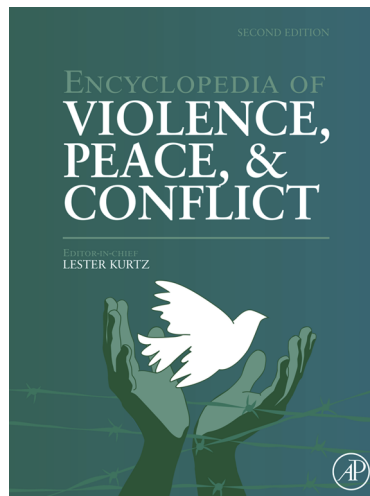


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## Neuropsychology of Motivation for Group Aggression and Mythology

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### Glossary

**Allostatic load** The total demand for energy and physiological resource expenditure placed upon an organism in a particular situation or state.

**Amygdala** A brain area specialized for fear and anxiety, among other functions.

**Atrocity** The willful subjugation of another or the self to threat or punishment whose severity far exceeds any reasonable standard.

**Avoidance** Willful blindness; refusal to engage in the effortful multistage processing of anomalous information axioms or assumptions: predicates of beliefs or models, unprovable from within those beliefs or models.

**Chaos** The virtuality or possibility from which order emerges.

**Constructivism** A form of philosophy predicated upon the assumption that the human personality and human models of reality are constructed from information generated during the course of exploration.

**Cortisol** A hormone produced in response to uncertainty and stress, which causes neurophysiological damage when chronically produced.

**Evil** The act of doing harm for the express purpose of doing harm.

**Exploration** The voluntary act of transforming anomaly or unexplored territory into productive, explored territory through the analysis of its structure and the consequential transformation of presumption and action.

**Explored territory** that aspect of territory which has been mastered and rendered safe and productive.

**Hippocampus** A brain area devoted (1) to memory and (2) to the comparison of expected and desired outcomes of action to actual outcomes.

**Left Hemisphere** Half of the cerebral cortex, generally linguistic, and specialized for activity in explored territory.

**Order** Predictable or habitable human territory or conceptual space.

**Orienting reflex** an instinctual pattern of bodily and mental response to anomaly

**Reticular formation** a brain area responsible for increasing cortical arousal and associated consciousness.

**Right hemisphere** half of the cerebral cortex, generally non-linguistic, and specialized for activity in unexplored territory.

**Territory** The local space and time continuum in which an organism is inevitably embedded.

**Territoriality** The instinctive response of a creature to defend its social structure and environmental locale.

**Thalamus** A brain area which filters sensory information prior to its transmission to the cortex and its manifestation in consciousness.

**Totalitarianism** the attempt to impose a comprehensive ideological interpretation upon all phenomena, past, present, and future.

**Unexplored territory** that aspect of territory which has not yet been mastered and which thus remains both threatening and curiosity-provoking.

### Introduction: Atrocity for Its Own Sake

In the initial stages of World War II, in the Pacific theater, Dr. Hisato Yoshimura of the infamous 'Unit 731'

conducted a series of 'experiments' upon Chinese prisoners. This is the same Unit 731 that was established on the express order of Emperor Hirohito, and the same Dr. Yoshimura who was in 1978 (!) awarded one of the

Japanese nation's highest honors, *The order of the rising sun*, for his work in 'environmental adaptation science'. In one such 'experiment', a Chinese woman was shackled outside in subzero weather to a device like a stock that held her arms out in front of her, parallel to the ground, encircled by a restraining device that fit around her upper arms. The 'medical experimenter' poured freezing water over her extended arms until they were frozen solid, and then brought her into the 'laboratory' to then pour hot water (more than 50°C) over her frozen limbs. The process was then repeated until in front of the horrified victim's eyes her skin and musculature loosened and could be stripped off both arms to the bone leaving them bare and lifeless and useless and utterly terrifying to apprehend. This is only one of many tortures practiced by this 'investigative unit' and not necessarily the worst. Obviously, the point of such processes was the utter degradation, traumatization, and destruction of the victim's body and soul rather than any scientific knowledge that might be accrued thereby.

It should be pointed out that such events are by no means rare and also that there is little evidence that emotionless psychopaths are always or even most commonly the perpetrators. Furthermore, it is evident that the capacity for such atrocity does not seem simply limited to the members of any one or even several particular cultures. Rather, careful study of such phenomena indicates that the motivation for terrorism and atrocity is something central to the human condition and must be understood as such, rather than as mere aberration. It appears that innate and justifiable territoriality, common to men and animals alike, can combine under certain conditions with self-deception and existential resentment, both unique to human beings, producing motivation for terrorism and atrocity.

### **Territoriality: Inside the Walls Is Safe, Outside the Walls Is Dangerous**

Territoriality cannot be properly understood without careful re-conceptualization of the nature of emotional regulation among individual human beings. This re-conceptualization must include careful consideration of man as a truly social animal whose physical existence and whose psychological stability is dependent on maintenance of a predictable social environment. The most important neuropsychological work, relevant to this re-conceptualization and consideration, has been conducted over the last 50 years by Russian neuropsychologists, students of Aleksandr Luria. Their work is revolutionary, from an ontological and epistemological perspective, because it forces a comprehensive reconsideration of the modern view of anxiety.

Among Western experimental psychologists following Skinner, anxiety has most often been studied as fear which

is always fear of something particular. Such fear is learned, through simple association or conditioning. For the Western psychologist, satisfied complacency is the normative state, and fear constitutes the deviation. From the Russian perspective, this is precisely backwards. Anxiety is instead the *a priori* state, manifested axiomatically whenever a stimulus or situation appears whose features have not yet been mapped functionally by the cortex. Now, the idea of 'stimulus or situation', appropriate for the lab, appears somewhat too conceptually restricted to serve as the proper signifier in the present context. More generally, 'stimulus or situation' might be regarded as 'unknown territory' – the unmapped aspects of the space and time continuum in which the organism is continually embedded. It was O. S. Vinogradova and E. N. Sokolov who first described the orienting response or orienting reflex as the immediate and involuntary response of the organism to the emergence of novelty or anomaly – or unexplored territory.

