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The Clash of Perceptions

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Abstract
This article presents a discussion of Samuel Huntington's well-known paradigm based on a philosophical reasoning and cognitive proofs. The authors propose to replace the "clash of civilizations" with the *clash of perceptions*, a paradigm that better reflects the complexity of individual and collective interactions. This latter paradigm builds upon both case studies and the latest findings in cognitive science and informatics. 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 to cultural and personal phenomena aiming to model the clash of perceptions. New concepts introduced to explain this complex process include: *percepts, misperception, misconception* and *perception prototypes*. These concepts help to better understand the complexity of conflict situations between individuals and between groups or States.

The Limits of Huntington's Paradigm

In 1993, the *Foreign Affairs* quarterly published an article by Samuel Huntington on "The Clash of Civilizations." In response to the significant criticism waged against the article, Huntington published a book by the same title in 1996 in which he further detailed his thesis. (Huntington 1993, 1996) While Samuel Huntington's work on "the clash of civilizations" has become a noted reference as certain international events could be seen to prove his theses, the author's overall approach can still be criticized, especially through an in-depth study of phenomena related to the "clash." A re-examination of Huntington's theories demonstrating their limits is therefore necessary before presenting a paradigm that more accurately reflects individuals' cognition and political realities.

The "Clash of Civilizations" Thesis

Samuel Huntington's theses are based on a *cultural approach*. According to this approach, the world has experienced several successive stages of different types of divisions. Furthermore, Huntington suggests that major distinctions between civilizations became *cultural* starting in the late 1980s, the beginning of the civilizational era. The dissolution of the two Cold War blocks marks the beginning of this era of *civilizations*. The major differences between human beings are no longer ideological, political or economic, but basic *cultural* differences. Huntington assumes that international relations are thereon formed from civilizational fractures or conflicts, and that *religion* is the primary criteria defining

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civilizations. He divides the 21st century world into eight *civilizational blocks* that oppose one another by their religious basis.[2]

According to Huntington, each *civilization* is based on a religion and its respective values. Several reasons are presented for the clashes, or conflicts, between these cultures and these civilizations: demographic growth decreases the amount of available space while globalization reinforces interactions between different countries; 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 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. He proposes that the West's decline has already begun with the loss of ethics and moral values (increasing numbers of divorces, of single-parent families, etc.), but also with social problems (drug abuse, crime, etc.) 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 its demographic growth.

Huntington endows the Muslim world with a more aggressive stance than the other civilization blocks, namely because of its contemporary history (the humiliation of European colonization), its demographic explosion and due to the absence of a State that would assume a leadership position and stabilize the Muslim world.

These tenets of Huntington's thesis have been the subject of a lengthy debate in the past decade. However, few epistemological answers have been made to his propositions. The reasoning behind advancing a new explanatory paradigm for the contemporary "clash" are detailed here. This new paradigm acknowledges the evolution of the international community since 11 September 2001 and the ongoing War on Terror.

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, such as the clash between Sunnis and Shiites in the Muslim world. 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 relevant for a sound understanding of the general situation.

The "fault lines" between civilizations, as defined by Huntington, fail to acknowledge individual aspirations, which nonetheless reflect expressed desires. By focusing on

[2] 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; 6) Eastern Orthodox civilization; 7) Latin American civilization, based on Christianity; 8) African civilization, based on traditional religion.

"civilizations," Huntington ignores individuals and their perceptions of the world. Struggles are not fought between *abstract entities* called "cultures" or "civilizations" but between *active individuals* who are well *aware* of their identity and *intentionally* bear the ideas of their country, community or culture. There is a too little space for individuals, their will and their awareness in Huntington's paradigm.

Lastly, the fundamental elements of individual religious cultures today are *seen as antagonistic*, but are not so in reality. Islam, for example, shares a great number of myths and beliefs with other monotheistic religions (Judaism and Christianity), which enabled the pacific coexistence of these religions in many countries. Huntington has chosen to ignore these common civilizational elements and their role in bringing populations together. Highlighting the differences rather than the similarities and commonalities of cultures owes not 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 relations with the Muslim world since the early 1990s. Two regularly observed phenomena constitute methodological errors from a scientific point of view. These phenomena lead to practical errors in judgment and decision, as well as to inappropriate attitudes toward the situation. (Harmon-Jones & Mills 1999)

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

Located on the collective level, the second phenomenon concerns the *ethno-centric effect*. This *misperception* consists in adopting an emotional attitude based on the belief that one's own ethnic group, nation, or culture are "superior" to that of others and thus makes it legitimate to act in accordance with their respective interests. Characterized by a tendency to emphasize culturally-based explanations in relation to others' attitudes, 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 it is 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.

Whereas the first two types of perception (by the senses and by experience) are *individual*, deductive reasoning and intuition are *collective* processes. It is at this latter stage that a sound *intelligence* (from the Latin *inter-ligere,* "to connect") of a situation requires communities where *mutual understandings interact in order to obtain a structured vision of the whole*. Philosopher Henri Bergson[3] drew from Spinoza's classification of perceptions. He namely contributed to *perception by intuition*, previously classified as secondary in the philosophical tradition.

