

Crisis and Shock: The Double Dimension of Shocks in Crisis Management

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Our lives are like scales,
and the slightest shock tips it.

Ménandre

From its very origins, the notion of crisis has been used to describe serious states and paroxysmal moments. In medicine, it refers to the diagnosis of the acute phase of an illness for which normally appropriate treatments are no longer certain to respond to this critical, life-threatening situation (septic shock, thermal shock, anaphylactic shock, cardiovascular collapse). In theology, it concerns the interpretation and critical judgment of augurs regarding revelations and omens. In theater, it's the crucial moment when dramatic action unravels. In law, it signifies judgment, the judicial decision that resolves a dispute. In the political and military spheres, it refers to deliberation on whether to keep the peace or go to war. In sociology and history, it characterizes a temporally circumscribed moment, more or less violent, in the evolution of societies or states. In economics, as in other fields, it describes a situation where equilibrium is disrupted. In psychology, it refers to disorders of consciousness and behavior that lead to violent outbursts or a specific reaction to an event perceived as extremely dangerous. The contagiousness of a crisis can be individual or collective. It implies the idea of a critical moment, calling for a crucial decision on the razor's edge. In its unfolding, a crisis takes the form of an escalation that culminates in a situation of uncertainty and maximum tension, the acme or paroxysmal point, the decisive moment at which either the structure is transformed, or the tension is regulated by internal or external mechanisms.

Since the 20th century, the term crisis has extended to all areas of human action and knowledge. Its study has been structured around two axes. On the one hand, there are the "substantive" approaches, which focus on the specific aspects of a particular type of crisis. Herman Kahn, for example, describes the different stages in the escalation of politico-military crises. On the other hand, "procedural" approaches attempt to produce general theories based on properties common to all crises, starting either from the effects of the crisis on decision-making units, or from the effects of the crisis on the structure of the system.

Crisis can also be studied in terms of their exceptional or normal nature. The first approach, which is in the majority today, sees a crisis as a "rupture in an organized system," to use Jean-Louis Dufour's expression, and considers the phe-

nomenon to be part of a logic of discontinuity, mainly studying its causes. The second, on the contrary, places crises within a “logic of continuity,” examining their internal dynamics and consequences. This approach was developed by Michel Dobby in his sociology of political crises, which analyzes “multi-sector mobilizations” as a source of political fluidity.

Our hypothesis is that an interesting avenue can be opened by focusing on the onset of a crisis and the psychological phenomenon that accompanies it: shock. This proposal makes it possible to distinguish between the rupture that characterizes the start of system transformation and the psychological shock that marks the entry of decision-making units into crisis. It also allows us to rethink crisis management in a novel way—through the use we can make of shocks to regulate a maximum level of tension. Our questions are twofold: on the one hand, can psychological preparation for shock reduce the negative impact of the onset of a crisis on decision-making units, and thus promote better crisis management? On the other hand, is it possible to use shocks to regulate a system in crisis, as suggested by the “reset” induced by electroconvulsive therapy to “recalibrate” the brain of a patient failing psychiatric care, or in certain situations where the patient’s psychic emergency is engaged?

We will begin by showing that rupture and shock are two different levels of crisis. This distinction seems important to us, as it has immediate consequences for crisis management, i.e., for the ability of decision-making units, faced with a sudden increase in stress, pressure and loss of reference points, to make appropriate decisions in an emergency. The study of shock allows us to explain certain neurophysiological mechanisms that shed light on the logic of flabbergasting and failure when decision-making units enter a crisis. Then, following on from this initial analysis, we propose some lines of thought on the usefulness of shocks in crisis management. Our approach is not limited to any particular type of crisis. In order to test our hypotheses, we have applied it to two different levels of analysis: international political crises and internal political crises.

Shock, the Translation of a Breakdown in Operations

Entering a crisis is a decisive moment in crisis management. As Patrick Lagadec rightly reminds us, the first difficulty for decision-making units when entering a crisis is to avoid disqualification from the outset. However, this is often the case, as the onset of a crisis generally results, at both the individual and collective level, in a phenomenon of stupefaction, the product of a brutal confrontation with unprecedented problems. This phenomenon disrupts analysis of the situation, decision-making and the adoption of appropriate reactions.