Vinogradova, Sokolov and later Jeffrey Gray outlined the structures of a system centered in the hippocampus, an ancient part of the brain, central to the emotional-limbic system, so described by James Papez and Paul Maclean. In the West, under the influence of Scoville and Milner, the hippocampus has been regarded as a brain area primarily devoted to the movement of sensory information from short-term attention to long-term memory, in the human case, or as a 'cognitive mapping' device in the case of animals. Although there is no particular reason for assuming that the emotion-regulating and memory functions are by necessity exclusive, the tendency for territoriality characteristic even of human researchers has made irritation with the competing viewpoints rather than attempts to integrate across them (excepting the case of Gray) standard practice.

In 2001, shortly before her death, Vinogradova gave her final opinions on the function of the hippocampus and brain systems directly associated with it. She described the hippocampus as an interface between two neural systems: the first, in the brainstem, responsible for activating and deactivating more complex brain systems, emerging later in phylogenetic and ontogenetic history; the second, in the cortex, responsible for the regulation of thought, emotion, perception, and behavior as a consequence of learning. Sensory information streaming in from the outside world is fed in a bottom-up fashion through these ancient brainstem systems into the hippocampus, providing it with a quick-and-dirty picture of those events occurring in the territory currently occupied by the organism. At the same time information about what is supposed to be happening, according to current plans and desires, is being fed downward into the hippocampus where it is simplified and compared to the 'real-world' input from the brainstem. If the two inputs match, then the hippocampus sends a message to the raphe nuclei in the brainstem. This suppresses activity of the ascending,

excitatory reticular formation which is responsible, in general, for increasing brain arousal, heightening attention, increasing sensory throughput via the thalamus, placing the body in a state of alertness and preparation for action, disinhibiting anxiety, and potentiating exploration.

What this means is that the organism is only calm, habituated, free of stress, and well-adapted when cortical and brainstem input match, as computed by the hippocampus. Under such conditions, what is going on in the world as observed by basic rapid sensory processes matches what is supposed to be going on as a calculation of higher thought and presumption. When reality is manifesting itself in accord with the desires of the actor, negative emotion, particularly anxiety, remains well-regulated and controlled. This means that it is security and familiarity that is the learned, and anxiety that is the normative, default response to unknown territory. This fact has been demonstrated in various other manners by other researchers using different research paradigms.

In the Western psychological tradition familiarity is not learned, except most simply, through habituation, considered the simplest form of learning. It is instead assumed. When B. F. Skinner conditioned fear into his experimental rats, he had to set the stage, implicitly, in accordance with his model of learning. First, a lab rat was introduced into the experimental cage or container – known territory. Once that rat had habituated, he was presented with a conditioned stimulus, a light, for example, which was paired repeatedly with an unconditioned aversive stimulus, such as an electric shock or a loud and sudden noise, which when presented alone would make the rat freeze. This sequence of unexpected events demonstrated to the rat that he was not where he thought he was, at least when the light was on. Soon the rat would come to freeze to the light alone. Thus, according to Skinner, he had learned fear. What was of course glossed over was the fact that the rat would freeze immediately upon first introduction to the experimental cage or container and that he had to be left to get over his initial anxiety and explore before he was ‘habituated’ enough to learn fear. A rat’s *a priori* state in a novel environment is anxiety, heightened alertness, and a slowly developing inclination to explore, once its anxiety dissipates, as a consequence of activity in another ancient brain area, the hypothalamus.

## Territory Is Social

How then might the mapping of territory, so that emotional stability and familiarity might be established, be understood? In a nonverbal animal, such as a rat, the transition from anxiety and freezing in a new situation

to active exploration and mapping begins with cautious sniffing. Such exploratory sniffing emerges after the animal has been immobilized by fear, when it does not know where it is, and under the spell of brain systems designed to minimize potential exposure to predators. After sniffing the animal switches to vision, using appropriate head movements, and then dares to move its body through the territory, assessing layout and the motivational/emotional significance of that layout as something that occurs in response to its own actions. For an isolated rat in a simple cage ‘territory’ may be construed as something as simple as the spatial layout of the cage – hence the primarily ‘cognitive map’ or ‘spatial’ models of hippocampal function buttressed by findings that the hippocampus does in fact contain ‘place’ cells.

Other researchers, however, have made much of the ability of the hippocampus and closely related structures to enable ‘transitive associations’ – associations or relations between arbitrary stimuli – and have suggested that the place or location identification function of the hippocampus is actually identification of ‘context’. Context, which can mean place, can also mean ‘behavioral task demand’ or meaning of the place. A context or territory can be ‘a place to undertake some particular learned conception and action’ rather than a place to instinctually freeze or explore. Knowledge or memory of the appropriate learned conception and action inhibits the *a priori* instinctual responses. An animal – or a human being – is comfortable in those places where he knows how to act. Such places are successfully explored territory.