Bergson contends that in order to offer a global point of a view of a situation, intuition can bring about the generalization of isolated cases, or generate induction. But generalization has its dangers, as chosen isolated 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 such 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 an improved qualification of information where the different types of perception indicated above intervene. 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. As Boutang concedes, "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 extremely long-term representations and perceptions of reality, for perceptive phenomena are first and foremost *temporal phenomena* that do not bear a continuous scale. Not only is any measure of perception inconsistent at any given time (t), but measurable amounts also clarify very little information on perceived phenomena. The relationships between physical parameters and the tangible attributes of perception must therefore be studied. Physicalist theories from the 19th century sought to relate personal sensations and physical greatness bilaterally and unequivocally. The pragmatism of this research aimed to express affective greatness as 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 previously defined.

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

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

(the smallest identifiable difference between two stimuli values) increased linearly with the value of the root stimulus. Around 1860, physician G. T. Fechner modified this law in order to validate it with the extreme values of stimuli. Fechner 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—as a measure. Bergson nonetheless criticizes Fechner's amalgam, which assigns cause to the effect. Fechner therefore encourages a mindset that highlights *subjective states*, which he calls the "immediate data of consciousness." It is now known that the Weber-Fechner pseudo-law provides blatant generalizations and leads to *misperceptions*: it is only exact as concerns 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. However, *the extensive* relates to a measure of space, a range. 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 using an *objectifying* a value belonging to *subjective* consciousness to measure it. 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 information age, one must develop an understanding of the existing differences between the *perceptions* and *conceptions* of individuals and groups, for problems relate to subjective states in contact with one another during an action or event. It is thus reasonable to assert today that most difficulties 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 are 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* lie in the image Muslims have of Westerners in general and Americans in particular, and in 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 America's Christians and Iraq's Muslims, an erroneous perception of reality.

American society and policy are also *perceived* as a homogenous and unified bloc 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 have been hailed as fundamental principles of American culture and democracy. This *misperception* of US society and principles makes each citizen a potential target for antimony and for a terrorist attack that could 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 the truth. The Muslim world consists of numerous and diverse countries, societies, and populations that differ even in their practice of the Muslim rite (Sunnis, Shias, 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—where a Danish newspaper and later other publications published caricatures of Prophet Mohammad in the fall of 2006, sparking protests across the Muslim world—illustrates this phenomenon and a true *clash of perceptions*. Danes and other Europeans argue that the publications' 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 faith and see the Danes and others as extremist Christians who 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 or faith).

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 wishes to seize the region's natural resources and dominate Muslim countries. This perception gap is exacerbated by Iran's own perception as a unique country as the only Shiite State in the Middle East. All other Muslim majority countries 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* can be seen in the aftermath of the January 2006 electoral victory of the Palestinian militant group Hamas. The United States and the European Union refuse negotiations with the newly elected Hamas leaders, as the 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 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.) Such a gap of perception of a given situation leads to sometimes

political and sometimes violent acts. 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.

Regardless of the particular context—such as the examples provided above—evaluating a clash of perceptions requires integrating Muslim *percepts* and *concepts* in the contemporary principles of democratic governance. 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 of democratic counsel (elections). This example could be highlighted in the discourse on political process principles.

Other examples of *concepts perceived as equivalents* are prevalent between 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 predictable conflict situations. 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 critical subjects. This data often contains strategic information and reflects perceptions essential on different echelons, from the local to the international level. However, the vast amount of information transferred hinders real time evaluation of the origins, directions and intensity of this data and the evolution of the perceptions it contains. Efficient tools must therefore be heralded to evaluate this information and assit decision-making.

The proposed paradigm aims to develop "a counter-perception strategy" as the clashes are seen to owe more 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 or falsify perceptions. Furthermore, individuals need a hierarchy of information that depends on its immediate relevance, as most of the available data is inconsequential. Only relevant elements merit particular attention. This complex situation calls for understanding 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 and is dynamic within the culture and mind of 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, the *perception of language* of one individual 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 the main communication system to access perceptions and relevant data in an objective way and according to systematic procedures. However, this exceptional analytical tool depends on the perception individuals have of its effective content and of its role in inter-personal and international communications. Language consists of complex systems of which one must be aware in order to avoid errors of judgment, such as *misconception* or *misperception*—described above—which are very frequent in daily social, political or military situations.

Baghdad's "Green Zone" is a strong case in example. For the coalition forces, the expression reflects the area's relative security. "Green Zone" means "secure space" for American soldiers. But for jihadists or Muslim 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.[4] 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

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

world (increased suicide attacks against a zone presumed 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 yield to misled evaluation of the situation. The ensuing actions would also be inappropriate. "The Europeans have established a Jewish camp in the heart of the Islamic nations," declared Ahmadinejad on 1 January 2006. "The Zionist regime is a part of Europe that has been detached… It [the regime] is naturally anti-Islamic." Must these statements be taken seriously? What is their context? What should be the response to these words?