Many studies have already been carried out on the mechanisms of shock at the individual level. Our first task is to understand the structural and functional brain mechanisms involved in crisis situations. Any crisis situation involves

an acute stress response, which modifies the usual mechanisms of information analysis, processing, and decision-making, with the aim of protecting the organism confronted with the situation. To understand the importance of this response, we need to consider two levels of interaction—the psychological regulation of the physiobiological reaction to the crisis situation, and the physiobiological regulation of the perception of the crisis situation.

In simplified terms, we propose to describe the usual mechanisms of information processing to illustrate the disruption that a crisis situation induces in cerebral functioning.

The encephalon, together with the spinal cord, makes up the central nervous system. It is made up of the brain (divided into two hemispheres), the cerebellum (which controls movement and ensures balance) and the brain stem (which links the brain to the spinal cord). Each hemisphere of the brain is made up of the frontal lobe (planning, judgment, language, reasoning, coordination, motor skills), the parietal lobe (senses, perception of the environment), the temporal lobe (where we hear, remember, and manage our emotions) and the occipital lobe (where we see and manage information such as shape, color, and movement). In the anterior, inner part of the brain we find the diencephalon, made up of the thalamus (in charge of transmitting sensory signals) and the hypothalamus (a gland at the base of the brain that regulates emotions and body functions), and the telencephalon, which occupies the cerebral cortex, the hippocampus, and the basal ganglia (including the amygdala, which plays a fundamental role in managing emotions, particularly fear). The hippocampus, amygdala, fornix (white matter or cingulate gyrus) and hypothalamus make up the limbic system. The brain is linked to the brain stem by the thalamus (composed of two thalamic nuclei, themselves subdivided into sub-nuclei), which relays sensory and motor information to the cortex.

In a normal situation, the thalamic nuclei relay information to the cortex where, in the parietal lobes (sensory area and sensory association area), the various data from the sensory systems are combined to produce an “image” of the situation. This image is the basis on which information is analyzed. It is based on a rational logic (conceptualization and comparison with memory data stored in the hippocampus) which enables the choice of action or inhibition modalities (see Figure 1).

In a crisis situation, shock switches the organism into survival mode. This shift reflects the activation of a defense reaction at a lower level than the limbic system. This reactionary framework includes behavioral, neurovegetative (including stress), memory and emotional reactions. The stress reaction produced by this confrontation saturates the cortex with contradictory information and generates a “reflex” that induces physiological responses (tachycardia, chest pain, dyspnea, rise in blood pressure, drop in temperature, spasms, flushing, abdominal pain, tremors, goose bumps, sweating, dry mouth), chemical (production of cortisol, a steroid hormone that increases glucose and releases energy, dopamine, a neu-

rotransmitter that acts on motor functions as well as on the reward circuit and promotes behaviors useful to the body's survival, adrenaline, a neurotransmitter and hormone whose production increases with stress in preparation for exertion, glucose to fuel the muscles during physical activity, endomorphin, a peptide that acts as a neurotransmitter with analgesic properties, providing a feeling of well-being), emotional (fear, terror, anger, rage, surprise, astonishment, sadness), behavioral (anxiety, anguish, aggression, excitement), cognitive (impaired attention, concentration, memory, thinking), and psychomotor (startle, scream, fight, flight, inhibition, paralysis, convulsion) responses. The modulation of stress responses depends on the perceived intensity of the threat, which is the result of a complex balance between the spatio-temporal proximity of the aggression, the resources offered by the environment and the individual's perceived capacities.

Strictly speaking, the reaction to confrontation cannot be considered pathological. However, its intensity and modes of expression provide indirect information about the violence of the confrontation experienced by the individual, and its place in the subject's life history. The defense reaction plays a survival role. The intensity of the confrontation perceived by the subject, and the number of confrontations he or she has already experienced (and memorized) are at the root of the inappropriate response and the "disconnection" of the cortex, which "switches off" to protect itself. It is unable to process the information overload which implies a shortening of the information pathway: sensory data are transmitted directly from the thalamus to the fear- and anxiety-producing amygdala (Figure 1). "Psychic sideration" is the state of stupor created by this mechanism of disconnection between the amygdala complex and the cortex. It produces, in the individual or group confronted with extreme stress, a phenomenon of dissociation that translates into a form of paralysis of thought and action.

