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The Clash of Perceptions

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Abstract

This study challenges Samuel Huntington's well-known clash of civilizations paradigm based on a philosophical reasoning of cognitive proofs. The authors propose the *clash of perceptions*, an alternative paradigm that better reflects the complexity of individual and collective interactions. Building on case studies and recent cognitive science and informatics research, this paradigm offers greater insight into the dynamics of international relations. In the first section, the authors explain the conceptual and methodological limits of Huntington's paradigm before proposing in the second section a new approach geared toward individual and group phenomena aiming to model the *clash of perceptions*. New concepts such as *percepts, misperception, misconception* and *perception prototypes* are introduced in order to explain this complex process. These concepts help better understand the complexity of conflict among individuals, groups and nation states.

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Limits of Huntington's Paradigm

In 1993, the *Foreign Affairs* quarterly published Samuel Huntington's "The Clash of Civilizations." In response to the numerous criticisms of the article, the author published a book by the same title in 1996, where he further detailed his thesis. (Huntington 1993, 1996) While international events have tended to prove his theses, criticism of the author's general approach remains valid, especially if elaborated through an in-depth study of the phenomena leading to a "clash." Previous critical studies of the "clash of civilizations" have found gaps in the theory. (Fox 2005) Jonathan Fox of Bar-Ilan University has provided a unique contribution to the debate by basing his arguments on data relevant to the post-Cold War era (starting in 1990), the period concerned by the clash of civilizations theory. A re-examination of Huntington's theories is provided below before presenting a paradigm that more accurately reflects individuals' cognition and political realities.

The "Clash of Civilizations" Thesis

Samuel Huntington's thesis emerges from a *cultural approach* whereby several successive stages have divided the world in different ways over time. Huntington suggests that major distinctions between civilizations became *cultural* starting in the late 1980s, the beginning of the civilizational era. According to Huntington, the major differences between individuals are no longer ideological, political or economic, but basically *cultural* differences, underscoring an identity problem. Huntington assumes that international relations thereon form from civilizational fractures or conflicts and that *religion* is the primary criteria defining civilizations. He further predicts that the 21st century world will be divided into eight *civilizational blocks* that oppose one another on a religious basis.[1] However, numerous studies have found that there is insufficient evidence supporting Huntington's claims. Fox's 2005 study on a 1945-2000 Minorities at Risk data set and 1955-2001 State Failure data set namely found that not only were

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[1] 1) Chinese civilization, based on Confucianism; 2) Japanese civilization, based on Shintoism; 3) Indian civilization, based on Hinduism; 4) Muslim civilization, based on Islam; 5) Western civilization, based on Judeo-Christianity; Eastern Orthodox civilization; 7) Latin American civilization, based on Christianity; 8) African civilization, based on traditional religion.

non-civilizational more common that civilizational ones, but civilizational conflicts did not have a stronger violent tendency than non-civilizational conflicts.

Several reasons are presented for the clash or conflicts, between these cultures and civilizations: demographic growth decreases the space available to each individual while globalization reinforces interactions between different countries; secondly, modernization distances people from their traditional identities (such as the nation-state) and favors shared identification with religion. At the height of modernity, the West is therefore unable to westernize the rest of the world, as cultural differences remain difficult to change and as non-Westerners seek a path of return to their roots.

Samuel Huntington's thesis has a *pessimistic* tendency. The West's decline, he argues, has already begun with the loss of ethics and moral values (e.g. the increasing number of divorces and of single-parent families), but also with social problems (e.g. drug abuse and crime) and lessened intellectual activity. Despite its economic and technological strength, the West feels threatened by two main factors: China, which represents a new economic power, and the Muslim world, in light of that region's demographic growth.

Huntington endows the Muslim world with a more aggressive stance than the other civilizational blocks in light of its contemporary history (the humiliation of European colonization), its demographic explosion and the absence of a leader state stabilizing the region.

These tenets of Huntington's thesis have been the subject of a lengthy debate in the last decade. (Kutty 1996; Miller 1998; Afrasiabi 1999; Russett et al. 2000; Hussien 2001; Jones 2002; Abrahamian 2003; Bilgrami 2003; Fox 2003, 2005) Few epistemological answers have, however, been made to his propositions. As with Fox (2005), the proposed paradigm acknowledges the evolution of the international field since September 11, 2001 and the ongoing War on Terror. The utility of a new explanatory paradigm for the contemporary "clash" are detailed here.

Basic criticisms of Huntington's approach
Huntington's definition of the concept of "civilization" is rather vague; it does not account for the political, ideological or religious divergences within the "civilizations" he mentions. This definition ignores fractures based on different understandings and considers cases deviant from the general paradigm as exceptions (such as "torn countries" like Turkey). Huntington's paradigm therefore fails to acknowledge these internal fractures and the diversity of national, local, social or ethnic contexts. Meanwhile, these local particularities are well known and important for a sound understanding of the general situation.

