THE COGNITIVE MODEL OF ANGER INHERENT IN AMERICAN ENGLISH

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May 1983

The production of the Berkeley Cognitive Science Report Series is supported by a grant in cognitive science to the University of California at Berkeley from the Alfred P. Sloan Foundation.

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Acknowledgements

This research has been partly supported by a grant from the American Council of Learned Societies to Zoltán Kövecses and by a grant from the Sloan Foundation to the University of California at Berkeley. Professor Kövecses is on leave from the English Department, Eötvös Lóránd University, Budapest for the 1982-83 academic year.

This paper was prepared for presentation at the Conference on Folk Models at the Institute for Advanced Study at Princeton, May 12 - 15, 1983. The authors would like to thank Naomi Quinn, organizer of the conference, for providing us with, perhaps, the most appropriate forum in the world for this work. We would like to thank the participants at that conference for their comments. Special thanks go to Claudia Brugman for extensive commentary on an earlier version.

Some Questions

-Are emotions just amorphous "feelings" or do they have a cognitive content?

-If they have a cognitive content, how can we find out what it is?

-When people speak about anger, are they invoking a coherent folk theory? That is, are the conventionalized ways of talking about anger actually based on some cognitive model of what anger is?

-Could a mere analysis of the language used to talk about anger actually uncover something real about the way we understand anger?

At first glance, the conventional expressions used to talk about anger seem so diverse that finding any coherent system would seem impossible. For example, if we look up *anger* in, say, Roget's University Thesaurus, we find about three hundred entries, most of which have something or other to do with anger, but the thesaurus doesn't tell us exactly what. Many of these are idioms, and they too seem too diverse to reflect any coherent cognitive model. Here are some example sentences using such idioms:

-He *lost his cool*.
-She was *looking daggers* at me.
-I almost *burst a blood vessel*.
-He was *foaming at the mouth*.
-You're beginning to *get to* me.
-You make my *blood boil*.
-He's *wrestling* with his anger.
-Watch out! He's *on a short fuse*.
-He's just *letting off steam*.
-Don't *get a hernia*!
-Try to *keep a grip on yourself*.
-Don't *fly off the handle*.
-When I told him, he *blew up*.
-He *channeled* his anger into something constructive.
-He was *red with anger*.
-He was *blue in the face*.
-He *appeased* his anger.
-He was *doing a slow burn*.
-He *suppressed* his anger.

-She kept *bugging* me.
-When I told him, *he had a cow*.

What do these expressions have to do with anger, and what do they have to do with each other? One thing is clear: they are not random. There seems to be a systematic relationship among these constructions, but it is not immediately obvious what it is. How do we know,for example, that someone who is foaming at the mouth has lost his cool? How do you know that someone who is looking daggers at you is likely to be doing a slow burn or be on a short fuse? How do we know that someone whose blood is boiling has not appeased his anger? How do we know that someone who has channelled his anger into something constructive has not had a cow?

What we will try to show is that there is a coherent conceptual organization underlying all these expressions, and that much of it is metaphorical and metonymical in nature.

Metaphor and Metonymy

Let us begin with the folk theory of the physiological effects of anger:

THE PHYSIOLOGICAL EFFECTS OF ANGER ARE INCREASED BODY HEAT, INCREASED INTERNAL PRESSURE (BLOOD PRESSURE, MUSCULAR PRESSURE), AGITATION, AND INTERFERENCE WITH ACCURATE PERCEPTION.

AS ANGER INCREASES, ITS PHYSIOLOGICAL EFFECTS INCREASE.

THERE IS A LIMIT BEYOND WHICH THE PHYSIOLOGICAL EFFECTS OF ANGER IMPAIR NORMAL FUNCTIONING.

Given the general metonymic principle,

THE PHYSIOLOGICAL EFFECTS OF AN EMOTION STAND FOR THE EMOTION

the folk theory given above yields a system of metonymies for anger:

BODY HEAT:

-Don’t get *hot under the collar*.
-Billy’s a *hothead*.
-They were having a *heated argument*.
-When the cop gave her a ticket, she got all *hot and bothered* and started cursing.

INTERNAL PRESSURE:

-Don’t get a *hernia*!
-When I found out,I almost *burst a blood vessel*.
-He almost had a *hemorrhage*.

Increased body heat and/or blood pressure is assumed to cause redness in the face and neck area, and such redness can also metonymically indicate anger.

REDNESS IN FACE AND NECK AREA:

-She was *scarlet with rage*.
-He got *red with anger*.
-He was *flushed with anger*.

AGITATION:

-She was *shaking* with anger.
-I was *hopping mad*.
-He was *quivering with rage*.
-He's *all worked up*.
-There's no need to get so *excited* about it!
-She's *all wrought up*.
-You look *upset*.

INTERFERENCE WITH ACCURATE PERCEPTION:

-She was *blind with rage*.
-I was beginning to *see red*.
-I was so mad I *couldn't see straight*.

Each of these expressions indicate the presence of anger via its supposed physiological effects.

The folk theory of physiological effects, especially the part thet emphasizes HEAT, forms the basis of the most general metaphor for anger: ANGER IS HEAT. There are two versions of this metaphor, one where the heat is applied to fluids, the other where it is applied to solids. When it is applied to fluids, we get: ANGER IS THE HEAT OF A FLUID IN A CONTAINER. The specific motivation for this consists of the HEAT, INTERNAL PRESSURE, and AGITATION parts of the folk theory. When ANGER IS HEAT is applied to solids, we get the version ANGER IS FIRE, which is motivated by the HEAT and REDNESS aspects of the folk theory of physiological effects.

As we will see shortly, the fluid version is much more highly elaborated. The reason for this, we surmise, is that in our overall conception system we have the general metaphor:

THE BODY IS A CONTAINER FOR THE EMOTIONS

-He was *filled* with anger.
-She couldn't *contain* her joy.
-She was *brimming* with rage.
-Try to get your anger *out of your system*.