Confrontation with a situation that is exceptional in its unimaginability, senselessness, or violence—such as terrorist attacks, scenes of conflict, certain natural disasters, or major accidents—produces a loss of reference points and an increase in stress so great as to jeopardize the individual's psychological and physical integrity. These "borderline" states, marked by the individual's inability to visualize his or her situation and project him or herself out of it, explain the paralysis produced by the shock. Events such as the September 11, 2001, attacks in the United States, the January 7, 2015, attacks on Charlie Hebdo or the November 13 attacks in Paris, bear witness to the effect of collective stupefaction caused by the terrifying and unprecedented nature of these shocks and the strategic and tactical "vacuum" that immediately followed them. To fill this void, the first response to the shock and shock effect is emotional and memorial in nature. It is motivated by the survival instinct present in the nuclei of the trunk and by emotional memorization, which produces precedents that the individual or group has already experienced or knows about, and which will influence the response to the next confrontation.

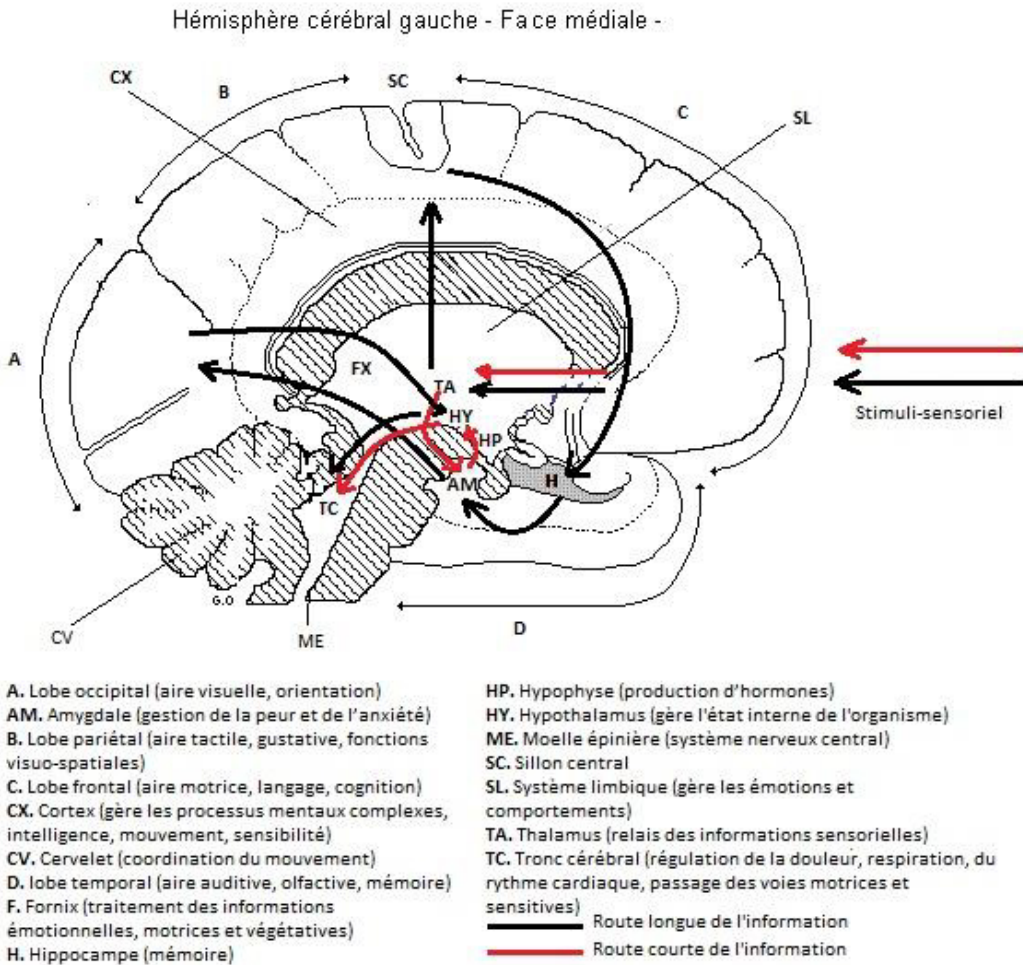


Figure 1. Long and short information routes

From an anatomical-physiological point of view, the shock mechanism we have just described explains the possible effects of shock on decision-making units, and the behavioral and cognitive consequences they are likely to have on the course of events as soon as they enter a crisis. From a systemic point of view, the rupture that initiates the start of system transformation corresponds to the beginning of the escalation phase of negative tensions. Managing a crisis involves limiting and reducing these tensions. The shock experienced by the decision-making units is likely not only to block all decision-making and action capacities, but also to amplify the crisis, which evolves on its own, since the crisis is a complex system in which the links and resonances are multiple and have their own evolution independently of the actor.