However, the observer should not be fooled into thinking that ‘territory’ is simply physical space or place. After all, most complex animals – rats and primates included – are social animals. What this means is that their territories are not mere material places made of relatively predictable objects and their interactions but complex and dynamic social dramas whose behaviorally associated contextual meanings are very much dependent on the reactions of potentially unpredictable conspecifics, familiar and strange. Once the complexities of social being are added into the equation the situation becomes somewhat more difficult to understand. Territory that is unoccupied by other creatures tends to be rather predictable under most circumstances. However, territory that is occupied by societies is characterized by the physical properties of the territory as well as the social structure of the society. That means that most of what is appropriate learned conception and action has to be negotiated with others. Thus, it is the establishment and maintenance of a social contract, implicit or explicit, that brings familiarity to territory. This of course means that any threats to the social contract are also simultaneously threats to the learned structures that inhibit or regulate terror.

## The Stranger Is Unpredictable and Terrifying

Most animals solve this problem by consorting, in the main, with a limited number of highly familiar peers whose potentially unpredictable behavior is strictly limited in its range by the strictures of the currently extant hierarchy of social dominance. Social dominance hierarchies are complex patterns of social behavior whose rule-like structure is encoded in the conceptual presumptions and behavioral rituals proscribed by each animal's relative standing and role. The sensitivity of social animals to the disruption of their dominance structures – their implicit social contracts – can hardly be overstated. It is for this reason that human beings who break traditional rules are naturally regarded as immoral, threatening, and deserving of punishment. Their rule-breaking actions threaten the integrity of the structures that underlie cooperative behavior, regulate social interactions, and allow for familiarity and predictability in a given place and time. Interlopers – strangers – offer equivalent threat. No one knows where they fit, what they think, or what they are likely to do. Thus, they threaten the integrity of the social and psychological structures that inhibit fear.

Even animals react violently to the unknown intruder, and it is for such reasons. If an experimenter removes a well-loved rat from its familial surroundings, washes it carefully, provides it with a new odor, and returns it to its peers, it will be promptly dispatched by those who once loved it. Rats determine familiarity by smell. The 'new' rat constitutes a threat to explored territory, physical and social – to everything secure. Chimpanzees act in much the same manner, and are perfectly capable of searching out and killing 'foreign devils', even if they were once familiar.

Why do such reactions occur? Well, a familiar conspecific's patterns of context-dependent behavior have been previously mapped and are additionally constrained and simplified by its particular placement in the dominance hierarchy and the 'rules' that govern behavior in that position. The cortex can thus render predictions about the outcomes of behaviors in interaction with that conspecific – can in fact strive with some success to ensure that those outcomes are positively beneficial. Those predictions/desires are very likely to match the sensory information about that conspecific's behavior as it is occurring and as it is fed, bottom up, into the hippocampus through the ancient brainstem systems. Under such conditions, the hippocampus registers 'match' and the arousal systems (anxiety, aggression, panic, and exploration) remain under tonic inhibition. No threat is detected. No unnerving possibility for damage manifests itself. No stressful disinhibition of anxiety and aggression is necessary. No increase in computational or allostatic

load, with its concomitant cascade of stress-induced physiological perturbation and damage, has occurred. An unfamiliar conspecific, by contrast, is unpredictable in his actions and something that presents a potential threat to the integrity of the entire dominance hierarchy structure, as his capacity for challenge and revolution remains unspecified. Familiar conspecifics are explored territory. Unfamiliar conspecifics are unexplored territory and evoke all the instinctual responses characteristic of reaction to the unknown, unexpected, and dangerous.

## Strange Ideas and Experiences Are Terrifying

Animals and human beings in social groups come to some shared implicit assumptions about the meaning of shared territory – about the nature of actions and reactions that are acceptable there. Any occurrences that violate those assumptions, whether they are natural or social events, threaten the integrity of the structure of the shared map of meaning that regulates emotional responding in that territory. In the human case, exposure to extreme anomaly or novelty or unexplored territory produces what Janoff-Bulman has called "shattered assumptions." Such assumptions might be considered the axioms of the representation system, negotiated socially, then used by the nervous system to interpret, predict, and shape the world. The most fundamental of these, according to Janoff-Bulman, are 'the world is safe' and 'I am a valuable asset in it'. These axioms correspond, respectively, to the stability and predictability of the social environment and the security of individual placement within it. The consequence of the violation of such by assumptions-shattering can be dramatic, neurophysiologically speaking. Individuals who suffer from post-traumatic stress disorder – and, indeed, from other forms of severe negative emotion – suffer hippocampal damage brought about by chronically elevated levels of the stress hormone cortisol. This means that the very system that regulates emotion is damaged by exposure to too much emotion (or by unexpected and assumption-shattering events). Elevated cortisol levels also increase propensity to a wide range of illnesses and degenerative conditions, including obesity, infectious illness, and heart disease. Recent research indicates that treatment with 'antidepressant' serotonin reuptake inhibitors – whose biochemical effect essentially mimics the pharmacological state characteristic of stable high-dominance animals – allows for hippocampal neurogenesis, as well as improvement in memory functions associated with the hippocampus.

Vinogradova's work sheds substantive light on what an 'assumption' might be from a neuropsychological perspective and allows, in potential, for a developmental description of the relationship between the development of such assumptions and their relationship to the tonic

inhibition of negative emotion. She points out that habituation of the orienting or novelty response should be regarded as negative learning and that the disappearance of that response is a consequence of the elaboration of an increasingly detailed world-model. This modeling occurs as a consequence of sequential learning in structures that receive outputs, sequentially, from the hippocampus. The higher up the chain of output from the hippocampus, the more sophisticated the brain area, and the more repetitions of the event necessary to shape the response. Vinogradova regards this sequential learning system “as a chain of integrators, where each one starts to respond only after reaction develops at the previous link, and as a delay line, preventing premature fixation of spurious, irrelevant, low probability signals.” She points out that the highest links in the system may be regarded as the “ultimate signal for information fixation” and presumes that these terminate in the language centers of the prefrontal cortex. Thus, what is fully understood and what inhibits anxiety most effectively is knowledge elaborated to the point of verbal comprehension and communicability.