By focusing on "civilizations" and the "fault lines" between them, Huntington ignores individuals and their perceptions of the world, which nonetheless reflect expressed desires. Struggles are not fought between *abstract entities* called "cultures" or "civilizations" but between *active individuals* that are well *aware* of their identity and *intentionally* bear a conception or conceptions of their country, community or culture.

Lastly, the fundamental elements of different individuals' religious cultures are *seen as antagonistic* today, but are not in reality. Islam, for example, shares a great number of myths and

beliefs with the other monotheistic religions (Judaism and Christianity), which have enabled the pacific coexistence of these religions in many countries. However, Huntington has chosen to ignore these common civilizational elements and their role in bringing populations together. It seems clear to the authors that highlighting the differences rather than the similarities and commonalities of cultures does not owe to objective reality but rather to the author's *personal and subjective perception*.

Huntington therein does not escape certain cognitive biases that today mar the paradigms of numerous authors and analysts, especially as concerns the study of Western relations with the Muslim world since the early 1990s. Two regularly observed phenomena have incurred methodological errors from a scientific point of view. These phenomena lead to practical errors of judgment and decision, as well as to inappropriate attitudes toward the situation. (Harmon-Jones and Mills 1999)

Located on the personal level, the first phenomenon concerns the *ego-centric effect*. A *misperception*, it is a self-centered perception based on the principle that the world can only be understood as it relates to the individual's mind. This misperception is also evident in the tendency to research and interpret information so that data confirms one's own preconceptions or intentions. (Qureshi & Sells 2003)

The second phenomenon, located on the collective level, concerns the *ethno-centric effect*. Through this *misperception*, one adopts an emotional attitude based on the idea that one's own ethnic group, nation or culture are "superior" to others and that it is therefore legitimate to act in accordance with their respective interests. Characterized by a tendency to emphasize culturally-based explanations in relation to the attitudes of others, this misperception also underestimates the role and power of cognitive influences on these same individuals. (Said 1997)

Despite these methodological errors, Huntington's paradigm and approach largely surpassed the matter at hand, *for what we perceive is the preeminent explanatory element*. It therein is primordial to understand the nature of perceptions and their impact on individual actions and the real world.

Understanding Perceptions

In a complex environment, understanding a situation requires a global, impartial perception of the events. In his *Treatise of the reform of understanding*, philosopher Baruch Spinoza (1661-1677) distinguishes four types of perception:
- Perception by the senses,
- Perception by experience,
- Perception by deductive reasoning, and
- Perception by intuition

While the first two types of perception (perception by the senses and perception by experience) are *individual*, reasoning—and especially intuition—are *collective* processes. It is at this latter stage that a sound *intelligence* (in Latin, *inter-ligere* means "to connect") of a situation requires communities where *mutual understandings interact in order to obtain a structured vision of the whole*.

Philosopher Henri Bergson[2] drew from Spinoza's classification of perceptions. He namely contributed to *perception by intuition*, which had until then been classified as secondary in the philosophical tradition. Bergson contends that in order to present a global perpective of a situation, intuition can bring about the generalization of isolated cases or generate induction. But generalization has its dangers, as select cases do not necessarily represent the whole. These cases may even be chosen *intentionally* in order to adopt a *pre-determined conclusion*—a fallacious logic that impedes accurate assessment of a complex situation.

In order to prevent these errors, it is important to *use several sources of information* and to *adopt several interpretations of these sources*. The modern world's complex situations thus require a better coordinated qualification of information, by which intervene the different types of perception indicated above. The sharing of information and its various qualifications also requires cognitive methods and tools in order to avoid *misperception*.

Percepts and Perceptions

Philosophers Henri Bergson and Gilles Deleuze call "percept" the sensations and perceptions that *remain* after they have been felt, just as a "concept" is an idea that *remains* after it has been detailed by its author. "The philosopher's occupation is to create *concepts*; the artist's occupation is to make *percepts*." (Boutang 1996)

Through this "permeancy of perceptions," one must understand the long-term representations and perceptions of reality, for perceptive phenomena are first and foremost *temporal phenomena* that lack a continuous scale. Not only is any measure of perception inconsistent at any given time (t), but measurable amounts also clarify very little about perceived phenomena. The relationships between physical parameters and the tangible attributes of perception therefore require further study. The 19th Century's physicalist theories tried to relate personal sensations and physical greatness bilaterally and unequivocally. Pragmatic, this research sought to express affective greatness as it relates to empirical data (hierarchical degrees of perception, comparison between the sum and difference of perceptions), as well as tangible attributes as they relate to physical measures that can be defined first.

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[2] French philosopher Henri Bergson was born Paris in 1859 and died in 1941. He obtained the Nobel Prize in 1927.