The ANGER IS HEAT metaphor, when applied to fluids, combines with the metaphor THE BODY IS A CONTAINER FOR THE EMOTIONS to yield the central metaphor of the system:

The ANGER IS HEAT metaphor seems to combine with this to yield:

ANGER IS THE HEAT OF A FLUID IN A CONTAINER

-You make my *blood boil*.
-*Simmer* down!
-I had reached the *boiling point*.
-Let him *stew*.

A historically derived instance of this metaphor is:

-She was *seething with rage*.

Although most speakers do not now use *seethe* to indicate physical boiling, the boiling image is still there when *seethe* is used to indicate anger. Similarly, *pissed off* is used only to refer to anger, not to the hot liquid under pressure in the bladder. Still, the effectiveness of the expression seems to depend on such an image.

When there is no heat the liquid is cool and calm. In the central metaphor, cool and calmness corresponds to lack of anger.

-Keep *cool*.
-Stay *calm*.

As we will see shortly, the central metaphor is an extremely productive one. There are two ways in which a conceptual metaphor can be productive. The first is lexical. The words and fixed expressions of a language can *code*, that is, be used to express aspects of, a given conceptual metaphor to a greater or lesser extent. The number of conventional linguistic expressions that code a given conceptual metaphor is one measure of the productivity of the metaphor. In addition, the words and fixed expressions of a language can *elaborate* the conceptual metaphor. For example, a stew is a special case in which there is a hot fluid in a container. It is something that continues at a given level of heat for a long time. This special case can be used to elaborate the central metaphor. "Stewing" indicates the continuance of anger over a long period. Another special case is "simmer", which indicates a low boil. This can be used to indicate a lowering of the intensity of anger. Although both of these are cooking terms, cooking plays no metaphorical role in these cases. It just happens to be a case where there is a hot fluid in a container. This is typical of lexical elaborations.

Let us refer to the HEAT OF FLUID IN A CONTAINER as the source domain of the central metaphor, and to ANGER as the target domain. We usually have extensive knowledge about source domains. A second way in which a conceptual metaphor can be productive is that it can carry over details of that knowledge from the source domain to the target domain. We will refer to such carryovers as metaphorical entailments. Such entailments are part of our conceptual system. They constitute elaborations of conceptual metaphors. The central metaphor has a rich system of metaphorical entailments. For example, one thing we know about hot fluids is that, when they start to boil, the fluid goes upward. This gives rise to the entailment:

WHEN THE INTENSITY OF ANGER INCREASES, THE FLUID RISES

-His pent-up anger *welled up* inside him.
-She could feel her *gorge rising*.
-We got a *rise* out of him.

-My anger kept *building up* inside me.
-Pretty soon I was in a *towering rage*.

We also know that intense heat produces steam and creates pressure on the container. This yields the metaphorical entailments:

INTENSE ANGER PRODUCES STEAM

-She got *all steamed up*.
-Billy's just *blowing off steam*.
-I was *fuming*.

INTENSE ANGER PRODUCES PRESSURE ON THE CONTAINER

-He was *bursting with anger*.
-I could barely *contain* my rage.
-I could barely *keep it in* anymore.

A variant of this involves keeping the pressure back:

-I *suppressed* my anger.
-He *turned his anger inward*.
-He managed to keep his anger *bottled up* inside him.
-He was *blue in the face*.

When the pressure on the container becomes too high, the container explodes. This yields the entailment:

WHEN ANGER BECOMES TOO INTENSE, THE PERSON EXPLODES

-When I told him, he just *exploded*.
-She *blew up* at me.
-We won't tolerate any more of your *outbursts*.

This can be elaborated, using special cases:

Pistons: He *blew a gasket*.
Volcanos: She *erupted*.
Electricity: I *blew a fuse*.
Explosives: She's *on a short fuse*.
Bombs: That really *set me off*.

In an explosion, parts of the container go up in the air.

WHEN A PERSON EXPLODES, PARTS OF HIM GO UP IN THE AIR

-I *blew my stack*.
-I *blew my top*.
-She *flipped her lid*.
-He *hit the ceiling*.

-I *went through the roof*.

When something explodes, what was inside it comes out.

WHEN A PERSON EXPLODES, WHAT WAS INSIDE HIM COMES OUT

-His anger finally *came out*.
-Smoke was *pouring out of his ears*.

This can be elaborated in terms of animals giving birth, where something that was inside causing pressure bursts out:

-She was *having kittens*.
-My mother will *have a cow* when I tell her.

Let us now turn to the question of what issues the central metaphor addresses and what kind of ontology of anger it reveals. The central metaphor focuses on the fact that anger can be intense, that it can lead to a loss of control, and that a loss of control can be dangerous. Let us begin with intensity. Anger is conceptualized as a mass, and takes the grammar of mass nouns, as opposed to count nouns:

Thus, you can say:

How much anger has he got in him?

but not:

*How many angers does he have in him?

Anger thus has the ontology of a mass entity, that is, it has a scale indicating its amount, it exists when the amount is greater than zero and goes out of existence when the amount falls to zero. In the central metaphor, the scale indicating the amount of anger is the heat scale. But, as the central metaphor indicates, the anger scale is not open-ended; it has a limit. Just as a hot fluid in a closed container can only take so much heat before it explodes, so we conceptualize the anger scale as having a limit point. We can only bear so much anger, before we explode, that is, lose control. This has its correlates in our folk theory of physiological effects. As anger gets more intense the physiological effects increase and those increases interfere with our normal functioning. Body heat, blood pressure, agitation and interference with perception cannot increase without limit before our ability to function normally becomes seriously impaired, and we lose control over our functioning. In the folk model of anger, loss of control is dangerous, both to the angry person and to those around him. In the central metaphor, the danger of loss of control is understood as the danger of explosion.