We believe that while the shock of entering a crisis is unavoidable, the extent of this phenomenon can be limited by specific preparatory work, during which

not only should we be familiar with the anatomical-physiological mechanism of shock and its effects, but also empirically, through simulation exercises, experimenting with different scenarios of borderline situations and proposing new ways of handling them. Such is the case with electroconvulsive therapy, which could be envisaged as a technique for regulating certain seizures through the counter-shock it produces.

Electroconvulsive Therapy as a Seizure-regulation Tool

The practice of electroconvulsive therapy, or seismotherapy, also known in clinical history as “electroshock therapy,” bears witness to interesting points of convergence with the state of shock produced by certain crisis situations, particularly political and social ones. While in the case of attacks or serious disasters, the shock produced by the crisis manifests itself more particularly as an anguish in the form of sideration (ictus). In the case of electroconvulsive therapy, the aim is more to avoid the violent, agitated manifestations (raptus) caused by psychological disorders or certain pathologies (see Figure 1). However, this medical therapy is only used when drug treatments are ineffective for psychiatric conditions such as depressive, paranoid, or schizophrenic delusions, or certain manic states and severe, resistant depression.

In practice, the patient undergoes a very short general anesthetic, lasting just a few minutes, for the duration of the shock treatment. Electrodes are placed on the skull, and the current is delivered briefly. He then goes into convulsions during his artificial sleep. Current medical knowledge does not yet allow us to understand the proven therapeutic mechanism of electric shock, although psychiatrists have observed, since 1930, that epileptic convulsion and schizophrenia are very rarely associated, suggesting a biological antagonism. Nevertheless, electroshock has been shown to significantly reduce hyperconnectivity in specific areas of the brain. The side effects are interesting for our comparative approach. In the long term, memory and cognitive capacity are impaired. In the short term, we have observed a momentary slowdown in the functioning of the organism.

In a crisis situation, we have seen that an individual in a “state of shock” is as if expelled from the relational and temporal world. The shock short-circuits the cortex, preventing information from reaching the cortex responsible for the conscious, “reflective” response. This state can be compared with the spatial and temporal effects produced by electroshock: organic slowdown and memory gaps (idea of reset). Electroshock appears to be an effective treatment for hallucinatory or melancholic crises for two reasons. Firstly, it stops the passage of time which, in the case of resistant depressions, had previously seemed too fast or too long, and which, by a kind of average, returns to normal. Secondly, it clears the mental space of all erroneous, hallucinatory information, allowing social reality to reappear.

By reducing the hypercomplexity produced by the information overload and hyperconnectivity of a dysfunctional, poorly aroused brain, electroshock restores “normal” connectivity. We can reasonably extend this observation and consider that a shock delivered to an organism in a state of “normal” or “routine” functioning produces a disconnection of the subject from space and time, which ultimately leads to psychic disorientation. The following diagram summarizes these propositions:

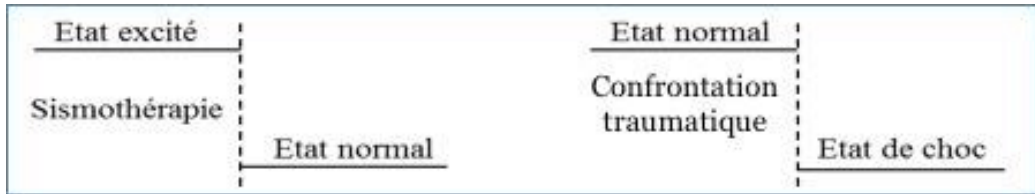


Figure 2. Crise-ictus and crise-raptus

These two diagrams illustrate the phenomenal identity between therapeutic shock and psychobiological shock. They underline the analgesic character of shock within the psychic economy, whether in the context of seismotherapy, which enables the transition from dysconnectivity to normal cerebral connectivity, or traumatic confrontation, which slows down this same normal functioning to the sideration of shock.

“There is the medical usage according to which a crisis is a moment in an illness characterized by a sudden change, not always decisive but often severe, intense or painful, such as a gout attack or a heart attack. By extension, there is the emotional usage, which equates a crisis with a sudden, violent manifestation, such as a fit of nerves or anger.” Nervous system seizures, hallucinatory seizures or seizures produced by cortical disjunction mechanisms in situations of extreme stress are, in our view, part of the same logic.