Bouguer (1760), and later Weber (1831), sought to determine the smallest identifiable physical variation of a stimulus. According to the Bouguer-Weber law, the differential limit (the smallest identifiable difference between two stimuli values) increases linearly with the value of the base stimulus. Close to 1860, physician G. T. Fechner modified this law in order to account for the extreme values of stimuli. He contends that "sensation varies like the logarithm of excitement." This differentiation between the sum of the causes and finite and linear transformations that lead to the result or effect was only made possible when Fechner, a psychophysics theorist, introduced the notion of *perceptual limits* and determined certain investigative and observatory methods to identify these limits.

While he contends that "sensation is a psychological fact that escapes all measures," Bergson (1911) accepts Weber's differential limits that evaluate excitement—the cause of sensation. Bergson nonetheless criticizes Fechner's amalgam, which places cause in the effect. Fechner therefore encourages a mindset that highlights *subjective states*, which he calls the "immediate data of conscience." It is now known that the Weber-Fechner pseudo-law provides blatant generalizations and leads to *misperceptions*: it is only exact in determining mid-level values.

In *Time and Free Will: An Essay on the Immediate Data of Consciousness*, Bergson points to his predecessors' confusion between what he calls "the intensive" and the "extensive." The *intensive* concerns values that increase by degrees but can neither be enumerated nor affiliated with a given spatial measure. *The extensive*, however, relates to a measure of space. According to Bergson, we unconsciously associate what we feel to the cause of our impression. We feel a certain quantity defined by contrast and unconsciously seek to define it by measuring it by *objectifying* a value belonging to *subjective* consciousness. Thus, Bergson's precisions enable to better understand the link between *the perceived subjective world* and the *measurable spatial dimensions of the physical world*.

Misperception and Misconception

In the Internet and information society age, an understanding of the existing differences between the *perceptions* and *conceptions* of individuals and groups is important, for problems relate to subjective states in contact with one another during an action or event. It is thus reasonable to assert that most difficulties today owe to the *misperceptions* and *misconceptions* that divide individuals, not only of different cultures, but also of the same culture.

In order to better understand this crucial point, several examples will be provided that do not relate the so-called "clash of civilizations," but rather to *misperceptions* and *misconceptions*. These examples illustrate current difficulties between the Muslim world and the West, primarily the United States. These *misperceptions* are present on both sides. Their effect on inter-individual and international relations can be measured.

On the Muslim side, *misperceptions* concern the image that Muslims have of Westerners in general and of Americans in particular, as well as their understanding of Western culture and society. Many Muslims, for example, contend that the United States is a country comprised only of hard-line Christians and that American citizens practice no other religion than Christianity.

The War in Iraq has thus been perceived as a struggle between the America's Christians and Iraq's Muslims, which, of course, reflects an erroneous perception of reality.

American society and policy are also *perceived* as a homogenous and unified block seeking to exploit the region's resources and to dominate the Middle East through armed conflict. In contrast, political plurality and the diversity of opinions are basic principles of American culture and democracy. This *misperception* of US society and principles makes each citizen a potential target for a terrorist attack that can take place at any given time and place, merely because he or she is American. This dangerous potential is an aberration that owes to a *misperception* of what constitutes American democracy and politics in the global arena.

On the American side, some of the most common *misconceptions* include the belief that all Muslims are the same. That there is one single "Muslim experience" is far from true. The Muslim world consists of numerous and diverse countries, societies and populations that differ even in their practice of the Muslim rite (Sunnis, Shiites, Wahabis, Hanbalis, Malikis, etc.) That the Muslim world is homogenous and unified is a *misconception* that can lead to attitudes that are disrespectful or shocking for Muslims.

The "Danish cartoons" affair, involving the publication first in Denmark and then throughout Europe and in some Arab countries of caricatures of Prophet Mohammad, illustrates a true *clash of perceptions* between the two camps. Danes and other Europeans argue that the editorial decision to publish the caricatures was justified as an effort to defend freedom of the press. The same proponents of this argument perceive Muslims as fanatics that reject criticism. On the other hand, Muslims invoke respect for their faith and see Danes and others who supported the publication of the cartoons as extremist Christians that seek to blemish the image of Islam and Prophet Mohammad. In both camps, ideas and attitudes are wronged by a *misperception* of the Other (foreigner or outsider) and by a *misconception* of the Object (religion).

This same problem of *misperception* is illustrated by the "Iranian problem," as concerns Iran's nuclear activities. The United States government, France and others have perceived Iran as a dangerous country led by Muslim extremists that seek to develop nuclear technology for military ends. Meanwhile, Iran sees the United States as an imperialist country that seeks to seize the region's natural resources and dominate Muslim countries. This perception gap is exacerbated by Iran's own perception as a country that stands apart because it is the only Shiite State in the Middle East; all other Muslim States are Sunni and therefore distance themselves from Iran. The American reaction to the denunciatory declarations of Iranian President Mahmud Ahmadinejad—whether they concern Israel or nuclear activities—should be based not only on the *external and ethno-centric perception* of the problem, but also on the *internal and ego-centric perception* of Iranians as a people.