The structural aspect of a conceptual metaphor consists of a set of correspondences between a source domain and a target domain. These correspondences can be factored into two types: ontological and epistemic. Ontological correspondences are correspondences between the entities in the source domain and the corresponding entities in the target domain. For example, the container in the source domain corresponds to the body in the target domain. Epistemic correspondences are correspondences between knowledge about the source domain and corresponding knowledge about the target domain. We can schematize these correspondences between the FLUID domain and the ANGER domain as follows:

Source: HEAT OF FLUID IN CONTAINER Target: ANGER

Ontological Correspondences:

-The container is the body.
-The heat of fluid is the anger.
-The heat scale is the anger scale, with end points zero and limit.
-Container heat is body heat.
-Pressure in container is internal pressure in the body.
-Agitation of fluid and container is physical agitation.
-The limit of the container’s capacity to withstand pressure caused by heat is the limit on the anger scale.
-Explosion is loss of control.
-Danger of explosion is danger of loss of control.
-Coolness in the fluid is lack of anger.
-Calmness of the fluid is lack of agitation.

Epistemic correspondences:

Source: The effect of intense fluid heat is container heat, internal pressure, and agitation.

Target: The effect of intense anger is body heat, internal pressure, and agitation.

Source: When the fluid is heated past a certain limit, pressure increases to the point at which the container explodes.

Target: When anger increases past a certain limit, pressure increases to the point at which the person loses control.

Source: An explosion is damaging to the container and dangerous to bystanders.

Target: A loss of control is damaging to an angry person and dangerous to other people.

Source: An explosion may be prevented by the application of sufficient force and energy to keep the fluid in.

Target: A loss of control may be prevented by the application of sufficient force and energy to keep the anger in.

Source: It is sometimes possible to control the release of heated fluid for either destructive or constructive purposes; this has the effect of lowering the level of heat and pressure.

Target: It is sometimes possible to control the release of anger for either destructive or constructive purposes; this has the effect of lowering the level of anger and internal pressure.

The latter case defines an elaboration of the entailment WHEN A PERSON EXPLODES, WHAT WAS INSIDE HIM COMES OUT:

ANGER CAN BE LET OUT UNDER CONTROL

-He *let out* his anger.
-I *gave vent* to my anger.
-*Channel* your anger into something constructive.
-He *took out* his anger on me.

So far, we have seen that the folk theory of physiological reactions provides the basis for the central metaphor, and that the central metaphor characterizes detailed correspondences between the source domain and the target domain -- correspondences concerning both ontology and knowledge.

At this point, our analysis enables us to see why various relationships among idioms hold. We can see why someone who is in a towering rage has not kept cool, why someone who is stewing may have contained his anger but has not got it out of his system, why someone who has suppressed his anger has not yet erupted, and why someone who has channeled his anger into something constructive has not had a cow.

Let us now turn to the case where the general ANGER IS HEAT metaphor is applied to solids:

ANGER IS FIRE

-Those are *inflammatory* remarks.
-She was *doing a slow burn*.
-What you said *inflamed* him.
-He was *breathing fire*.
-Your insincere apology just *added fuel to the fire*.
-After the argument, Dave was *smoldering* for days.
-That *kindled my ire*.
-Boy, am I *burned up*!
-He was *consumed* by his anger.

This metaphor highlights the cause of anger (kindle, inflame), the intensity and duration (smoldering, slow burn, burned up), the danger to others (breathing fire), and the damage to the angry person (consumed). The correspondences in ontology are as follows:

Source: FIRE   Target: ANGER

-The fire is anger.
-The thing burning is the angry person.
-The cause of the fire is the cause of the anger.
-The intensity of the fire is the intensity of the anger.
-The physical damage to the thing burning is mental damage to the angry person.
-The capacity of the thing burning to serve its normal function is the capacity of the angry person to function normally.
-An object at the point of being consumed by fire corresponds to a person whose anger is at the limit.
-The danger of the fire to things nearby is danger of the anger to other people.

The correspondences in knowledge are:

Source: Things can burn at low intensity for a long time and then burst into flame.

Target: People can be angry at a low intensity for a long time and then suddenly become extremely angry.

Source: Fires are dangerous to things nearby.

Target: Angry people are dangerous to other people.

Source: Things consumed by fire cannot serve their normal function.

Target: At the limit of the anger scale, people cannot function normally.

Putting together what we’ve done so far, we can see why someone who is doing a slow burn hasn’t hit the ceiling yet, why someone whose anger is bottled up is not breathing fire, why someone who is consumed by anger probably can’t see straight, and why adding fuel to the fire might just cause the person you’re talking to to have kittens.

The Other Principal Metaphors

As we have seen, the ANGER IS HEAT metaphor is based on the folk theory of the physiological effects of anger, according to which increased body heat is a major effect of anger. That folk theory also maintains that agitation is an important effect. Agitation is also an important part of our folk model of insanity. According to this view, people who are insane are unduly agitated -- they go wild, start raving, flail their arms, foam at the mouth, etc. Correspondingly, these physiological effects can stand, metonymically, for insanity. One can indicate that someone is insane by describing him as foaming at the mouth, raving, going wild, etc.

The overlap between the folk theories of the effects of anger and the effects of insanity provides a basis for the metaphor:

ANGER IS INSANITY

-I just touched him, and he *went crazy*.
-You’re *driving me nuts*!
-When the umpire called him out on strikes, he *went bananas*.
-One more complaint and I’ll *go berserk*.
-He got so angry, he *went out of his mind*.
-When he gets angry, he *goes bonkers*.
-She went into an *insane rage*.
-If anything else goes wrong, I’ll *get hysterical*.

Perhaps the most common conventional expression for anger came into English historically as a result of this metaphor:

-I’m *mad*!

Because of this metaphorical link between insanity and anger, expressions that indicate insane behavior can also indicate angry behavior. Given the metonymy INSANE BEHAVIOR STANDS FOR INSANITY and the metaphor ANGER IS INSANITY, we get the metaphorical metonymy:

INSANE BEHAVIOR STANDS FOR ANGER

-When my mother finds out, she’ll *have a fit*.
-When the ump threw him out of the game, Billy started *foaming at the mouth*.
-He’s *fit to be tied*.
-He’s about to *throw a tantrum*.

Violent behavior indicative of frustration is viewed as a form of insane behavior. According to our folk model of anger, people who can neither control nor relieve the pressure of anger engage in violent frustrated behavior. This folk model is the basis for the metonymy:

VIOLENT FRUSTRATED BEHAVIOR STANDS FOR ANGER

-He’s *tearing his hair out*!
-If one more thing goes wrong, I’ll start *banging my head against the wall*.
-The loud music next door has got him *climbing the walls*!
-She’s been *slamming doors all morning*.

