THE SURREALISM OF CATASTROPHE: PSYCHOLOGICAL REFLECTIONS ON SEPTEMBER 11

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Four things struck me as particularly psychologically interesting during and after the catastrophic events in New York on September 11. The first was the sense of surrealistic impossibility that accompanied each repeated viewing of the conflagration and subsequent collapse of the World Trade Center Towers. The second was the insistence by multiple commenting journalists that the individuals who undertook such acts had to be extraordinarily well trained, financed and organized. The third was the tendency for everyone to feel that his or her normal day-to-day activities were somehow rendered trivial or even useless in the few days following exposure to the disaster. The fourth and final was the increase in general kindness, understanding and empathy that appeared in the aftermath of the terrorist attacks. All of these phenomena are closely related, despite their apparent differences. A reasonably complete description of their nature can lead us to consider human emotion and thought in a manner that also helps illuminate the very essence of motivation for atrocity.

"It was like watching a movie": Why was repeated viewing of the destruction in New York that paradoxical combination of frightening, compelling, and unbelievable? How is it that a perceived event can provoke a need for such repetition? After all, the events unfold, objectively, in the same manner that other, more mundane events reveal themselves. There was nothing unnatural about what occurred in New York. We all know that buildings can collapse (and, indeed, have seen such things happening, in other contexts). We know that people can be vicious and cruel, and had prior warnings about the possibility of such attacks – even in New York (even on the Trade Towers themselves). So why was the event so surreal? The answer to such a question, perhaps surprisingly, cannot be generated without radical reconsideration of notions as basic as our very concept of object.

It is common knowledge that the world is made up of objects, extant in and of themselves, segregated from one another, independent of any perceiving agent. There are trees, and rocks, and automobiles, and elephants, whether or not anyone happens to be looking at them. In the absence of a conscious perceiver, the earth would still circle the sun, and the universe would continue to unfold in whatever

manner it happens to be doing so. Objects and events are obviously independent of the perceiver.

But this "common knowledge" is simply not valid, at least not in any straightforward way – and the sense of surrealism that surrounds events such as those of September 11 help reveals that lack of validity. The world does not come pre-parsed into conveniently perceivable things and sequences. This is perhaps the most important discovery of modern psychology, of modern investigations into artificial intelligence. The difficulty of perception in any natural environment is called "the frame problem." Any finite number of phenomena can be classified in a virtually infinite number of ways. And it is precisely because this frame problem is as of yet unsolved that we do not have general purpose – "household," if you will – robots, mechanical slaves. No computer is yet intelligent enough to perform in the real world.

Perception is an unbelievably complex process. The boundary between an object, the parts that make up that object, and the context in which that object rests are not fixed, in any easily definable manner. Consider the following hypothetical sequence. You are sitting at a computer, typing – enmeshed in a limited world, consisting for the present of the words on your computer screen, and the keyboard upon which you are typing. Suddenly, the screen goes blank. What happened? Your world of apprehension expands. Negative emotion emerges. What the hell is going on? The computer itself, rather than its screen, becomes an object of particular attention, as you check the hypothesis of a mechanical malfunction. You turn the computer's power switch on and off, and check the wiring. Is there a loose connection? Has one of the mysterious components of the computer burned out? Can you smell overheated circuitry? No….

You flip the switch for the ceiling light, so that you can see what you are doing. But no light appears. Aha! You burned out a fuse. Your world expands, once again, to include the mechanics of the household wiring. You walk to the fuse box, and investigate it thoroughly. But nothing seems wrong. The mystery grows. You decide to hike down to the corner store, to pick up a pack of cigarettes, so you can smoke, while you consider the situation. You step out the door. Traffic is all snarled up, down the street. The traffic lights don't seem to be working. The neon sign on the corner store is not lit up. Aha! The power itself is out. And then you read next day that a sun storm, ninety three million miles away, produced an immense solar wind, intense enough to knock out the whole electrical grid. But even that does not make you truly understand that you could not perceive your computer as a discriminable object in the absence of the stability of the sun.