Finally, this same *clash of perceptions* is present in the Palestinian territories following the January 2006 victory of the militant group Hamas in the elections. The United States and the European Union refuse negotiations with the newly elected Hamas leaders because this party is largely *perceived* as a terrorist group in the West. Meanwhile, Palestinians *perceive* Americans to be anti-democratic in light of their refusal to accept the result of free elections. Westerners here have an *external perception* of the situation located on the international relations level while

the Palestinians have an *internal perception* of the situation on the purely local level (water, electricity, corruption, etc.) However, this gap of perception of a given situation leads to sometimes political and sometimes violent actions. A clash of perceptions can thus become a real clash; it is an essential parameter that must be considered seriously, especially during the decision-making process.

Whether in Palestine, Afghanistan or Iraq, considering this clash of perceptions requires integrating Muslim *percepts* and *concepts* in the contemporary principles of democratic governance. For the source of deadlocks in the Muslim world are not so much the very principles of liberty or democratic participation, but rather the lack of an adaptation of these principles to *the perception of local populations*. Islam's *shura* (counsel) concept, for example, began in the times of Prophet Mohammed and is *perceived* by Muslims as the equivalent to democratic counsel (elections). This principle could be highlighted in the discourse on political process principles.

Other examples of *concepts perceived as equivalents* are prevalent between the Muslim and Western civilizations. The issue is therefore not a "clash of civilizations," for they both often share common or consensual values, such as: liberty, equality, counsel, justice and knowledge (*musaawaat, hurriya, shura, 'adl* and 'ilm in Arabic.) Rather, the issue lies in a "clash of perceptions" that concerns individual characteristics, principles, values and concepts. These different perceptions must be listed and studied in relation to each predictable conflict situation. The task of defining the *dominant perceptions* within contemporary societies cannot be left to extremists and radical activists. A *clash of perceptions* threatening global peace and prosperity would otherwise emerge.

Understanding the Clash of Perceptions

The world today is shaped by an information society where massive, simultaneous data circulate in several languages on the same critical subjects. These data often contain strategic information and reflect perceptions relevant on both the local and global levels. However, the vast amount of information transferred hinders real time evaluation of the flow of these data and the evolution of the perceptions they contain. In a culture of commodification, "Like hunters and gatherers who take for granted the abundance of food 'out there' and therefore only hunt and gather enough to consume immediately, we are increasingly becoming a 'subsistence information society.'" (Meyrowitz 1985: 315) It is therefore essential to obtain efficient tools to evaluate this information and help decision making in various situations.

The proposed paradigm therefore aims to develop "a counter-perception strategy" as the "clashes" are seen as owing more often to differences in perception rather than between civilizations. In order to fight against terrorist or radical extremism, the battle to "win the hearts and minds" must therefore take place not so much through military actions than on the level of individual and social perceptions.

For the benefit of decision makers seeking to win hearts and minds, harmless and trivial information must be distinguished from information essential to decision-making. Indeed, an overabundance of data can disturb perception. Furthermore, individuals require a hierarchy of information that depends on their immediate relevance, as most of the available data is inconsequential. Only relevant elements merit particular attention. This complex situation calls for comprehension of how the human mind addresses the flow of data in order to filter out relevant information and signs.

In semiotics, the process of converting signs into meaning is called "semiosis." This *meta-cognitive* process uses *schemas* to develop *models of the perceived world*. This building of perception requires a number of skills that address *pattern matching* as well as logical deduction and synthesis operations. Comprehending a complex situation can thus be defined as:

"A system of mental representations of an object or phenomenon, its properties and associations with other objects and/or phenomena. In the consciousness of an individual, meaning is reflected in the form of sensory information, images and concepts." (Bedny & Karwowsky 2004)

This definition indicates that the meaning of a situation is constructed socially but is also dynamic within the culture and the mind of the individuals belonging to this culture. (Kaye 1995) The relationship between the social frame of reference and individual aspirations thus emerges as a significant matter, since an individual's experience can generate meanings that differ in terms of certain dominant social norms. Significant data on a phenomenon must therefore be determined both by situational and emotional elements. The latter depend on perception and present a relatively unique combination for each individual.

However, an individual's *perception of language* must be careful to avoid determining the saliency of retained information. Mastering different levels of linguistic analysis is indeed

essential for a sound comprehension of salient information on a particular phenomenon or situation. Because perception of individuals is usually expressed through linguistic signifiers (words, gestures, sounds, colors), language often contains clues that help to understand the clash of perceptions, whether these clues are explicit or implicit.

Clash of Perceptions and Language Perception

Language is important because it is the main sign system providing objective and systematic access to perceptions and relevant data. This exceptional analytical tool depends on the perception individuals have of its effective content and of its role in inter-personal, inter-communal and international communications. Avoiding errors of judgment such as *misconception* or *misperception*—described above—that are very frequent in daily social, political or military situations requires awareness of language as a network of complex systems.