The most fundamental assumptions in the hierarchy of belief or representation, derived from exploration, are precisely those that govern the essential, implicit rules of social interaction as Jean Piaget suggested in his seminal work on the development of morality in children and adolescents. It is these ‘rules’, after all, that specify the nature of shared social territory and are encoded to some degree in our explicit conceptions of intrinsic human rights. Disruption of these most fundamental presumptions – the breaking of rules observed in action, or justification for such rule-breaking, presented verbally – thus presents a threat to the validity of the knowledge structures whose physiological instantiation inhibits and controls negative emotion and its associated arousal responses. The magnitude of this threat corresponds in intensity to the level of analysis such disruption affects.

This means that the more fundamental the presumption threatened and the higher and more abstract the level in the sequential learning chain that presumption is instantiated, the more negative emotion will be disinhibited. It thus stands to reason that human societies with the most extreme explicit differences in opinion with regards to ‘intrinsic human right’ thus possess the most capability for mutual disruption of presumption and its attendant emotional regulation.

Predictability, consequential to the establishment of an implicit and then explicit social contract, inhibits terror. Threats to the integrity of that contract, behavioral or abstract, hint at unforeseeable terrors to come. Thus people, and animals, fight to preserve their familiar surroundings. So much for territoriality. The pathological exacerbation of territoriality by resentment, however, is a process much more difficult to accurately describe and understand. Thus, we have to turn our attention to forms

of cognitive representation represented earlier in the chain of integrators, so to speak, and attend to descriptions in art, mythology, and literature as well as hints available in the psychological literature.

### **Motivation for Aggression: The Strange Is Demonic and Should be Destroyed**

At about the same time that Sokolov and Vinogradova were outlining the gist of the orienting reflex theory, **George Kelly (1955)** was developing a model of human motivation predicated on the idea that human beings love, above all, to be right. We now know that to be threatened with evidence for error at fundamental levels of analysis is traumatic, we know why, and all this knowledge supports Kelly’s theorizing. Kelly also believed, however, that human beings were apt to repress or otherwise restrict the appearance of data that invalidated their conceptual models. These data might include actual human beings whose appearance and behavior speaks of the strange, or just the ideas of those human beings (which can certainly be more dangerous than the physical incarnations themselves).

Kelly entitled this tendency ‘hostility’, and regarded it as ‘extortion of confirmation’ (a particularly apt phrase reminiscent, e.g., of the incomprehensible insistence by Stalinist Soviet officials that their inevitably-to-be-punished-anyways victims ‘confess’ before being jailed or killed). He states: “. . . a major revision of one’s construct system can threaten with immediate change, or chaos, or anxiety. Thus it often seems better to extort confirmation of one’s opinion – and therefore of the system that produced them – rather than to risk the utter confusion of those moments of transition” (1969: 238). The desire to deny or to refuse to confront evidence of systemic error, described by Kelly, is something central to our notions of individual psychopathology. Investigation of this relationship is what begins to shed light on the contributions of resentment, cowardice, and hatred to the pathologizing of territoriality among human beings.

Kellyan ‘hostility’ is clearly a category that could be extended to include Freudian mechanisms of defense, the Adlerian life-lie, the inauthenticity of the existentialists, the Jungian failure to identify with the hero, or the rigidity characteristic of personality disorders. Perhaps we could extend such notions to the social realm and begin to speak of ‘social psychopathology’ – that is, the tendency to demonize evidence of conceptual insufficiency, or the bearers of that evidence, and to ‘morally’ attempt to eliminate it or them from existence. This seems something close to the essence of totalitarianism and the brutality with which it is always associated.

Elkhonen Goldberg – who is, not coincidentally, another student of Luria’s – has posited that the human

brain is divided into two subsystems, one of which deals with novelty and the other deals with familiarity. These subsystems are lateralized. In the right-handed individual, the right hemisphere, part of the system that generates negative emotion, preferentially deals with the unknown. It is fundamentally nonlinguistic in its operations which appear tightly associated with and even dependent upon the subcortical systems described previously, the amygdala and hippocampus. The left hemisphere, by contrast – part of the system that generates positive emotion – deals with what has been previously categorized and explored. Such things tend to become stateable in words, communicable to others. In keeping with such a suggestion, the left hemisphere system is linguistic in its essential nature. The linguistic system can think about things it understands in words (and, maybe, about things it only partially understands). The nonlinguistic system is stuck with the ineffable, however, and has to make sense out of what threatens the structure of familiarity itself.

The question then becomes, 'how does the mind begin to form representations of the events and situations (territories) that it does not yet understand, or has not yet mastered?' The answer seems to be found in the twin domains of motivation and emotion, in association with the cortical operations of the right hemisphere. If an event is unexpected, or unmapped, its potential meaning is initially processed by very rapid neurological systems. These systems assume that the unexpected or unmapped is, first, potentially fatal and then, if not fatal, intrinsically dangerous. In the latter case, it is likely to manifest innate threat features – bared teeth, low growling, predatory eyes, aggressive quick movements, blood, dismembered body parts, looming, etc. If it manifests none of these, then it is compared to frightening or threatening events in the personal past. If it matches none of these, then it may be considered either ignorable (unless it repeats) or worth exploring – now, or at some point in the future. This might be considered a form of associative thinking, something perhaps generated or motivated by the amygdala characteristic of the amygdala.