Many specialists, such as Jean-Louis Dufour, have chosen to adapt the medical definition of crisis to international political crises, proposing the following definition: “Crisis is a moment of rupture within an organized system. It implies that decision-makers define a position in favor of either preserving or transforming the given system, with a view to returning it to equilibrium.” According to Jean-Louis Dufour, an international political crisis can be broken down into four continuous but distinct phases: Pre-crisis, escalation, relaxation, and impact. If we focus on the first part of this model, from pre-crisis and escalation to paroxysm, we obtain the following diagrams:

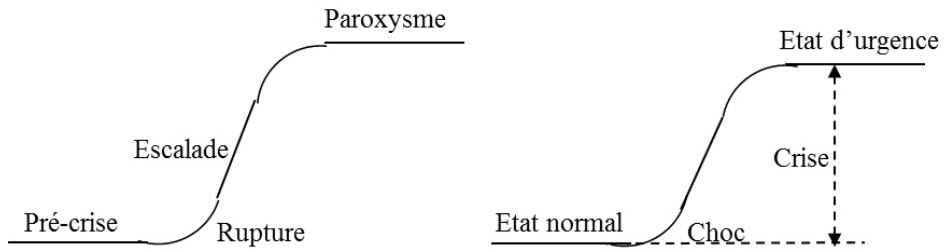


Figure 3. Rupture and shock

These two diagrams suggest a parallelism, even to the point of the interchangeability of terms, between the idea of “rupture,” discussed by Jean-Louis Dufour and other mainstream crisis specialists, and what we call “shock.” Negative shock, whether from a political point of view in an international crisis, or from a medical point of view in a convulsive crisis or traumatic shock, is perceived by the actor as a phenomenal reality, giving substance to the crisis and implying a loss of reference points that amplifies (idea of escalation) the state of instability testifying to the urgency of the situation.

Yet crisis is not shock. Crisis refers to a process of bifurcation produced by internal and/or external factors, and to an actor’s perception of this process and the transformation of his or her state. A crisis opens the way to a possible transformation of a state and a system. With varying speeds, it sets in gradually. Shock, on the other hand, is sudden and brutal. It shatters the established order of things. Shock is an illustration of rupture. It refers to an actor’s immediate perception of the unprecedented situation he is confronted with, the stakes of which are such as to involve his survival. He must respond with urgency and uncertainty, which significantly increases his stress level.

As we have seen, shock can be considered “negative” in the sense that it implies a disjunction and disconnection from the normal analytical functions of an individual or group. It causes a saturation of the means of processing information, of reflexive capacities which are confronted with such uncertainty that all capacity for reflection and action are momentarily unavailable. What’s more, the stupefaction it produces is likely to constitute a trauma inscribed in the individual and collective memory. But shock can also be seen in a positive light, in two ways.

Firstly, as a means of regulating a crisis, to control violent impulses (*raptus*), as evidenced by the therapeutic nature of electroshock therapy in the event of a crisis. As we have seen, Jean-Louis Dufour transferred the medical paradigm from the individual crisis to the international political crisis. Is the equivalent possible in the case of shock? If the physical or psychic state of a patient entering a heart attack or hallucinatory process can be cured by the shock produced by therapeutic convulsive trauma, could an international political crisis deemed non-beneficial be treated by the application of collective shock and trauma?

History offers several examples of how shocks can have positive, *id est* regulating, effects on crises. The Suez crisis is a case in point. In 1956, Egyptian President Nasser needed to find the funds to maintain his policy of non-alignment with the Big Two and continue the Arab struggle against Israel. To this end, the construction of the Aswan dam would have enabled him to increase his agricultural income, but the United States and the United Kingdom, following Egypt's recognition of the People's Republic of China, decided not to finance the project (July 20th). In retaliation, Nasser nationalized the Suez Canal (July 26th). In the media and at the heart of institutions in France and the United Kingdom, the canal's main shareholders, Nasser is compared to Hitler, with political elites convinced that this time they must not give in as they did in Munich (the historical comparison is disproportionate and testifies to the inadequacy of the emotional reading grids of political decision-makers). At the end of October, following the Sèvres agreements, the Israelis, British, and French invaded Egyptian territory around the canal. This intervention provoked strong protests from Washington and Moscow. The United States imposed drastic financial measures that weakened the pound sterling and the franc. The Soviet Union threatened the three belligerents, who, stunned, withdrew from Egypt in early November under pressure from the Big Two.