And that is a little parable about the events of New York. Like it or not, we revolve around the US. We are the West, not the world, and the America is at our forefront. Brash, extraverted, confident, careless. Times Square looks like a gigantic adolescent's bedroom. Loud, colorful, building-sized posters everywhere. You can buy spray cheese right off the shelf. Every tourist in Washington looks like an over-inflated ten year old. T-shirts, advertising slogans, sports socks, beer bellies and over-engineered Nikes – the running shoe equivalent of the Mercedes Benz. What a country.

And we could hardly be so peaceful and reasonable and capable of our tepid multiculturalism if our hot-headed but somewhat dim brother wasn't there to back us up – to smack the Nazis, once and for all, to keep the Chinks at bay, to crush the Ruskies with 50 years of intense but enjoyable consumption, to stomp around the world like a clubfooted and over-friendly Irish Setter, policing everybody silly on the one hand, and making the world safe for McDonald's and Burger King on the other. And all the European Gitane-smoking pseudo-intellectuals dressed in black and all the Canadian uncloseted but still desperately hopeful socialists have the same contempt for this omnivorous mall food fair culture that unpopular high school computer geeks have for the captain of the football team and his oh my god they better be brainless because otherwise it would be just too unfair henchmen and cronies.

A human being is a low power processor. High-end estimates for the contents of working consciousness put our capacity at 2.5 bits. Yes No 0 1 this way that way only two and a half times. George Miller wrote a famous paper in 1956 entitled The Magical Number Seven: Some Limits on Our Capacity for Processing Information. It began in the following manner, audacious and presumptious for the pages of a sober scientific journal: "My problem is that I have been persecuted by an integer. For seven years this number has followed me around, has intruded in my most private data, and has assaulted me from the pages of our most public journals. This number assumes a variety of disguises, being sometimes a little larger and sometimes a little smaller than usual, but never changing so much as to be unrecognizable. The persistence with which this number plagues me is far more than a random accident. There is, to quote a famous senator, a design behind it, some pattern governing its appearances. Either there really is something unusual about the number or else I am suffering from delusions of persecution."

Dr. Miller reviewed evidence suggesting that we cannot reliably learn to rank order more than five or six tones, differing in pitch or in volume. We cannot make more than six reliable discriminations for taste intensity. There is a "span of absolute judgment" that can distinguish about seven categories. There is a "span of attention" that can encompass about six objects. Furthermore, our capacity for

immediate memory is about seven items (the length, non-coincidentally, of a telephone number, before the recent introduction of the necessity for dialing the area code – an innovation which exceeds the grasp of our apparent intelligence). So if we are so damn dumb, how is that we can be so remarkably clever?

It should be noted, parenthetically, that we really are the only animals that can think. We only diverged from the chimpanzee some few millions of years ago. Whatever genetic shift made us whatever we are was in all likelihood relatively trivial (although its cumulative impact was great). We have got a long way with little. It's the power of compound interest. A little capacity for thought multiplies, exponentially, down the generations, for hundreds of thousands of years – maybe millions. Some people think that chimps have rudimentary cultures, because the behaviors of chimp groups vary somewhat by geographical locale. More likely they differ, subtly, because their environments differ subtly – and they are bound by their environments. If chimps had the ability for culture – even the rudimentary ability – wouldn't that ability necessarily compound, over millions of years? And wouldn't the chimps therefore be living in cities?

Anyway: Dr. Miller's solution was simple, although somewhat inelegantly phrased: human beings "chunk." The too-complex-to-easily-remember digit sequence 1000000000 becomes the single utterance "billion." So we remember "billion" instead of one zero zero zero zero etc. Each "chunk" is a low-resolution representation of a more complex (much more complex) higher-resolution underlying reality. We recode high-resolution information into low-resolution representation. Then, if necessary, we unpack the code. But unpacking takes effort, and causes trouble. So we only do it when necessary? When is it necessary?