While varied and numerous, potential answers depend on individual levels 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)

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 to develop 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*. The same word *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 together and complete one another in order to obtain the general meaning of the message *at a given time* and *for a particular situation*. However, these different levels cannot be accessed simultaneously by different individuals due to the need to accurately master the system's complexity. In Arabic, for example, there are numerous examples of individuals that only perceive one part of the problem or phenomenon. *Partial perception* is perhaps less problematic than completely erroneous perception. However, *partial perception* remains a part of *misperception* because it fails to locate the cognitive goal of relevant data. In order to

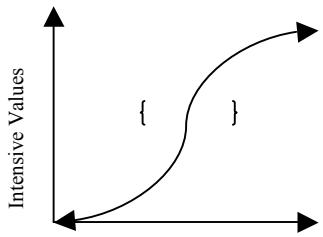
illustrate this phenomenon of *partial perception*, the following list of Arab names was presented to different experts on the Iraq conflict. A few examples of the answers are provided merely to illustrate the matter:

Arab names	1) Meaning level	2) Knowledge level	3) Communication level
Abu Moussab al-Zarqawi	He is from Zarqa *Meaning:* origin, country	Abu (father) + Moussab (son) *Meaning*: affiliation, blood lines + Historical background	"Man of difficulties" *Meaning*: *saab* (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), the facilitator
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 denomination system is complex and that its understanding, or perception, depends on the interpreter or decoder's linguistic level. Expressed opinions and decisions taken clearly also depend on the type of perception applied at a given time. Being conscience and attentive to these distinctions is thus essential, both in aims to establish a communication goal appropriate for local populations and in a broader goal to follow social and political evolutions behind these visions.

From this viewpoint, the study of language presents an undeniable strategic dimension for it enables the understanding of the Other's perceptions and motivations, be he friend or foe. This study should focus on *long-term perceptions*, those 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.

Encompassing internal perceptions and external knowledge, this complex system can be modeled in a dynamic way 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*.



Extensive Values

Figure 1. Model of the system of perception

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*. As an illustration, the official statements of the radical Islamic group Al-Qaeda from Iraq have been analyzed in order to understand the predictable nature of these *patterns* and thus the possibility of automatically identifying them, reproducing their discursive structure and predicting their underlying rhetoric and arguments. The table below provides several select examples of Al-Qaeda's discursive structure, found in every statement analyzed:

Phrase and perception state	Arabic transliteration	Literal translation
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 our 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 messenger, and to the mujahideen

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

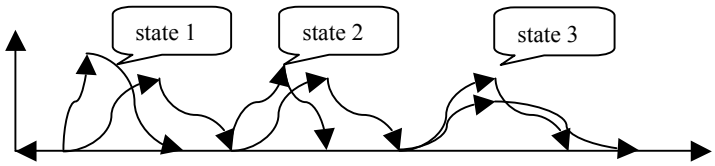


Figure 2. Path of logic for perception states

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*) and logical procedures (*deduction, induction, abduction*). (Berry 1978; Geertz 1973)[5]

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.

(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 readily 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 during the operation. These wishes and incentives are laid out in *wasaya* (wills). Clear and explicit expression of radical Islamists' *telos*, or goals and intentions, can be found in these written documents.

"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), 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 relate in recording the martyr's life and work. This biography is then distributed to as wide an audience as possible in volumes called *siyar 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*, or specific arguments and reasoning, of radical Islamists.

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 used to reach these objectives? What is the reasoning of radical Islamists and how does it relate to their system of thought? 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 to all of these queries would allow dor the appropriate answers and methods to modify the perceptions and representations that currently dominate radical Islamist fighter's references.

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

Investigating Perception Prototypes

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

Prototype is a key concept for understanding dominant perceptions. There is a strong analogy between well-formed expressions and expressed percepts, as concerns linguistic expression. *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 process of constructing a perception 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 with 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 relevant data relative to Islamic radical groups confirms this statement. (Guidère 2004) This study demonstrates that reasoning manipulates *concepts, but that these concepts are based on percepts*.[6] (Changeux 1983) The combination of percepts and concepts has two obejctives: 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 aim to dominate other groups, with or without the threat 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 with other types of information, such as smells, songs or images. They aim primarily to exclude other perceptions by securing victory on the ideological and cognitive terrain.

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.[7] (Kottak 2004)

Modeling the Clash of Perceptions

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

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

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

[7] 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.

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 of a particular problem, phenomenon or situation. The authors thus propose a *perception-oriented architecture* that represents percepts by illustrating explicit objects (a single individual's complete impression or perceptions) as well as related assertions and declarations. 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 perceptions 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 extended Markup Language (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) to XML-based encoding will provide for a crucial holisitc system to understand the clash of perceptions, the *Clash Map*™.[8] 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, 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 cognitive models for a greater variety of individuals, groups or organizations where there exists 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 aforementioned *percept-concept* combination.

However, this model must be seen as merely an initial step toward an ontology of perceptions

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

that dynamically represents the diversity of real situations in daily life. For example:
- 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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