The international crisis triggered by the unilateral nationalization of the Suez Canal provoked an imperialist reaction on the part of the two colonial powers, which can be explained by a reading grid and representations of their status and of the international order that predate the Second World War. Yet it was the two great anti-colonial powers, ideologically opposed in the Cold War, that were to provoke the positive shock that neutralized the escalation of the crisis. The "alliance" of circumstance between Washington and Moscow inverted the reading grid of European decision-makers: "How can these destroyers of the Nazi empire join forces against us, when we are fighting against the Hitler of the Nile?" As it happened, this colonialist Franco-British military maneuver against an independent southern state was to be the last. Colonial empires disappeared in the 1960s.

Events in Morocco in 2011 also illustrate how a shock can have a positive effect on an internal socio-political crisis. In June 2011, in the midst of the turmoil of the Arab revolutions that shook the authoritarian powers in place, and following the popular protests of February, Morocco's King Mohammed VI accepted the idea of an unprecedented, and in this respect historic, weakening of his personal powers, which stunned his population and his opposition, and put an end to the protests. In the event, the democratically elected Prime Minister becomes President of the Government in place of the monarch, the Government Council will henceforth be held without the presence of the King, the Prime Minister will be able to dissolve Parliament, and his power of appointment is increased. A Constitutional Court was created, equality between men and women was constitutionalized, the Supreme Council of the Judiciary became independent, and Berber became the country's official language, alongside Arabic. While other states collapsed under

the internal (and sometimes external) pressure of popular movements (Libya, Tunisia, Egypt), the shock applied by Mohammed VI to the Moroccan political apparatus led to a de-escalation of the socio-political crisis facing the country.

This last example allows us to question the nature of a “collective convulsion.” The transition from the individual psyche to the collective psyche, without invoking utopian organicist theories, was the subject of study by René Kaës, who established a four-stage construction, a path from individual bodies to the collective body: the phantasmatic moment (fusion through fear of otherness), the ideological moment (appearance of limits between inside and outside), the transitional figurative moment (awareness of group history, and dream projects), and the mythopoetic moment (individualization of subjects). In this scientific spirit, the affections and processes of an individual psyche become possible within a constructed collective psyche.

The following diagram shows how a shock can calm a crisis, whether it’s a heart attack, a hallucinatory crisis, or an international political crisis.

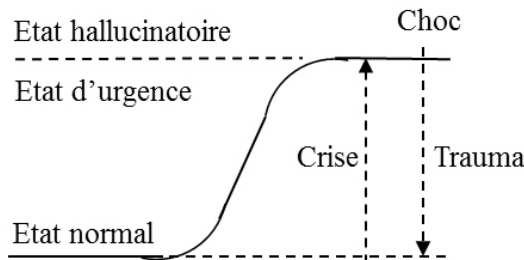


Figure 4. Restorative trauma

This diagram shows that a precise, relevant shock can neutralize the rise to extremes triggered by a crisis. By acting as a connection inhibitor, an appropriate shock calms the hyperconnectivity associated with the crisis, i.e., it slows down the crisogenic convergence between historical, sociological, and psychological affects, and the various political, economic, and strategic interests involved. It acts as a kind of “psychic anti-inflammatory.” It prevents the crisis from finding the fuel it needs to continue developing. Various examples could have been developed. As a general rule, negotiation in times of crisis illustrates this state of affairs. It begins or ends when the protagonists fail to find a way out, using ultimatums as a shock to sweep away certainties and all prior information, to create a basis for discussion.

These examples show that a positive shock always has the same dimension as the crisis it inhibits, i.e., national in the case of Morocco and international in the case of Suez. It is essentially psychic in nature, even if it is based on concrete acts that provoke it— unprecedented reforms in the Moroccan case, economic-diplomatic pressure during the Suez crisis. From this point of view, a political shock,

whether positive or negative, appears as an abrupt change in the framework of political action. A negative shock produces a hyper complexity and hyperconnectivity of interests and affects, overloading decision-making units with information, amplifying uncertainty and disqualifying customary, rational reaction procedures. A positive shock, on the other hand, neutralizes this excessive connectivity, temporizes the situation and allows us to question an inadequate (out-of-step or anachronistic) reading grid established by the first shock through contradictory and inescapable facts imposed on the belligerents.