The ANGER IS INSANITY metaphor has the following correspondences:

Source: INSANITY Target: ANGER

-The cause of insanity is the cause of anger.
-Becoming insane is passing the limit point on the anger scale.
-Insane behavior is angry behavior.

Source: An insane person cannot function normally.

Target: A person who is angry beyond the limit point cannot function normally.

Source: An insane person is dangerous to others.

Target: A person who is angry beyond the limit point is dangerous to others.

At this point, we can see a generalization. Emotional effects are understood as physical effects. Anger is understood as a form of energy. According to our folk understanding of physics, when enough input energy is applied to a body, the body begins to produce output energy. Thus, the cause of anger is viewed as input energy that produces internal heat (output energy). Moreover, the internal heat can function as input energy, producing various forms of output energy: steam, pressure, externally radiating heat, and agitation. Such output energy (the angry behavior) is viewed as dangerous to others. In the insanity metaphor, insanity if understood as a highly energized state, with insane behavior as a form of energy output.

All in all, anger is understood in our folk model as a negative emotion. It produces undesireable physiological reactions, leads to an inability to function normally, and is dangerous to others. The angry person, recognizing this danger, views his anger as an opponent.

ANGER IS AN OPPONENT (IN A STRUGGLE)

-I’m *struggling* with my anger.
-He was *battling* his anger.
-She *fought back* her anger.
-You need to *subdue* your anger.
-I’ve been *wrestling* with my anger all day.
-I was *seized* by anger.
-I’m finally *coming to grips with* my anger.
-He *lost control over* his anger.
-Anger *took control* of him.
-He *surrendered* to his anger.
-He *yielded* to his anger.
-I was *overcome* by anger.
-Her anger has been *appeased*.

The ANGER IS AN OPPONENT metaphor is constituted by the following correspondences:

Source: STRUGGLE Target: ANGER

-The opponent is anger.
-Winning is controlling anger.
-Losing is having anger control you.
-Surrender is allowing anger to take control of you.
-The pool of resources needed for winning is the energy needed to control anger.

One thing that is left out of this account so far is what constitutes "appeasement". To appease an opponent is to give in to his demands. This suggests that anger has demands. We will address the question of what these demands are below.

The OPPONENT metaphor focuses on the issue of control and the danger of loss of control to the angry person himself. There is another metaphor that focuses on the issue of control, but whose main focus is the danger to others. It is a very widespread metaphor in Western culture, namely, PASSIONS ARE BEASTS INSIDE A PERSON. According to this metaphor, there is a part of each person that is a wild animal. Civilized people are supposed to keep that part of them private, that is, they are supposed to keep the animal inside them. In the metaphor, loss of control is equivalent to the animal getting loose. And the behavior of a person who has lost control is the behavior of a wild animal. There are versions of this metaphor for the various passions -- desire, anger, etc. In the case of anger, the beast presents a danger to other people.

ANGER IS A DANGEROUS ANIMAL

-He has a *ferocious* temper.
-He has a *fierce* temper.
-It's dangerous to *arouse* his anger.
-That *awakened* my ire.
-His anger *grew*.
-He has a *monstrous* temper.
-He *unleashed* his anger.
-Don't let your anger *get out of hand*.
-He *lost his grip* on his anger.
-His anger is *insatiable*.

An example that draws on both the FIRE and DANGEROUS ANIMAL metaphors is:

-He was *breathing fire*.

The image here is of a dragon, a dangerous animal that can devour you with fire.

The DANGEROUS ANIMAL metaphor portrays anger as a sleeping animal that it is dangerous to awaken; as something that can grow and thereby become dangerous; as something that has to be held back; and as something with a dangerous appetite. Here are the correspondences that constitute the metaphor.

Source: DANGEROUS ANIMAL   Target: ANGER

-The dangerous animal is the anger.
-The animal's getting loose is loss of control of anger.
-The owner of the dangerous animal is the angry person.
-Sleeping for the animal is anger near the zero level.
-Being awake for the animal is anger near the limit.

Source: It is dangerous for a dangerous animal to be loose.

Target: It is dangerous for a person's anger to be out of control.

Source: A dangerous animal is safe when it is sleeping and dangerous when it is awake.

Target: Anger is safe near the zero level and dangerous near the limit.

Source: A dangerous animal is safe when it is very small and dangerous when it is grown.

Target: Anger is safe near the zero level and dangerous near the limit.

Source: It is the responsibility of a dangerous animal's owner to keep it under control.

Target: It is the responsibility of an angry person to keep his anger under control.

Source: It requires a lot of energy to control a dangerous animal.

Target: It requires a lot of energy to control one's anger.

There is another class of expressions that, as far as we can tell, are instances of the same metaphor. These are cases in which angry behavior is described in terms of aggressive animal behavior.

ANGRY BEHAVIOR IS AGGRESSIVE ANIMAL BEHAVIOR

-He was *bristling* with anger.
-That *got my hackles up*.
-He began to *bare his teeth*.
-That *ruffled her feathers*.
-She was *bridling with anger*.
-Don't *snap* at me!
-I was *growling* with rage.
-He started *snarling*.
-Don't *bite my head off*!
-Why'd you *jump down my throat*?

Perhaps the best way to account for these cases would be to extend the ontological correspondences of the ANGER IS A DANGEROUS ANIMAL metaphor to include:

-The aggressive behavior of the dangerous animal is angry behavior.

If we do this, we can account naturally for the fact that these expressions indicate anger. They would do so via a combination of metaphor and metonymy, in which the aggressive behavior metaphoprically corresponds to angry behavior, which in turn metonymically stands for anger. For example, the snarling of the animal corresponds to the angry verbal behavior of the person, which in turn indicates the presence of anger.