This means that the brain starts to make a model of the unknown event by assuming that it is like other unknown or threatening events and it does it under the influence of associative emotional systems. This means, in a sense, that the unknown occurrences are 'contaminated', *a priori*, with everything else that is dangerous or unpredictable and has to be carefully separated from such things in the course of exploration if such separation is deemed appropriate. The fact that such contamination does occur has been very clearly illustrated by Mircea Eliade in his work on basic religious ideation. Eliade states: "One of the outstanding characteristics of traditional societies is the opposition that they assume between their inhabited world and the unknown and indeterminate space that

surrounds it. The former is the world (more precisely, our world), the cosmos; everything outside it is no longer a cosmos but a sort of 'other world,' a foreign, chaotic space, peopled by ghosts, demons, 'foreigners' (who are assimilated to [undistinguished from, more accurately] the demons and the souls of the dead)."

More specifically, 'everything outside' occupies the same categorical space as chaos and disorder itself – often given the theriomorphized form of a terrible, predatory reptile lurking in an infinite darkness. This is likely because snakes/reptiles/predators and their features are innately terrifying, produce amygdalic responses, and may therefore be productively used as 'root metaphors' for the place of 'fear itself'. The ancient Egyptians regarded the Hyksos, 'barbarians', as equivalent to Apophis, the serpent who nightly devoured the sun, according to Egyptian mythology. The early Indo-Europeans equated the destruction of enemies in battle to the slaying of Vrtra, the precosmogonic 'dragon of chaos', by Indra, the world-creating hero. Finally, the archaic Iranians or Zoroastrians equated the mythic struggle of King Faridun (a culture-creating hero, analogous to Romulus or Remus, the mythic founders of Rome) against a foreign usurper (the dragon Azdahak) with the cosmogonic fight of the hero Thraetona against Azi Dahaka, the primordial serpent of chaos. The enemies of the Old Testament Hebrews suffer the same fate as the usurpers of Iran: they come to be regarded as equivalent to Rahab, or Leviathan, the serpent *Yabweb* overcame in his battle to establish the world ["Speak, and say, Thus saith the Lord GOD; Behold, I am against thee, Pharaoh king of Egypt, the great dragon that lieth in the midst of his rivers, which hath said, My river is mine own, and I have made it for myself" (Ezekiel 29:3); also, "Nebuchadrezzar the king of Babylon hath devoured me, he hath crushed me, he hath made me an empty vessel, he hath swallowed me up like a dragon, he hath filled his belly with my delicates, he hath cast me out" (Jeremiah 51:34).] What this all means is that any encounter with what is not understood – stranger, strange idea, strange occurrence – immediately evokes memories, perceptual schemes, and action patterns designed to deal with the horrifying, unacceptable, reptilian, predatory, and immoral.

### Temperamental and Personality Variables in Unexplored Territory

Everyone is implicitly primed to be afraid of the unknown. It is logical to implicitly fear strangers, strange ideas, and strange occurrences because their meanings are unspecified and potentially dangerous. However, everyone does not respond to manifestations of the unknown in

exactly the same manner. What is feared may also be hated and targeted for extortion or destruction. Under some circumstances, this makes the unknown vanish, at least temporarily – although it may fight back, particularly in the form of unknown people, and this can make the potentially threatening exceedingly dangerous. What is unknown may also be explored, however, after fear begins to disappear – in which case additional and potentially redemptive information may be garnered. This is, generally speaking, a useful response, if successful – in that the acquisition of additional information is generally useful from the perspective of personality expansion. More exploration means more ways of looking at the world, and more behavioral strategies at hand. What is it that determines whether the unknown is made subject to hostility or exploration?

Social factors certainly play a role. As desired or necessary resources and opportunities for the acquisition of status become increasingly limited, the overall allostatic load on the organism increases, and the incremental costs of being thrust into novel social territory loom larger and larger. Thus, social instability – structural and unjust inequality of opportunity, unemployment, fiscal uncertainty – increases the probability that the bearer of unknown customs and ideas will be demonized and persecuted. However, individual differences in character must also play a determining role. These differences might be regarded as habitual responses to the unknown, and some of them are a consequence of experience – are learned.

### **Exacerbation of Territoriality through Aversion and Hostility to the Unknown**

Anything unknown can simply be avoided. In the short term, this simply makes the problem go away, or never even appear. Two strategies of avoidance appear most effective. The first is simple, and behavioral. Threats to the integrity of current territory, physical, social, and abstract, can merely be not encountered. Individuals who restrict their territory to very narrow parameters engage in this form of avoidance. They simply never put themselves voluntarily into a situation where they would have to do, think, or experience anything new. This keeps them safe – but poorly differentiated, inexperienced, fragile, and bored.

The second strategy of avoidance is more abstract. If the limited actions and experiences characteristic of those who employ behavioral strategies of avoidance still produce unexpected events, they can still merely ‘refuse to engage in thinking about those events’. This does not mean that they repress them, in the classic sense, but that they merely will not engage in the effortful process that allows anomalous information to be fully processed, up the chain of integrators described by Vinogradova, such that new

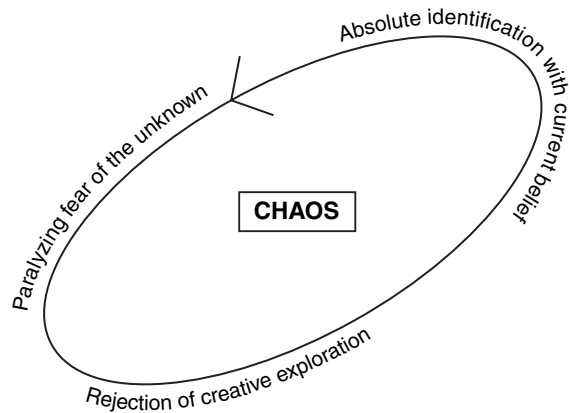
behavioral patterns and modes of perception might be established. Thus, all novel experience remains associated *a priori* with all things intrinsically and experientially terrifying and strange – and such things collect.