Baghdad's "Green Zone" is a strong case in example. For the coalition forces, the expression describes the relative security of the area, a "secure space." But for jihadists or Islamic insurgents, the "Green Zone" is a privileged target for "sacrifice" because of its very name. In Islam, *green* symbolizes what is *sacred*; not only is it Prophet Mohammad's color, but it also refers to paradise for all Muslims.[3] Fighters therefore desperately seek to sacrifice themselves through suicide attacks against this "green" zone, whose very name makes it an ideal target. This case represents typical *misconception* (by coalition forces), which leads to *misperception* (by Islamic fighters). Both phenomena interact in order to generate a clash of perceptions with concrete implications in the physical world (increased suicide attacks against a zone that is supposed to be safe).

Similarly, poor comprehension of the linguistics of the Iranian President's political statements on the State of Israel or on nuclear development, will likely lead to misled evaluation of the situation. The ensuing actions would also be inappropriate. On January 1, 2006, Ahmadinejad declared, "The Europeans have established a Jewish camp in the heart of the Islamic nations… The Zionist regime is a part of Europe that has been detached… It [the regime] is naturally anti-

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[3] This religious symbolism can be found in the very flags of many Muslim countries: the Saudi, Libyan, Mauritanian and Pakistani flags, amongst others, are primarily *green*.

Islamic." Must these statements be taken seriously? What is their context? What should be the response to these words?

While numerous, the potential answers depend on the level of linguistic perception. The difficulty lies in the need to assess the language explicitly while also explicitly recognizing that there are a variety of ways to evaluate the data. Obtained observations are constructed objects that are characterized by the conditions necessary to their inception. Data requirements and especially an object's access requirements are studied empirically through defined and renewable protocols, thus justifying the exclusion of cerebral elements. As Kamp and Reyle highlight, "The only access which the theorist seems to have to the language of thought is via the languages we speak. Looking into people's heads […] is an option that is simply not available." (Kamp & Reyle 1993: 10-11)

The human language presents certain key specificities:
- The ability to express not only what is real and current, but also *possibilities and intentions*, a necessary condition for abstraction,
- The ability to express *logical links*; language enables the development of reasoning and argumentation on a particular situation or phenomenon,
- The capacity to express *past memory*; the most advanced result of this capacity is the transmission of experience through a variety of means (writing, audio, video, etc.)

Three broad levels of analysis thus emerge:
- *Level 1*: language as a *signification system*. In Arabic, for example, *khadim* means "servant" (first denoted meaning),
- *Level 2*: language as a *knowledge system*. The word *khadim*, for example, is used as the official title of the King of Saudi Arabia (*khadim al-haramayn*, Servant of the Holy Lands),
- *Level 3*: language as a *communication system*. *Khadim,* for example, is used in the Arabic proverb *khadimu al-qawmi sayyiduhum* (the servant of the people is their lord), which reverses the initial meaning since "servant" *on the signified level* becomes "lord" *on the communication level*.

From a cognitive point of view, these three levels of linguistic perception blend and complete one another in order to obtain the message's general meaning at a given time and for a particular situation. In light of the need to accurately master the system's complexity, different individuals cannot access these different levels simultaneously. Individuals often only perceive one part of the problem or phenomenon based on linguistic express. Perhaps less problematic than completely erroneous perception, *partial perception* remains *misperception* because it fails to locate the cognitive goal of relevant data. In order to illustrate this phenomenon of *partial perception*, the following list of Arab names was presented to different experts on the Iraq conflict. Select answers are provided to illustrate the matter:

Table 1. Different levels of perception of Arab names

Arab names	1) Meaning level	2) Knowledge level	3) Communication level
Abu Moussab al-	He is from Zarqa	Abu (father) + Moussab (son)	"Man of difficulties"

Zarqawi	*Meaning*: origin, country	*Meaning*: affiliation, blood lines	*Meaning*: *sa'ab* (difficult)
Abu Maysara al-'Iraqi	He is from Iraq *Meaning*: origin, country	Abu (father) + Maysara (son) *Meaning*: affiliation, blood lines	"Man of ease" *Meaning*: "Yassir" (easy)
Katibat al-Firdaws	Paradise Brigades *Meaning:* linguistic	Martyrs Brigades *Meaning:* cultural	Personal salutation *Meaning*: cognitive (spiritual)
Katibat al-Haq	Truth Brigades *Meaning:* linguistic	Brigades of God *Meaning:* cultural (*haq* is one of the names given to Allah)	Divine justice *Meaning*: cognitive (military)
Data perception	Perception 1: *neutral* perception	Perception 2: *passive* perception	Perception 3: *active* perception

These examples highlight that the Arabic denomination system is complex and that its understanding or perception depend on the interpreter or decoder's linguistic level. (Shannon & Weaver 1963) Opinions and decisions also depend on the type of perception applied at a given time. Establishing a communication goal appropriate for local populations requires conscious attention to these distinctions in a broader goal to follow social and political evolutions behind these visions.