Let's hit this from another angle. Recently, two psychologists, Charles S. Carver and Michael F. Scheier (On the Self-Regulation of Behavior, New York: Cambridge University Press) have offered a tentative, engineering-based solution to the age-old "mind-body" problem (although they do not present their ideas as such). They describe abstractions (so, elements of thought or mind) as composed of sequentially nested hierarchies: at the top of this hierarchy is an ideal – the "idealized self-image," in their psychological terminology. This idealized self-image is composed, in turn, of "chunked" principles, such as "be kind," or "be thoughtful," or "be assertive." Now, in theory – at least when Miller's ideas are combined with Carver & Scheier's – the contents of the idealized self-image have to be homogeneous, at least with regards to some finite set of operations (because "homogeneity" is always defined by context). To be ideal is to simultaneously be kind, thoughtful and assertive, so that the ideal can come to reasonably stand for the multiplicity of principles it represents. (If the contents of a category are not homogeneous, all the elements within the category cannot be

chunked. All the elements are not the "same." More accurately, all the elements do not behave in the same manner, when utilized).

Below principles are "programs" – higher resolution, less general: "be kind" means "make dinner for spouse," or "pat children on the head before dropping them off at school," while "be assertive" means "do not take on unpaid overtime at work," and "speak sharply to the rude bus driver when insulted." The rule of homogeneity also applies here: you are *not* kind (and cannot therefore simply refer to or treat yourself as such) if you smack undeserving kids before school and refuse to make dinner (no matter how many little old ladies you help across the street).

Beneath programs (and here abstraction turns into embodiment; here the mind turns into the body) are *movement sequences*. A movement sequence is "move arm back and forth while holding knife" (while cutting bread while making dinner while being kind while embodying an ideal). Movement sequences become automatized, with practice. Below the movement sequence, you can't think anymore. You can't think the operations of single muscle cells (and even if you could, you certainly can't think intracellular operations). So mind turns into body somewhere at or below the movement sequence level. And one of the things that such theory implies is that concepts are made of actions, of implications of actions, or of implications for actions – rather than objects, or groups of objects. (I have explained this idea in great detail in a book called Maps of Meaning: The Architecture of Belief, New York: Routledge).

Let's push this a bit. Let's push it in a Darwinian and a pragmatic direction. Let's first say something like this. The world is complex beyond understanding. Every single context, every room, every "environment" is so jam packed with information that it presents a formally insoluble problem: to what of all these possibilities (these myriad "objects") should attention possibly be devoted? But we don't care about accurate object perception. We care about survival – right? Since Darwin, right! – and, let's be honest about it, reproduction, or at least the opportunity to engage in those activities so troublesomely linked with reproduction. So we care a lot more about *useful* or *dangerous* objects than about objects. In fact, we care so much about *useful* or *dangerous* that the very concept of object is secondary: we first see danger when we see something new and, only later, do we see object. In fact, our brain is set up so that we can jump spontaneously into the air when we are surprised by the unexpected long before (on the scale of microseconds) we have any formalizable idea about what "object" made us jump. We leap away from a "maybe snake" before we see or think the percept or concept "snake." And this is not merely theory.

Joseph LeDoux (The Emotional Brain, New York: Touchstone) has elegantly laid out the brain circuitry involved in this process. The amygdala, an almond-

shaped sub-organ deep in the human "reptilian" sub-brain, receives barely-processed sensory input from brain areas separated from "direct perception" (whatever that is) by nothing more than a few neural connections, as well as receiving more developed input from higher-order "mammalian" brain areas, capable of much more detailed processing. But you don't want high-order processing, if something leaps at you in the dark. It takes too much time. Prey that spends too much time thinking is lunch – and sometimes half a second is a quarter second too long. You want quick and dirty processing – and the low level amygdalic inputs yell "monster" like nothing else. So, logically – from the Darwinian perspective, at least – we see "danger" before we see "object." And, from the perspective of pure pragmatism, we carve out "useful" from "danger." We take danger, subject it to higher-order, complex, effortful, time-consuming processing. We separate out identifiable danger from general threat. We parse out what is ignorable – and we steal from danger what is useful and productive. Remember: things are not what they seem. First things are danger, then they are object. First danger, then object.