Avoidance, in its two primary forms, means voluntary failure to update the framework guiding ongoing action, in consequence of desire to avoid uncertainty and fear. Unfortunately, such failure means existence in an ever-narrower frame. The domain of unprocessed novelty, defined *prima facie* by inaction and avoidance as ‘threat too intolerable to face’ expands inevitably with time when past knowledge is held as absolute. This is most simply because things constant in the past tend to change into variables as the future advances. More and more experience is therefore left intolerable, inexplicable, and chaotic as the cumulative effects of using avoidance as a mode of adaptation manifest themselves.

Edwardes and Masters offer an interesting although perhaps mythological anecdote: “The Marabout [a West African Islamic spiritual leader] draws a large circle in the dirt, which represents the world. He places a scorpion, symbolic of man, inside the circle. The scorpion, believing it has achieved freedom, starts to run around the circle – but never attempts to go outside. After the scorpion has raced several times around the inside edge of the circle, the Marabout lowers his stick and divides the circle in half. The scorpion stops for a few seconds, then begins to run faster and faster, apparently looking for a way out, but never finding it. Strangely enough, the scorpion does not dare to cross over the line. After a few minutes, the Marabout divides the half circle. The scorpion becomes frantic. Soon the Marabout makes a space no bigger than the scorpion’s body. This is ‘the moment of truth.’ The scorpion, dazed and bewildered, finds itself unable to move one way or another. Raising its venomous tail, the scorpion turns rapidly ‘round and ‘round in a veritable frenzy. Whirling, whirling, whirling until all of its spirit and energy are spent. In utter hopelessness the scorpion stops, lowers the poisonous point of its tail, and stings itself to death. Its torment is ended” (Edwardes and Masters 1963: 128).

The individual who lives in such a manner places himself in a spiraling process of entrapment (see [Figure 1](#)). His avoidance means that he is never called upon to master new territory. In consequence, his domain of mastery and confidence cannot grow. Furthermore, as what was once explored turns inevitably into something new, as the future advances, the ground on which he stands shrinks and more and more of the world surrounding him becomes chaotic and intolerable. Finally, his capacity for exploration diminishes as he refuses to engage in the process and cuts himself off from experiencing any of its potential benefits while his faith in that capacity diminishes in the same manner. At some point, he becomes both narrow and weak. Everything around him becomes unbearable and he can see no way out. Such conditions are optimal for the





**Figure 1** The vicious circle of the adversary. This figure presents what might be regarded as the constituent elements of a mythological 'journey to the underworld'. Totalitarian absolutism, rejection of the process of creative exploration, and consequent paralyzing fear of the unknown are viewed here as interacting parts of a process that inevitably produces dysregulation of individual emotion and increases meaningless suffering. This cycle produces an individual 'inhabitant of chaos' who is easily led to acts of resentment-motivated hatred. The 'adversary' is here conceptualized as the 'archetypal' and omnipresent enemy of courageous and creative thinking.

development of the kind of murderous resentment that makes something truly pathological out of what started as mere desire to protect known territory. We can turn to mythology again, at this point, to try to obtain some sort of understanding of what conditions and states of mind such a looping process produces.

The poet John Milton described the "vicious circle" created by the obedient/avoidant individual as spiraling down inevitably to a kind of hellish underworld of emotion:

Him the Almighty Power  
Hurled headlong flaming from the ethereal Sky  
With hideous ruin and combustion down  
To bottomless perdition, there to dwell  
In Adamantine Chains and penal Fire. (Milton, 1667/  
1991: 38, part 1:44–48)

Milton argued that it was precisely the failure to admit to error, and to rectify the consequences of that error, that placed Satan, symbol of totalizing rationality, "As far removed from God and light of Heaven/As from the center thrice to the utmost pole" (Milton, 1667/1961: 38, 1:54–1:74). He argued further that voluntary admission of inadequacy and guilt would have been sufficient for redemption. But "obdurate pride" and arrogance, associated inextricably with the tendency to refuse to accept error and accept ignorance, made such admission impossible. Totalitarian refusal to develop new skill and new modes of conceptualization when confronted with error makes life increasingly miserable. Individuals who are increasingly miserable become increasingly vicious,

resentful, and full of hate. Such hate, in extreme forms, comes to be expressed in implicit identity with the source of archetypal evil, and is played out in active and often conscious revenge against the conditions of existence:

- for whence  
But from the author of all ill could spring  
So deep a malice, to confound the race  
Of mankind in one root, and Earth with Hell  
To mingle and involve, done all to spite  
The great Creator? (Milton, 1667/1991: 71, part 2:  
380–385)

What is the logical response of a victim to a terrible and unreasonable world apparently bent on his suffering and destruction? Hatred, contempt, and violence – and not because the manifestation of these motivations is going to do him any good. The fully resentful victim is perfectly willing to destroy himself while exacting revenge. The vengeful response to the injustice of existence is even more fitting, more esthetically pleasing, if it is just as damaging to the perpetrator as it is to the victim. That way the revenge on Mankind and Being is more complete. It is for such reasons that the two teenage killers at the Columbine high school, for example, killed themselves. It was certainly not for fear of post-crime imprisonment. The killers made their statement, and their own violent deaths merely drove the message home. Most investigators of the Columbine killings claimed that they could not understand the boys' motivations. They could understand them. They just did not want to. Eric Harris, the most literate of the pair, explained himself as clearly as he could: "I hate the fucking world. Kill mankind. No one should survive. . . . I will sooner die than betray my own thoughts, but before I leave this worthless place, I will kill whoever I deem unfit." Milton captured such motivation perfectly:

Farewell happy Fields  
Where Joy for ever dwells:  
Hail horrors, hail  
Infernal world, and thou profoundest Hell  
Receive thy new possessor – one who brings  
A mind not to be changed by place or time. (Milton,  
1667/1961: 44, 1:249–1:253)

If this seems too literary, and not sufficiently psychological, try to otherwise make sense of the following diary entry made by Harris just the day before his mass murder and suicide: "About 26.5 hours from now the judgment will begin. Difficult but not impossible, necessary, nerve-racking and fun. What fun is life without a little death? *It's interesting, when I'm in my human form, knowing I'm going to die.* Everything has a touch of triviality to it." Harris transformed himself, voluntarily, into the embodiment

of the archetype of evil, into Satan himself, into Cain, murderer of his innocent brother, motivated by the following principle Goethe expresses:

The spirit I, that endlessly denies.  
And rightly, too; for all that comes to birth  
Is fit for overthrow, as nothing worth;  
Wherefore the world were better sterilized;  
Thus all that's here as Evil recognized  
Is gain to me, and downfall, ruin, sin  
The very element I prosper in. (Goethe, 1832/1979: 75)

The human desire to 'be right, above all' – to presume personal omniscience – produces a state of being antithetically opposed to the process of exploration and the expansion of life and characterized by increasing environmental maladaptation and suffering. This is the process that was represented mythologically by Milton as the heavenly insurrection of Lucifer, the light of rationality, motivated by the desire to be placed above God in the "spiritual hierarchy" – motivated by the desire to assume complete knowledge. The suffering produced by such a totalitarian attitude breeds resentment and the desire for revenge. Vengeful desire and resentment broods, patiently, waiting for a forum of risk-free manifestation. When patriotism calls for brutality – during the 'call to war', for example – the individual is well-prepared. He can torment the 'enemies of the state', hide behind a mask of admirable social conformity – even bravery – and fulfill his darkest fantasies (Mayakovsky, in Solzhenitsyn, 1973: 41):

With cohesion, construction, grit and repression  
Wring the neck of this gang run riot!

Thus the existential cowardice of the individual pathologically increases the danger of the intrinsic and necessary territoriality of the species – and atrocities committed 'in the name of the state' constantly and permanently threaten both human self-regard and the likelihood of long-term human survival.

### **Reduction of Territoriality through Expansion of Individual Competence**

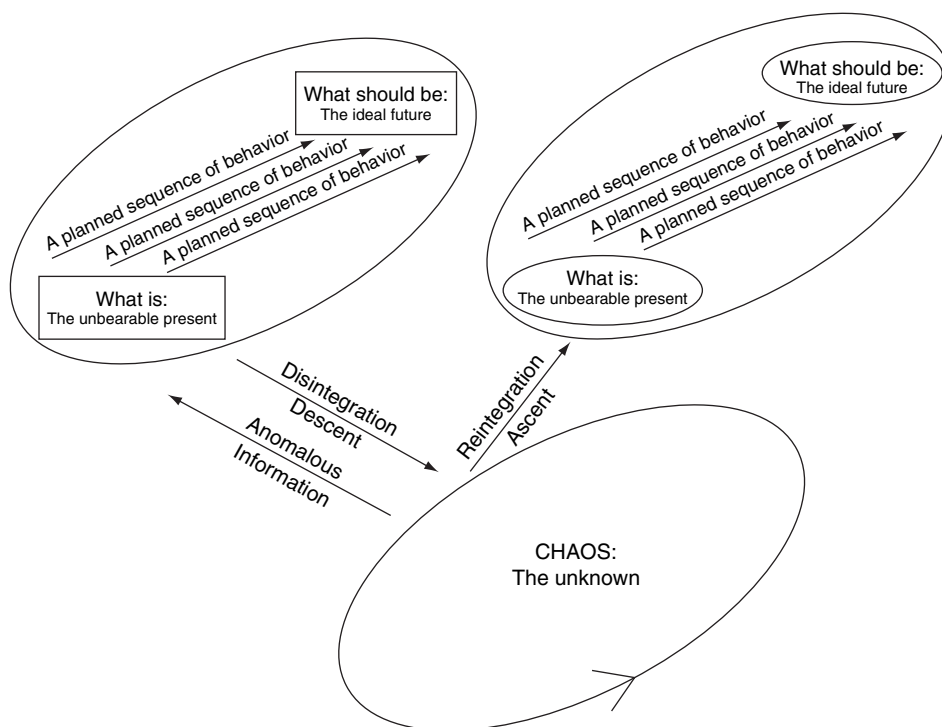
Is there an alternative, given that the unknown and unexplored is threatening and dangerous? The developmental psychologist Jean Piaget, who adopted a constructivist stance with regards to the development of personality, presumed in essence that individual character was formulated as a consequence of the assimilation of information from the experiential world and subsequent accommodation of the structure of the organism to that experience. This might be best understood as pattern to pattern matching. The simplest organisms and the youngest human beings map the patterns of the environment

directly onto patterns of action, changing their capacity for action. Perception may be changed in this manner, as well. New information gathered in the course of error-motivated exploration changes the structure of the systems that perceive the outcome of such exploration, as well as altering sensorimotor patterns at lower levels of the sensorimotor system. What this means, essentially, is that the organism builds itself out of the information that it gathers in the course of active exploration (and that such information is derived from the plenitude of patterns available for analysis in the world of experience).

Thus, organisms that explore freely are more sophisticated, both with regard to the motor output strategies that they might employ in a given situation and the perceptual strategies or frames that they might use to construe the situation (and that serve as a guide to security, resource acquisition, and further exploration for information). This means that they have more means at their disposal to turn unexpected occurrences to their own advantage and to experience delight in what has not yet been mapped, instead of terror. Such individuals learn to positively appreciate the vicissitudes of life rather than hiding their light underneath a bushel.