Aggressive verbal behavior is a common form of angry behavior, as *snap, growl, snarl*, etc. indicate. We can see this in a number of cases outside of the animal domain:

AGGRESSIVE VERBAL BEHAVIOR STANDS FOR ANGER

-She gave him a *tongue-lashing*.
-I really *chewed* him *out* good!

Other forms of agressive behavior can also stand metonymically for anger, especially aggressive visual behavior:

AGGRESSIVE VISUAL BEHAVIOR STANDS FOR ANGER

-She was *looking daggers* at me.
-He *gave me a dirty look.*
-If *looks could kill*,.....
-He was *glowering* at me.

All these metonymic expressions can be used to indicate anger.

As in the case of the OPPONENT metaphor, our analysis of the DANGEROUS ANIMAL metaphor leaves an expression unaccounted for -- "insatiable". This expression indicates that the animal has an appetite. This "appetite" seems to correspond to the "demands" in the OPPONENT metaphor, as can be seen from the fact that the following sentences entail each other:

-Harry’s anger is *insatiable*.
-Harry’s anger cannot be *appeased*.

To see what it is that anger demands and has an appetite for, let us turn to expressions that indicate causes of anger. Perhaps the most common group of expressions that indicate anger consists of conventionalized forms of annoyance: insects, minor pains, burdens placed on domestic animals, etc. Thus we have the metaphor:

THE CAUSE OF ANGER IS A PHYSICAL ANNNOYANCE

-Stop *bugging* me!
-Don’t be *a pain in the ass*.
-Get *off my back*!
-You don’t have to *ride me so hard*.
-You’re *getting under my skin*.
-He’s *a pain in the neck*.
-Don’t *be a pest*!

These forms of annoyance involve an offender and a victim. The offender is at fault. The victim, who is innocent, is the one who gets angry.

There is another set of conventionalized expressions used to speak of, or to, people who are in the process of making someone angry. These are expressions of territoriality, in which the cause of anger is viewed as a trespasser.

CAUSING ANGER IS TRESPASSING

-You’re beginning to *get to* me.
-Get *out of here*!
-Get *out of my sight*!
-*Leave me alone*!
-This is where I *draw the line*!
-Don’t *step on my toes*!

Again, there is an offender (the cause of anger) and a victim (the person who is getting angry). In general, the cause of anger seems to be an offense, in which there is an offender who is at fault and an innocent victim, who is the person who gets angry. The offense seems to constitute some sort of injustice. This is reflected in the conventional wisdom:

-Don’t get *mad*, get *even*!

In order for this saying to make sense, there has to be some connection between anger and retribution. Getting even is a form of balancing the scales of justice. The saying assumes a model in which injustice leads to anger and retribution can alleviate or prevent anger. In short, what anger "demands" and has an "appetite" for is revenge. This is why warnings and threats can count as angry behavior:

-If I get mad, watch out!
-Don’t get me angry, or you’ll be sorry.

The angry behavior is, in itself, viewed as a form of retribution.

We are now in a position to make sense of another metaphor for anger:

ANGER IS A BURDEN

-Unburdening himself of his anger gave him a sense of *relief*.
-After I let out my anger, I felt a sense of *release*.
-After I lost my temper, I felt *lighter*.
-He *carries* his anger around with him.
-He *has a chip on his shoulder*.
-You’ll feel better if you *get it off your chest*.

In English, it is common for responsibilities to be metaphorized as burdens. There are two kinds of responsibilities involved in the folk model of anger that has emerged so far. The first is a responsibility to control one’s anger. In cases of extreme anger, this may place a considerable burden on one’s "inner resources". The second comes from the model of retributive justice that is built into our concept of anger; it is the responsibility to seek vengeance. What is particularly interesting is that these two responsibilities are in conflict in the case of angry retribution: If you take out your anger on someone, you are not meeting your responsibility to control your anger, and if you don’t take out your anger on someone, you are not meeting your responsibility to provide retribution. The slogan "Don’t get mad, get even!" offers one way out: retribution without anger. The human potential movement provides another way out by suggesting that letting your anger out is okay. But the fact is that neither of these solutions is the cultural norm. It should also be mentioned in passing that the human potential movement’s way of dealing with anger by sanctioning its release is not all that revolutionary. It assumes almost all of our standard folk model and metaphorical understanding, and makes one change: sanctioning the "release".

Some Minor Metaphors

There are a few very general metaphors that apply to anger as well as to many other things, and are commonly used in comprehending and speaking about anger. The first we will discuss has to do with existence. Existence is commonly understood in terms of physical presence. You are typically aware of something’s presence if it is nearby and you can see it. This is the basis for the metaphor:

EXISTENCE IS PRESENCE

-His anger *went away*.
-His anger eventually *came back*.
-My anger *lingered on* for days.
-She couldn’t *get rid of* her anger.
-After a while, her anger just *vanished*.

-My anger slowly began to *dissipate*.
-When he saw her smile, his anger *disappeared*.

In the case of emotions, existence is often conceived of as location in a bounded space. Here the emotion is the bounded space and it exists when the person is in that space:

EMOTIONS ARE BOUNDED SPACES

-She flew *into* a rage.
-She was *in* an angry mood.
-He was *in* a state of anger.
-I am not easily roused *to* anger.

These cases are relatively independent of the rest of the anger system, and are included here more for completeness than for profundity.

The Prototype Scenario

The metaphors and metonymies that we have investigated so far converge on a certain prototypical cognitive model of anger. It is not the only model of anger we have; in fact, there are quite a few. But as we shall see, all of the others can be characterized as minimal variants of the model that the metaphors converge on. The model has a temporal dimension, and can be conceived of as a scenario with a number of stages. We will call this the "prototype scenario"; it is similar to what de Sousa (1980) calls the "paradigm scenario". We will be referring to the person who gets angry as S, short for the Self.

Stage 1: Offending Event

There is an offending event that displeases S. There is a wrongdoer who intentionally does something directly to S. The wrongdoer is at fault and S is innocent. The offending event constitutes an injustice and produces anger in S. The scales of justice can only be balanced by some act of retribution. That is, the intensity of retribution must be roughly equal to the intensity of offense. S has the responsibility to perform such an act of retribution.