The study of language thus presents an undeniable strategic dimension for it enables the understanding of the Other's perceptions and motivations, be he friend or foe. Particular attention should be given to *long-term perceptions*, perceptions that remain after they have been expressed, for they are *strategic percepts* within the general system of perceptions. (Chomsky 1986) A model of the system of perception should emerge from the study of these perceptions.

But how can we model this complex system that encompasses both internal perceptions and external knowledge? The system can be modeled in a dynamic way, as illustrated in Figure 1 below, by relying on Bergson's concepts of the *intensive* and the *extensive*. (Bergson 1911) The extensive values are placed on the horizontal axis and the intensive values on the vertical axis. The *intensive values* are values that increase *by degrees*, as opposed to *extensive values*, which relate to *an expanse*. Only *mid-level values* will be retained here, for they shed light on a system's *dominant perceptions*.

Figure 1. Perception System Model
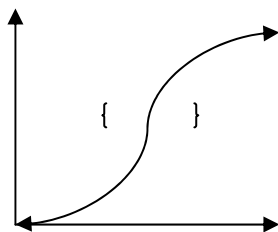
The mid-level values ({ }) on the above graph represent the *dominant perceptions* of a particular phenomenon or event at any given time. In each case, these values present a certain degree of

intensity or expanse. Dominant perceptions are also represented on the linguistic level by regular, recurrent and numerically superior *dominant discourse patterns*.

Modeling these *dominant patterns* that characterize individual or group discourse is an essential step before modeling *dominant perceptions*. In order to illustrate this matter, the official statements of the radical Islamic group Al-Qaeda have been analyzed in order to illustrate the predictable nature of these *patterns* and thus the possibility to automatically identify them, reproduce their discursive structure and predict their underlying rhetoric and arguments. The table below provides several select examples of Al-Qaeda's discursive structure, found in every statement analyzed:

Table 2. Analysis of Al-Qaeda's Official Statements

Phrase 1, perception state 1	Bismi Allah al-rahman al-raheem	In the name of Allah, the merciful and the compassionate
Phrase 2, perception state 2	Ya rabbi saddid al-rami wa thabbit al-aqdam	O Lord, adjust ours shots and reinforce our positions
Phrase 3, perception state 3	Al-hamdu li-Allah rabbi al-'alamin	Peace be upon Allah, Lord of the world
Phrase 4, perception state 4	Al-salat wa al-salam 'ala nabiyyina Muhammad wa 'ala alihi wa sahbeehi ajma'in	Prayer and Peace on our Prophet Mohammad, on his family and on all of his companions
Phrase 5, perception state 5	Amma ba'du	That said,
Phrase 6, perception state 6	Qama ikhwanukum fy…	Your brothers have undertaken…
Phrase 7, perception state 7	Wa li-Allah al-hamdu wa al-minnah	We owe recognition and gratification only to Allah
Phrase 8, perception state 8	Hatta yakuna ad-din kulluhu li-Allah	Until all religion becomes that of Allah
Phrase 9, perception state 9	Fa imma al-nasr wa imma al-shahada	Either victory or martyrdom
Phrase 10, perception state 10	Wa li-Allah al-'izza wa li-rasulih wa lil-mujahidin	Glory to God, to his messengerand to the mujahideen

Each phrase encodes a specific perceptive state within the speech. The path of logic can be formalized by a straight line that can experience a number of modulations depending on the predictable intentions of individuals, as illustrated in Figure 2 below:

Figure 2. Paths of Logic
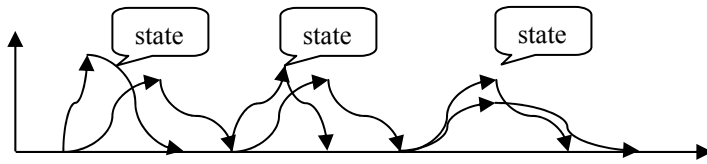
These paths indicate a logical set of *percepts* associated with *cognitive states*. Behind these dominant perceptions lies prototypical reasoning based on emotional components (*ethos* and *telos*)[4] and logical procedures (*deduction, induction, abduction*). (Berry 1978; Geertz 1973)

This combination of emotions and logical procedures forms a type of *emotional reasoning* characteristic of radical Islamist logic. From a formal perspective, this reasoning consists in an *intensive* perception associated with an *extensive* logic.

Table 3. Islamist Emotional Reasoning Patterns

(intensive perception + extensive logic)
(short term + long term)
(dominant percept + strategic percept)

This hypothesis can be verified through the official publications of jihadi fighters, which are available in written, audio and video format. Al-Qaeda leaders indeed ask "martyrdom" candidates to indicate in writing their wishes and incentives to "sacrifice" themselves long before they die. These wishes and incentives are laid out in *wasaya* (wills), where clear and explicit expression of radical Islamists' *telos* or goals and intentions are written. "Martyrdom" candidates are also asked to convey in writing their past experiences in combat, by rendering both personal impressions and operational remarks. These experiences are related in *malahim* (epic tales),

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[4] The Greek word *ethos* describes attitudes and beliefs. The Greek word *telos* describes a goal or end.

written documents that clearly and explicitly express the *ethos* of radical Islamists or their cultural and personal beliefs and attitudes.

