1st American ed.). New York,: Julian Press.
- Stichweh, R. (2011). Towards a General Theory of Function System Crises. In P. F. Kjaer, G. Teubner, & A. Febraro (Dirs.), *The financial crisis in constitutional perspective : the dark side of functional differentiation* (pp. 1297-1644). Oxford ; Portland, Or.: Hart Pub., (ebook Kindle).
- Sutherland, E. H. (1940). White-Collar Criminality. *American Sociological Review*, 5(1), 1-12.
- Sutherland, E. H., Cressey, D. R., & Luckenbill, D. F. (1992). *Principles of Criminology* G. Hall (Ed.) (6th ed.).
- TGI Paris. (2010). *Jugement de Jérôme Kerviel*. Paris: Tribunal de Grande Instance de Paris Retrieved from <http://www.societegenerale.com/sites/default/files/documents/procès-jk/jugement%20TGI%20octobre%202010.pdf>.
- Tuckett, D. (2011). *Minding the markets : An Emotional Finance View of Financial Instability*. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan.
- UFC - Que Choisir. (2014). *Complémentaires santé et opticiens. Les liaisons dangereuses imposent un changement de monture pour la réforme du secteur*. Retrieved from <https://www.quechoisir.org/action-ufc-que-choisir-enquete-clients-mysteres-chez-les-opticiens-les-liaisons-dangereuses-entre-opticiens-et-complementaires-sante-imposent-un-changement-de-monture-pour-la-reforme-du-secteur-n12141/>
- Von Foerster, H. (2003). *Understanding understanding. Essays on cybernetics and cognition*. New York: Springer.
- Vranceanu, R. (2005a). Deregulating dishonesty. Lessons from the US Corporate Scandals. In D. Daianu & R. Vranceanu (Eds.), *Ethical boundaries of capitalism* (pp. 219-238). Aldershot, Hants, England ; Burlington, VT: Ashgate.
- Vranceanu, R. (2005b). The ethical dimension of economic choices. *Business Ethics: A European Review*, 14(2), 94-107.
- Waldkirch, R. W. (2000). Prolegomena for an economic theory of morals. *Business Ethics: A European Review*, 10(1), 61-70.
- Weick, K. E. (2001a). Small Wins: Redefining the Scale of Social Problems. In K. E. Weick (Ed.), *Making Sense of the Organization* (pp. 426-443). Oxford, UK ; Malden, MA:

Blackwell Publishing.

- Weick, K. E. (2001b). Technology as Equivoque: Sensemaking in New Technologies. In K. E. Weick (Ed.), *Making Sense of the Organization* (pp. 148-174). Oxford, UK ; Malden, MA: Blackwell Publishing.
- West, G. D. (2014). *That Pesky Little Thing Called Fraud: An Examination of Buyers' Insistence Upon (and Sellers' Too Ready Acceptance of) Undefined "Fraud Carve-Outs" in Acquisition Agreements*. Paper presented at the 10th Anniversary Mergers and Acquisitions Institute, Dallas, Texas.