Stage 2: Anger

Associated with the entity anger is a scale that measures its intensity. As the intensity of anger increases, S experiences physiological effects: increase in body heat, internal pressure, and physical agitation. As the anger gets very intense, it exerts a force upon S to perform an act of retribution. Because acts of retribution are dangerous and/or socially unacceptable, S has a responsibility to control his anger. Moreover, loss of control is damaging to S’s own well-being, which is another motivation for controlling anger.

Stage 3: Attempt at Control

S attempts to control his anger.

Stage 4: Loss of control.

Each person has a certain tolerance for controlling anger. That tolerance can be viewed as the limit point on the anger scale. When the intensity of anger goes beyond that limit, S can no longer control his anger. S exhibits angry behavior and his anger forces him to attempt an act of retribution. Since S is out of control and acting under coercion, he is not responsible for his actions.

Stage 5: Act of Retribution

S performs the act of retribution. The wrongdoer is the target of the act. The intensity of retribution roughly equals the intensity of the offense and the scales are balanced again. The intensity of anger drops to zero.

At this point, we can see how the various conceptual metaphors we have discussed all map onto a part of the prototypical scenario, and how they jointly converge on that scenario. This enables us to show exactly how the various metaphors are related to one another, and how they function together to help characterize a single concept. This is something that Lakoff and Johnson (1980) were unable to do.

The course of anger depicted in the prototype scenario is by no means the only course anger can take. In claiming that the scenario is prototypical we are claiming that according to our cultural folk theory of anger, this is a normal course for anger to take. Deviations of many kinds are both recognized as existing and recognized as being noteworthy and not the norm. Let us take some examples:

- Someone who "turns the other cheek", that is, who does not get angry or seek retribution. In this culture, such a person is considered virtually saintly.

- Someone who has no difficulty controlling his anger is especially praiseworthy.

- A "hothead" is someone who considers more events offensive than most people, who has a lower threshhold for anger than the norm, who cannot control his anger, and whose acts of retribution are considered out of proportion to the offense. Someone who is extremely hotheaded is considered emotionally "unbalanced".

On the other hand, someone who acts in the manner described in the prototypical scenario would not be considered abnormal at all.

Before turning to the nonprototypical cases, it will be useful for us to make a rough sketch of the ontology of anger: the entities, predicates and events required. This will serve two purposes. First it will allow us to show in detail how the nonprototypical cases are related to the prototypical model. Second, it will allow us to investigate the nature of this ontology. We will include only the detail required for our purposes.

It is part of our folk concept of a person that he can temporarily lose control of his body or his emotions. Implicit in this concept is a separation of the body and the emotions from the Self. This separation is especially important in the ontology of anger. Anger, as a separable entity, can overcome someone, take control, and cause him to act in ways he would not normally act. In such cases, the Self is no longer in control of the body. Thus, the ontology of anger must include a Self (S), anger (A), and the body (B). A fuller treatment would probably also require viewing the mind as a separate entity, but that is beyond our present purposes.

Since anger has a quantitative aspect, the ontology must include a scale of anger, including an intensity (I(A)), a zero point (Z) and a limit point (L). The basic anger scenario also includes an offending event (O) and a retributive act (R). Each of these has a quantitative aspect, and must also include an intensity, a zero point and a limit. In the prototypical case, the offending event is an action on the part of a wrongdoer (W) against a victim (V). The retribution takes the form of an act by an agent (A) against some target (T).

The ontology of anger also includes a number of predicates: displeasing (D), at fault (AF), exert force on (F), cause (C), exist (E), control (CL), dangerous (DR), damaging (DG), balance (B), and outweigh (OW). There are also some other kinds of events: the physiological effects (PE); the angry behaviors (AB); and the immediate cause of anger (IC), in case it is not the same as the offending event.

SUMMARY OF THE ONTOLOGY OF ANGER

Aspects of the person:

Self: S
Body: B
Anger: A

Offense and retribution:

Offending event: O
Retributive act: R

Scales of intensity:

Intensity of Anger: I(A)
Intensity of Offense: I(O)
Intensity of Retribution: I(R)

End points:

Zero: Z
Limit: L

Predicates:

Displease: D
At Fault: AF
Cause: C
Exist: E
Exert force on: F
Control: CL
Dangerous: DR
Damaging: DG

Balance: B
Outweigh: OW

Other events:

Physiological Reactions: PE
Angry Behaviors: AB
Immediate cause: IC

Restatement of the Prototypical Scenario

Given the above ontology and principles of the folk model, we can restate the prototypical anger scenario in terms that will facilitate showing the relationships among the wide variety of anger scenarios. We will first restate the prototypical scenario and then go on to the nonprototypical scenarios.

PROTOTYPICAL ANGER SCENARIO

Constraints:

V = S: Victim = Self
A = S: Agent of Retribution = Self
T = W: Target of Anger = Wrongdoer
IC = O: Immediate cause of Anger = Offending event
AB = R: Angry behavior = Retribution

Stage 1: Offending Event

O(W,S): Wrongdoer offends Self
AF(W): Wrongdoer is at fault
D(O,S): The offending event displeases Self
OW(I(O),I(R)): The intensity of the offense outweighs the intensity of the retribution (which equals zero at this point), thus creating an imbalance.
C(O,E(A)): The offense causes anger to come into existence.

Stage 2: Anger

E(A): Anger exists.
PE(S): S experiences physiological effects (heat, pressure, agitation).
F(A,S) SO THAT ATTEMPT(S,R): Anger exerts force on the Self to attempt an act of retribution.

Stage 3: Attempt to control anger

F(S,A): S exerts a counterforce in an attempt to control anger.

Stage 4: Loss of control

I(A) > L: The intensity of anger goes above the limit.
CL(A,S): Anger takes control of S.

AB(S): S exhibits angry behavior (loss of judgment, aggressive actions).
DG(S): There is damage to S.
DR(W): There is a danger to the target of anger, in this case, the wrongdoer.

Stage 5: Retribution

R(S,W): S performs retributive act against W (this is usually angry behavior directed at W).
B(I(R),I(O)): The intensity of retribution balances the intensity of offense.
I(A) = Z: The intensity of anger drops to zero.
NOT(E(A)): Anger ceases to exist.