Finally, once the fighter dies, Al-Qaeda leaders ask one of his companions in combat to record the martyr's life and work, which is then distributed to as wide an audience as possible in volumes called *siya a'lam al-shuhada* (*Biography of the Great Martyrs*). These volumes recount the life of the fighter, his moral and psychological characteristics, while praising his act for Islam. These written documents explicitly reformulate the *logos* of radical Islamists or their specific arguments and reasoning.

A careful reading of these materials raises the following questions: How do radical Islamists express their wishes and objectives? What are the available possibilities for expression that are used to reach these objectives? What is their reasoning and what is its place in their thought system? What arguments do they use for recruitment? How do they perceive and describe their opponents? What are the mental images that determine their vision? A satisfactory answer would enable the use of appropriate methods to modify the perceptions and representations that currently dominate radical Islamist fighter's references.

Investigating Perception Prototypes

The *clash of perceptions paradigm* attempts to explain how individuals or groups can maintain their power by exploiting dominant percepts. By making cognitive prototypes of these percepts, these individuals or groups are able to persuade other to accept, adopt and apply their precepts, concepts, values and norms.[5] (Kottak 2004)

Dominant perceptions within a group, society or culture are constructed through *functions*, whereby each function relates to a *type* that describes its attributes, arguments and values. Perceptions dominate when the attributes, arguments and values are *prototypical*.

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[5] In *Window on Humanity* (2004), Conrad Phillip Kottak explains hegemony as ideologies that offer satisfactory explanations on the relevance of order to each individual. The main argument consists in promoting many elements while asserting that these elements take time and require patience. This is a typical example of a *prototypical percept*, whereby a possible success is embraced internally while its physical realization is slowed externally.

Prototype is a key concept for understanding dominant perceptions. As concerns linguistic expression, there is a strong analogy between well-formed expressions and expressed percepts. *Prototypical perceptions* can thus be described as:

1) Perceptions necessarily named by individuals and thus defined and active in the source language;
2) Perceptions that may constitute an *exemplary model* of a *family of percepts*;
3) Perceptions that may be named and modified according to a cognitive process;
4) Perceptions that are as much objects as cultural objects;
5) Perceptions that have a *physical* existence in the memory of individuals.

Prototypical perception presents the major advantage of using the dynamic heritage of individual or collective memory. Any *percept* can change the values at any given time. It is important to recount to individuals their past experiences and major perceptions of events, phenomena or experienced situations. The types of reasoning adopted and the major concepts that underlie their perception can thus be observed.

Reasoning may thus be defined as a cognitive process that enables the acquisition of new perceptions or to verify a percept by exploiting various cognitive states. In mathematical logic (propositional logic, predicative logic, moral logic, etc.), three means of constructing reasoning are considered: *deduction, abduction* and *induction*.

If these types of reasoning are associated with *ethos* and *telos*, the emotional components of perceptions, they may be represented as such:
- Deduction: If the ethos is true, then the telos is also true
- Abduction: If the telos is true, then the ethos is also true
- Induction: If the ethos is true, then the telos is also true.

The perception building process follows at least one of these rules, a means to modify or add new percepts. These perceptions are then treated as *types* rather than as holistic groupings.

However, individuals also manipulate *concepts* by confronting their perceptions to those of their opponents. A *clash of conceptions* thus underlines a *clash of perceptions* within a struggle for survival that aims to assert a perception through *concepts* appropriate for the situation.

French philosopher Michel Foucault highlights the primacy of the process of forming *concepts*, which is at the root of individual and collective perceptions:

> "To form concepts is a lifestyle, not a way of killing life. It is a relatively mobile lifestyle, not an attempt to immobilize life. It is bringing innovation, to these billions of human beings who inform and are informed by their surroundings, be it considered minimal or notable, but nonetheless a particular type of information. […] If the concept is accepted, life's response to this hazard, it must be agreed that the mistake is the source of human thought and its history. The dichotomy of true and false, the values lent to each, the power effects that different societies and institutions apply to this distribution, all of this is perhaps only the latest response to this error possibility of life." (Foucault 1994)

The study of data relative to Islamic radical groups confirms this statement. (Guidère 2004) This study shows that reasoning manipulates *concepts, but that these concepts are based on percepts*.[6] (Changeux 1983) The combination of percepts and concepts has two aims: to counter "Western hegemony" and to establish "Islamist hegemony" by emphasizing a certain perception of the world and of human relations.