A vast clinical literature attests to the fact that voluntary exposure to things and situations that elicit anxiety and other forms of negative emotion is curative. Individuals need work to extend the boundaries of the frames that regulate their social existence, structure their goals, and modulate their emotion as well as merely maintaining those frames. New territories, new sources of anomalous information – which threaten the structures that inhibit terror – can be confronted and mined for significance. This means voluntary tolerance of an interim period of anxiety, followed by re-establishment of stability, in an enhanced form (see **Figure 2**). This pattern of voluntary frame transformation has been conceptualized, simply, as 'steady state, breach, crisis, redress' (and is central to complex narrative – mythology – itself). This is a hero myth, fundamentally: voluntary encounter with the terrible, redemptive unknown, the dragon of chaos; death of the current personality, followed by rebirth. The same pattern underlies archaic rites of initiation, processes of theoretical transformation, and more abstract religious systems of thought, such as Christianity or Buddhism. The great rituals, dramas, and religions of mankind – our most profound narratives and proto-narratives – are erected upon the (meta)story of 'paradise, encounter with chaos, fall, and redemption'.

Individuals who explore when neither their actions nor their perceptions produce the desired outcome become, simultaneously, more differentiated and more unified as they gather more information and transform it into conception and skill. Thus, they are less threatened by anomalous occurrences as their range of apprehension and response widens. This means that



**Figure 2** The ‘meta-frame’: transformation of the simple frame. This figure portrays the dissolution and regeneration of a stable frame. Sufficiently anomalous information can undermine not only the means to an end, but the end itself. Such disruption produces emotional dysregulation as the stable meaning attributed to events in the course of normal goal-directed behavior disappears and is replaced by more global and negative emotion (consequent to the ‘renovelization’ of previously categorized experience). The re-emergent frame – which will only emerge as a consequence of voluntary exploratory behavior – should be more ‘complete’ than the frame it replaces as it ‘consists’ of the constituent elements of the previous frame ‘integrated’ with the information exploration of the anomalous occurrence generated. The re-emergent frame should be more stable – that is, less easily disrupted by ongoing events (since it now accounts for an additional possibility: that is, the previously destructive anomaly). The re-establishment of a new frame might be considered another ‘stage’ in cognitive development.

individuals who admit to the limitations of their territory and constantly work voluntarily to overcome those limitations are healthier, more competent, and much less likely to adopt rigid, self-defensively aggressive, or absolutely hostile stances toward what they do not yet understand.

### Conclusion

The territory that human beings inhabit is physical and concrete, but it is also social and abstract. The meaning of things and situations is stabilized by the implicit social contract that governs actions and perceptions in their presence. Strange occurrences, strange people, and strange ideas may threaten the integrity of the social contract that constitutes territory, and undermine and terrify the individuals who utilize knowledge of that contract and its associated meanings to stabilize their emotions. Thus, the threat from the strange may be met with fear and with force.

Habitual individual response to the unknown can modulate the nature of such threat. Those who chronically shrink from anything unexpected cease to expand their territories of competence, and lose faith in their ability to prevail. In addition, they become increasingly maladapted, as things they take for granted change uncontrollably around them. This makes them increasingly resentful about the nature of life itself and increasingly likely to take revenge. Those who chronically explore in the face of uncertainty, by contrast, expand their domains of confidence and increase their faith in their individual abilities. This makes exposure to the strange less threatening – even welcome. Such individuals have something to rely on beyond certainty and do not have to bristle with anger and resentment every time their current beliefs are challenged.

See also: Alliance Systems; Arms Production, Economics of; Chemical and Biological Warfare; Civil Society; Conscientious Objection, Ethics of; Cooperation, Competition, and Conflict; Criminology, Overview

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**Nobel Peace Prize** See Peace Prizes

**Nongovernmental Actors in International Politics**

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Introduction – The Variety of Issues and Organizations  
 The Growth and Influence of Environmental and  
 Development Nongovernmental Organizations

The Functions of Environmental Nongovernmental  
 Organizations  
 Further Reading

**Glossary**

**Biological Diversity (or Biodiversity)** The full variety of organisms, including plants and animals, genetic variation within species, and diversity of ecosystems.

**Civil Society** The term used to denote a whole array of organized voluntary or community efforts, sometimes used interchangeably with nongovernmental organizations or efforts.

**Global Warming** The trend of increasing temperatures on the Earth’s surface and in the lower atmosphere, caused by the entrapment of heat due to the accumulation of certain gases, mainly carbon dioxide.

**Ozone Layer** A protective concentration of ozone in the stratosphere, between 9.3 and 31 miles above the Earth, depending on the season and other factors.

**Introduction – The Variety of Issues and Organizations**

One of the most astonishing current developments in world affairs is the growing effectiveness of no state actors in international politics. Only national governments can be parties to treaties, of course, but no state entities play a role at many other levels. They come in different forms. There are international organizations such as the World Bank and regional interstate organizations like North Atlantic Treaty Organisations (NATO), the European Union, and the Organization of American States, which take part in security, trade, and peace negotiations as participating entities, even

while individual member governments pursue their own particular agendas. Substates – that is, provinces, states, and even municipalities – may pursue their own foreign policies declaring nuclear-free zones and offering development assistance, commerce, and cultural exchanges with sister cities. Some individual states – such as California, whose economy is bigger than that of all but a handful of the United States’ major trading partners – have sufficient leverage to foster their own trade deals. Cities from many parts of the world have organized together for the purpose of making an impact on major negotiations or UN Conferences on Habitat, or the Environment and Development.

Business and industry, which in past generations, have pursued their international interests solely through their governments, now come to negotiations as independent players – to represent their company’s interests or as expert

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