THE NONPROTOTYPICAL CASES

We are now in a position to show how a large range of instances of anger cluster about the above prototype. The examples are in the following form: a nonprototypical anger scenario with its name in boldface, followed by an informal description; an account of the minimal difference between the given scenario and the prototype scenario, first in English, then in approximate formal notation; finally, an example sentence.

Insatiable Anger: You perform the act of retribution and the anger just doesn't go away.

In stage 5, the intensity of anger stays above zero and the anger continues to exist.

Stage 5: I(A) > Z and E(A).

Example: His anger lingered on.

Frustrated Anger: You just can't get back at the wrongdoer and you get frustrated.

It is not possible to gain retribution for the offensive act. S engages in frustrated behavior. Option: S directs his anger at himself.

Stage 5: NOT POSSIBLE(R(S,W)). AB(S): ACTS OF FRUSTRATION. Option: T=S, R(S,S).

Examples: He was climbing the walls. She was tearing her hair out. He was banging his head against the wall. He's taking it out on himself.

Redirected Anger: Instead of directing your anger at the person who made you angry, you direct it at someone or something else.

The target of anger is not the wrongdoer.

Stage 5: NOT (T = W).

Examples: When I lose my temper, I kick the cat. When you get angry, punch a pillow until your anger goes away. When something bad happened at the office, he would take it out on his wife.

Exaggerated Response: Your reaction is way out of proportion to the offense.

The intensity of retribution outweighs the intensity of offense.

Stage 5: OW(I(R),I(O)).

Examples: Why jump down my throat? You have a right to get angry, but not to go *that* far.

Controlled Response: You get angry, but retain control and consciously direct your anger at the wrongdoer.

S remains in control. Everything else remains the same.

Stage 4: CL(S,A).

Example: He vented his anger on her.

Constructive use: Instead of attempting an act of retribution, you put your anger to a constructive use.

S remains in control and performs a constructive act instead of a retributive act. The scales remain unbalanced, but the anger disappears.

Stage 4: CL(S,A). Stage 5: CONSTRUCTIVE ACT in place of R(S,T). OW(I(O),I(R)).

Example: Try to channel your anger into something constructive.

Terminating event: Before you have a chance to lose control, some unrelated event happens to make your anger disappear.

Anger doesn't take control of S. Some event causes the anger to go out of existence.

Stage 4: NOT(CL(A,S)). There is an event e such that NOT (e = R) and CL(e,(NOT(E(A))).

Example: When his daughter smiled at him, his anger disappeared.

Spontaneous cessation: Before you lose control, your anger just goes away.

Anger doesn't take control of S and the intensity of anger goes to zero.

Stage 4: NOT (CL(A,S) and I(A) = Z.

Example: His anger just went away by itself.

Successful suppression: You successfully suppress your anger.

S keeps control and the intensity of anger is not near the limit.

Stage 4: CL(S,A) and I(A) IS NOT NEAR L.

Example: He suppressed his anger.

Controlled reduction: Before you lose control, you engage in angry behavior and the intensity of anger goes down.

S does not lose control, S engages in angry behavior and the intensity of anger goes down.

Stage 4: NOT (CL(A,S)) and AB(S) and I(A) GOES DOWN.

Example: He’s just letting off steam.

Immediate explosion: You get angry and lose control all at once.

No Stage 3. Stages 2 and 4 combine into a single event.

Example: I said "Hi Roundeyes!" and he blew up.

Slow Burn: Anger continues for a long time.

Stage 2 lasts a long time.

Example: He was doing a slow burn.

Nursing a grudge: S maintains his anger for a long period waiting for a chance at a retributive act. Maintaining that level of anger takes special effort.

Stage 2 lasts a long time and requires effort. The retributive act does not equal angry behavior.

Don’t get mad, get even: This is advice (rarely followed) about the pointlessness of getting angry. It suggests avoiding stages 2,3, and 4, and instead going directly to stage 5. This advice is defined as an alternative to the prototypical scenario.

Indirect Cause: It is some result of the wrongdoer’s action, not the action itself, that causes anger.

The offense is not the immediate cause of anger, but rather the cause of the immediate cause.

Stage 1: NOT (O = IC) and CAUSE(O, IC).

Example: Your secretrary forgets to fill out a form that results in your not getting a deserved promotion. O = secretary forgets to fill out form. IC = you don’t get promotion. You are angry *about* not getting the promotion. You are angry *at* the secretary *for* not filling out the form. In general, *about* marks the immediate cause, *at* marks the target, and *for* marks the offense.

Cool anger: There are no physiological effects and S remains in control.

Anger with: To be angry with someone, S has to have a positive relationship with the wrongdoer W, W must be answerable to S, the intensity is above the threshhold but not near the limit. Perhaps the best example is a parent-child relationship, where the parent is angry with the child.

Righteous indignation: O is a moral offense and the victim is not S. The intensity of anger is not near the limit.

Wrath: The intensity of the offense is very great and many acts of retribution are required in order to create a balance. The intensity of the anger is well above the limit and the anger lasts a long time.

There appears to be a recognizeable form of anger for which there are no conventional linguistic expressions, so far as we can tell. We will call this a manipulative use of anger. It is a case where a person cultivates his anger and does not attempt to control it, with the effect that he intimidates those around him into following his wishes in order to keep him from getting angry. This can work either by fear or by guilt. The people manipulated can either be afraid of his anger or may feel guilty about what anger does to him. This form of anger is fairly distant from the prototype and it is no surprise that we have no name for it.

Interestingly enough, there is a linguistic test that can be used to verify that what we have called the prototypical scenario is indeed prototypical. It involves the use of the word *but*. Consider the following examples (where the asterisk indicates a semantic aberration):

-Max got angry, but he didn’t blow his top.
-*Max got angry, but he blew his top.

-Max blew up at his boss, but the anger didn’t go away.
-*Max blew up at his boss, but the anger went away.

-Sam got me angry, but it wasn’t him that I took my anger out on.
-*Sam got me angry, but it was him that I took my anger out on.