Now, let's put some of these ideas together. We are limited capacity processors. We chunk homogeneous concepts together, to make higher-order, low-resolution concepts. Most of what we process is information that is not so much object-based as utility-based. We want to know what can be usefully extracted from the infinitely complex and potentially dangerous environments that we inhabit. We ignore almost everything – everything that can be treated as irrelevant for the purposes of our current activities. Everything not ignorable – that is, everything useful or specifically dangerous – we simplify and model, so that we can understand it. When we start our car in the morning, we pay attention to the road, and not to the myriad of smoothly operating and therefore invisible mechanical components whose continued function constitutes a precondition for our movement. We only unpack the simplifying code that makes up our perception when it becomes necessary. We only become aware of the complex, messy and inelegant systems that make up a motor when the car no longer runs. We only unpack the concept "car" when a system failure emerges. The unexpected makes unpacking necessary.

It is when something goes wrong, that we become conscious. When something goes wrong, the invisible presuppositions underlying our security – underlying our very being – reveal themselves. Upon what does the meaning of our day-to-day lives depend? Question: Upon what is our identity – beyond even our individual, ideal selves – predicated?

Answer: upon an invisible hierarchy of certainty, composed of ignorable constants, the existence of which we might not even imagine. The complexity of the world is nested inside our concepts. A socio-economic crisis can knock out a

computer, after all, just as surely as a solar storm. The stability of our electrical power grid depends on the provision of a never-ending stream of money, engineers and spare parts; upon a stable government, a well-trained work force, and the technology to make millions of high-precision parts in thousands of places around the developed world. What good is complex technology in a third world country, where ownership is never certain, and where the power only operates for an hour a day? A computer cannot even exist there, as a truly discriminable object. The level of perceptual resolution that a computer demands for its existence is simply not realistic in such an environment. Too many constants – that is, first-world constants – are still variables, in the underdeveloped world.

When something novel reveals itself – that is, when the complexity that underlies our simplified conceptual universes unexpectedly manifests itself – our first perception is not object, but danger. But how should danger be perceived? How should the unexpected be transformed and simplified into irrelevance and function? In most cases, three-quarters of a second's worth of increasingly voluntary processing provides an answer. That shifting object in your car's path on the freeway is nothing more than an empty garbage bag. That sudden laugh behind you on a dark night is nothing more than a group of teenagers enjoying a stupid joke. But what of those chest pains you are currently experiencing? Perceive those, if you can. What of that unexpected pregnancy, or that new and difficult-to-please boss? How are these complex objects to be transformed from danger to utility (and irrelevance)? Who knows? In many situations, the process of perception is far from automatic. It is no easy matter to see something you have never seen before. When your world tips far enough, it is impossible to determine on first glance – or on second, or on third – just what has changed, and what has not. When your invisible presumptions are challenged, the very nature of real changes. How is it possible to see the World Trade Centers fall? We all know the terrorists picked a "symbolic" target. Symbolic of what? Of the territorial security of the west? Of our vaunted material stability? Of the integrity of our constitution? Of the power and strength of our military? Of the utility of our future plans, and of the interpretations we set forth of our past? So what exactly are we supposed to be seeing in those few seconds of dramatic architectural collapse? No one knows. And that means even weeks later that the job of perceiving the Trade Towers' collapse has barely begun. Our invisible, chunked presuppositions have been disrupted, and the manner in which the new world will reveal itself has not yet been determined.

The surrealism of trauma is the felt sense of discontinuity between a well-handled and functional map, and the newly revealed territory it no longer represents. What is the new map? Cartographers for that job have not yet arrived. That history has not yet been played out. We lay out a quick theory of evil against

good, but we are all really still living in the gap between what we understand and what currently is. Surrealism is perception of the felt but not yet realized. May you live in interesting times, runs the old Chinese curse. And interesting times are variable, not constant.

Why did the terrorists have to be well-trained, highly organized and financed? Because it was impossible to believe, in the immediate aftermath of the attacks, that we could be so truly vulnerable. How could our invisible supports have collapsed, so dramatically? We must have been attacked by an exceptional enemy – else our pragmatic theories were truly in danger. It was just too much to believe that a dozen rag-tag fanatics might have learned enough from a $50 flight simulator to demolish New York. Could we really hang by such a thread?