Indeed, the marginal ideas developed in the discourse seek to dominate other groups, with or without the threatening use of force. The method applied consists in controlling the means to naturalize ideas through a process that informs common sense notions. Certain *prototypical perceptions* are thus based on certain *dominant* beliefs, values and practices. These prototypes inevitably rely on language, but are also associated to other types of information, such as scents, songs or images. They aim primarily to exclude from the ideological and cognitive terrain.

Modeling the Clash of Perceptions

The *perception prototypes* are a representation of the mind that summarizes a number of empirical or mental objects through the abstraction or generalization of common identifiable traits. The process is similar to *compression* in informatics.

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[6] In *L'Homme neuronal* (1983), Jean-Pierre Changeux explains that concepts are first expressed through *percepts*, then amongst one another. He thus relates to the philosophical ideas expressed by Locke and Hume.

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Within a perceptive prototype, a percepts network is a representation whose relations have a symbolic value: a text, a combination of characters, a list of iconic symbols. Relations between percepts are pondered upon and oriented in order to represent one percept's influence on another.

Dynamism is particular to a percepts network, as it evolves over time in order to adapt to a given problem. This model may be considered a hybrid between a semantic network and a network of neurons. Like a semantic network, a percepts network has *symbolic* knots. Like a network of neurons, it activates knowledge through pondered relations. The percepts network may be said to function depending on the *intensity* of the relation (if a percept is active and has a *strong link* to another precept, then it will activate that precept) and on its *expanse* (if a network is built by associating symbols in the timeframe, *strategic percepts*, which are long-lasting, will emerge).

The *percepts network* aims to facilitate the manipulation of perceptions on a particular problem, phenomenon or situation. A *perception-oriented architecture* is thus proposed. This architecture represents percepts through the representation of explicit objects (a single individual's complete impression or perceptions) as well as assertions and declarations made in regards to them. Examples include "French people are *refined*" or "American people are *honest*." The process takes place electronically. Representing percepts in such explicit ways enables the computer to draw conclusions from previously stored information on perceptions (i.e. refinement, honesty, arrogance, naivety, etc.)

A vast amount of information on general perception can thus be encoded as well as information necessary for the user to understand these perceptions: physics, logic, psychology, cognition, time, causality, motivation, intention, percept classifications, etc. The encoding of this information in XML format enables a more in-depth understanding of perceptions by facilitating information sorting and the *data mining* process. Encoding also facilitates the management of scripts and scenarios that could occur over time in accordance with a specific percept.

Finally, associating a semantic approach (Fodor 1987) with the XML-based encoding will enable the inception of a crucial system for the understanding of the clash of perceptions, the *Clash Map*™.[7] A *Clash Map* is a diagram used to relate words and ideas to a main percept that has a conflict dimension. It helps to visualize, classify, structure and generate percepts, as well as to help study cases, resolve issues or take decisions in times of crisis. Similar to a semantic network,

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[7] The *Clash Map*™ is trademarked by Mathieu Guidère and Newton Howard.

the *Clash Map* nonetheless contains a formal restriction on the type of links used between percepts as it includes words, images, colors, forms and sounds. These elements are organized intuitively according to the percept's importance and spread in groups, branches or across areas.

A *Clash Map* is thus an image-focused diagram that represents semantic connections between pieces of information. Able to recall certain pieces of information in existing memory and may be used to motivate future action, it can namely graphically illustrate *the structure of hostile feelings* citizens may hold toward a government, government policy or political candidate. This tool thus improves intuitive knowledge of conflict situations and helps detect models of the mind for a greater variety of individuals, groups or organizations where there is potential conflict between individual aspirations and the goals set by the organization. As a model, the *clash map* can encourage *positive perceptions* toward a project or communicate *complex ideas* that rely on the previously mentioned *percept-concept* combination.

However, this model must be seen as an initial step toward an ontology of perceptions that dynamically represents the diversity of real situations in daily life. The following possibilities illustrate such examples:
- Clarifying the perceptions of an individual expert or a work group;
- Capturing perceptions and their relations through documents and materials;
- Transforming tacit perceptions within a team or organization;
- Transferring positive perceptions from one group to another;
- Creating shared perceptions and understanding within a team or organization;
- Communicating complex ideas and emotional arguments;
- Improving linguistic expression by highlighting dominant perceptions;
- Improving the meta-cognitive process (feeling empathy or thinking about others' perceptions).

Conclusion

The study of Huntington's paradigm clearly demonstrates that it cannot accurately account for the complexity of perceptions on either the individual or the collective level, despite the fact that these perceptions are essential to understand thoughts and actions in the real world. A new paradigm, *the clash of perceptions*, thus becomes necessary. This paradigm relies on a *percept-concept* combination to understand the diversity of predictable world visions, intentions or attitudes. By emphasizing the existence of *perception prototypes*, the existence of dominant perceptions for individuals and within groups that explains their thinking and enables the prediction of future attitudes was demonstrated through several examples. Modeling these perceptions also sheds light on a new path to understand complex intent systems and to improve technologies related to their treatment.

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