Of course, not every shock defuses every crisis. The case of the American response to the rupture and shock produced by the attacks of September 11, 2001, the intervention in Afghanistan and the war in Iraq illustrate the need to produce a shock whose intensity is adapted to the expected effects, in order to re-establish the stability of the international system. Indeed, a shock cannot simply restore the normal pre-crisis phase. It can transport a system to another state, which may prove even more unpredictable. Which shock? According to which crisis? According to which hyperconnectivity? These questions appear as challenges in a post-Cold War international system faced with multiple major crisis processes.

As we have seen, shock also concerns the onset of crisis, i.e., it refers directly to the breaking point that marks the opening of a temporal interval when everything becomes possible, and traditional reference points and frameworks are swept away. It is the rupture that produces the shock since it leads to a sudden disappearance of the players' universe of reference. The stakes are high, because good crisis management necessarily begins with good crisis entry, i.e., managing the shock and the ripple effect it produces. The scale of a crisis, its unprecedented, unexpected, and unimaginable nature, can paralyze decision-makers, leading to their immediate "disqualification." It can also lead to structural disorganization, preventing the crisis from being dealt with quickly and effectively. Shock can have two effects—either it destroys the ability to think and act, or it stimulates the ability to react. To avoid this state of disorientation, which is detrimental to crisis management, it is essential to prepare ahead of time, so as to prevent the mechanisms of disjunction and disconnection from occurring. These mechanisms ultimately fuel the crisis, because when the rupture occurs, they prevent any projection or adequate mental representation of the situation, thus amplifying uncertainty and stress.

Conclusion

The need to pay particular attention to the notion of shock in the study of crises

The starting point of our contribution was the observation that the classic literature on domestic and international political crises pays little attention to the notion of

shock. For a long time, it has focused on the notion of rupture, and on the debate between those who advocate an approach based on discontinuity (the mainstream approach) and those who consider crises to be part of a logic of continuity (of which Michel Dobry in France is one of the leading figures). In psychology, the notion of shock is much more widespread. It refers both to the individual's internal defense mechanisms, inherent in the psyche which, in situations of extreme stress, become disconnected in order to ensure the survival of the organism, and to the external means of regulation, applied therapeutically, in order to promote the regulation of the nervous system in crisis situations. The aim of our contribution, which has a practical purpose, was to underline the usefulness of this dual dimension of shock for thinking about the management of internal and international political crises.

The aim was to show that the mechanism of shock, which is supposed to protect the vital functions of the individual confronted with an extreme situation, can have negative effects on a successful entry into a crisis, since it favors the reflex phase to the detriment of the reflective phase necessary for effective crisis management. Shock explains the attitude of inhibition, and very often the strategic and tactical vacuum that arises at the start of a crisis, making it particularly difficult to deal with.

At the same time, it has also occurred to us that shocks, as illustrated by the case of electroconvulsive therapy, can be effective means of crisis management that must be learned to master and which, if used properly, can be useful in regulating certain crisis processes. In this sense, simulations are particularly effective means of preparing for major shocks. On the one hand, they enable us to prepare for the onset of a crisis, i.e., to be confronted with the initial shock that causes our points of reference to collapse. The aim is to envisage extreme scenarios, and to train oneself to deal with them, to learn how to manage the stress overload that traditionally short-circuits thinking and blocks action. The aim is to enable the development, right from the start of a crisis, of a high-quality reflection phase that prevents a strategic vacuum from setting in and makes it easier to deal with priority issues. On the other hand, simulations enable us to test the relevance of certain shocks in different crisis scenarios. They provide an opportunity to observe the effects of deliberately using shocks (or counter-shocks) in certain situations for curative purposes. They foster the development of a creative approach that is today indispensable for dealing with future major crises.

Summary

The mainstream literature on crises, except in psychology, pays little attention to the notion of "shock." This notion is important because it is complementary to the notion of "rupture" which is very frequently used. These two notions refer to the two levels of crisis: that of the decision units and that of the system. This concept

also seems important because it has immediate consequences on the management of the crisis, on the capacity of the decision-making units to take decisions in emergency. The study of shocks thus explains certain psychological mechanisms that highlight the logic of sideration and failure of decision-making units in the beginning of the crisis. Moreover, we consider that shock strategies can be used in the management of internal and international crises.

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