And why did our lives appear so trivial? We generally ignore the bigger picture – and not really because we are stupid or short-sighted. We ignore the similarities that unite us, from day to day, and concentrate on the differences. Similarities are constants. Differences segregate and make unique. We concentrate on those things that make each of our individual situations truly individual. It has to be this way. It is the particulars of my life that require my particular attention. No one else cares whether or not my bills are paid. No one else loves my children, or my wife. The details of my job are unique to me, and are my responsibility. So I live in a kind of functional solipsism. Nonetheless: I stand on the same ground as my fellow citizens, and when that ground shakes, our identity, in the literal sense, is revealed. We all suddenly become aware of the invisible walls that surround and protect us. We share an identity of vulnerability when those walls crumble. The details of our own lives suddenly seem less important than the fundamental presuppositions that support us all. And so, finally, we are a little kinder in the aftermath, as our mutual vulnerabilities unite us. To paraphrase Nietzsche: threat produces consciousness (unless it annihilates it).

And what of the terrorists, themselves? As far as I am concerned, they are existential cowards. Brave, only if suicide is brave. But suicide is not brave. Solzhenitsyn said that he never met a suicide who had not been a moral bankrupt, in all his painful years in the Gulag Archipelago. There are, after all, two ways to counter the threat of constant emergent complexity and its associated danger. One is to utilize the conceptual systems and behavioral strategies granted to each of us by our cultures, by the dead heroes of the past. These systems and strategies were generated by immense, courageous effort, in the midst of constant strife both psychological and sociological. Our cultures constrain the world for us, and we are wrong not to be very grateful for this. But culture itself is always insufficient. As the old joke goes: the military is one hundred per cent prepared – for the previous war. The environment transforms, as time progresses, and the answers of the past never completely address the problems of the present. We must therefore

stand on our own two feet, and face the terrible potential of the unknown. We must be the parents of culture, must update and create culture, as well as being the dependent sons and daughters who benefit from it.

The ideologically fanatical seek revenge for their failure as individuals. They cannot tolerate any challenge to their rigid beliefs, because they have forfeited their capacity to think and act as unique, creative beings. They cannot see anything but the chaos of the Devil behind anything that undermines what they "absolutely" know. They see no possibility in change. They refuse to realize their responsibility, before God, to act in their own right, and to retool their own concepts, in accordance with the inevitable transformations of the world. Instead, they meet difference with aggression, and attempt to destroy what they do not understand (as if the transformations of time can be conjured out of existence)! John Milton understood the transcendent falsity of such an attitude. He believed that it was the mind, granting itself omniscience, "not to be changed by time nor place" that necessarily ended up in hell, "as far removed from God and light of heaven as from the center thrice to the utmost pole." Fanaticism produces hell.

Category systems that impose themselves on the world, regardless of the world, do not make the world conform, merely because of their imposition – at least not for long. Forcible imposition merely pushes catastrophe into the future, in the form of unadmitted error, as the inevitable consequences of pride, arrogance, and willful ignorance unfold. As these catastrophes occur, the rigid individual becomes resentful, and destructive. He starts to seeks revenge – and as Nietzsche said, once again "we are best punished for our virtues." Crimes against the innocent constitute the most effective form of existential revenge. The terrorist justifies the destruction of the innocent (even to himself) by claiming to represent purity – by claiming to represent what he is, least of all: a great hero of the past. This is a mask. He is in fact seeking vengeance on the conditions of existence for failing to unfold according to his personal plan.

We all rest on invisible presuppositions. These presuppositions constitute the foundation of our cultures and our selves. We suffer when they are violated – but we also become more conscious, at least in principle. If we do so, we take a path that precisely opposes that of the terrorist. We can use our tragedy-and-error enhanced consciousness to help us build more stable resting places. Then our cultures stabilize, and advance, and we become more powerful, psychologically. If we fail to do so, our cultures petrify or stagnate, and our personalities weaken. When we become sufficiently weak, we seek revenge, for the complex conditions of life have "unfairly" defeated us. This is a comprehensible desire. We feel it now, motivated by the surrealism that surrounds catastrophe. But it is still wrong. And if we have enough courage to face complexity, when it emerges, it always has something to teach us.