The word *but* marks a situation counter to expectation. In these examples, the prototypical scenario defines what is to be expected. The acceptable sentences with *but* run counter to the prototypical scenario, and thus fit the conditions for the use of *but*. The unacceptable sentences fit the prototypical scenario, and define expected situations. This is incompatible with the use of *but*. Thus we have a linguistic test that accords with our intuitions about what is or isn’t prototypical.

Each of the nonprototypical cases cited above is a case involving anger. There appear to be no necessary and sufficient conditions that will fit all these cases. However, they can all be seen as variants of the prototypical anger scenario. Prototypes often involve clusters of conditions and the prototypical anger scenario is no exception. The clustering can be seen explicitly in identity conditions such as: V = S, T = W, O = IC, etc. When these identities do not hold, we get nonprototypical cases. For example, with righteous indignation, V does have to equal S. In the case of an indirect cause, O does not equal IC. In the case of redirected anger, T does not equal W. Usually the act of retribution and the disappearance of anger go together, but in the case of spontaneous cessation and insatiable anger, that is not the case. And in the Don't-get-mad-get-even case, angry behavior is avoided, and is therefore not identical to the act of retribution. Part of what makes the prototypical scenario prototypical is that it is sufficiently rich so that variations on it can account for nonprototypical cases, and it also has a conflation of conditions which are not conflated in nonprototypical cases.

The point is that there is no single unified cognitive model of anger. Instead there is a category of cognitive models with a prototypical model in the center. This suggests that it is a mistake to try to find a single cognitive model for all instances of a concept. Kinds of anger are not all instances of the same model; instead they are *variants* on a prototypical model. There is no common core that all kinds of anger have in common. Instead, the kinds of anger bear family resemblances to one another.

Metaphorical Aspects of the Prototype Scenario

The analysis we have done so far is consistent with a certain traditional view of metaphor, namely:

-The concept of anger exists and is understood independently of any metaphors.

-The anger ontology and the category of scenarios represent the literal meaning of the concept of anger.

-Metaphors do no more than provide ways of talking about the ontology of anger.

This view entails the following:

-The elements of the anger ontology really, literally exist, independent of any metaphors.

A brief examination of the anger ontology reveals that this is simply not the case. In the ontology, anger exists as an independent entity, capable of exerting force and controlling a person. This is what Lakoff and Johnson (1980) refer to as an "ontological metaphor". In this case, it would be the ANGER IS AN ENTITY metaphor. A person's anger does not really, literally exist as an independent entity, though we do comprehend it metaphorically as such. In the ontology, there is an intensity scale for anger, which is understood as being oriented UP, by virtue of the MORE IS UP metaphor. The intensity scale has a limit associated with it -- another ontological metaphor. Anger is understood as being capable of exerting force and taking control of a person. The FORCE and CONTROL here are also metaphorical, based on physical force and physical control. The anger ontology also borrows certain elements from the ontology of retributive justice: offense and retribution, with their scales of intensity and the concept of balance. These are also metaphorical, with metaphorical BALANCE based on physical balance. In short, the anger ontology is largely constituted by metaphor.

Let us now examine these constitutive metaphors. Their source domains -- ENTITY, INTENSITY, LIMIT, FORCE, and CONTROL -- all seem to be superordinate concepts, that is concepts that are are fairly abstract. By contrast, the principal metaphors that map onto the anger ontology -- HOT FLUID, INSANITY, FIRE, BURDEN, STRUGGLE -- appear to be basic-level concepts, that is, concepts that are linked more directly to experience, concepts that are information-rich and rich in conventional mental imagery. Let us call the metaphors based on such concepts "basic-level metaphors". We would like to suggest that most of our understanding of anger comes via these basic-level metaphors. The HOT FLUID and FIRE metaphors give us an understanding of what kind of entity anger is. And the STRUGGLE metaphor gives us a sense of what is involved in controlling it. Without these metaphors, our understanding of anger would be extremely impoverished, to say the least. One is tempted to ask which is more primary: the constitutive metaphors or the basic-level ones. We don’t know if that is a meaningful question. All we know is that both exist, and have their separate functions: The basic-level metaphors allow us to comprehend and draw inferences about anger, using our knowledge of familiar, well-structured domains. The constitutive metaphors provide the bulk of the anger ontology.

Conclusion

We have shown that the expressions that indicate anger in American English are not a random collection but rather are structured in terms of an elaborate cognitive model that is implicit in the semantics of the language. This indicates that anger is not just an amorphous feeling, but rather that it has an elaborate cognitive structure. Moreover, if Rosaldo’s (1980) account of anger among the Ilongot is correct, it would follow that the cognitive model of anger implicit in English is anything but universal.

However, very significant problems and questions remain.

-First, there are aspects of our understanding of anger that our methodology cannot shed any light on. Take, for example, the range of offenses that cause anger and the corresponding range of appropriate responses. Our methodology reveals nothing in this area.

-Second, study of the language as a whole gives us no guide to individual variation. We have no idea how close any individual comes to the model we have uncovered, and we have no idea how people differ from one another.

-Third, our methodology does not enable us to say much about the exact psychological status of the model we have uncovered. How much of it do people really use in comprehending anger? Do people base their actions on this model? Are people aware of the model? How much of it, if any, do people consciously believe? And most intriguingly, does the model have any effect on what people *feel*?

Certain things, however, do seem to be clear. Most speakers of American English seem to use the expressions we have described consistently and make inferences that appear, so far as we can tell, to be consistent with our model. We make this claim on the basis of our own intuitive observations,though to really establish it, one would have to do thorough empirical studies. If we are right, our model has considerable psychological reality, but how much and what kind remains to be determined.

REFERENCES

De Sousa, Ronald. 1980. The Rationality of Emotions. In Rorty, A.O. (ed.) *Explaining Emotions*, University of California Press.

Lakoff, George and Mark Johnson. 1980. *Metaphors We Live By*. University of Chicago Press.

Lakoff, George. 1982. Categories and Cognitive Models. Report No. 2, Cognitive Science Program, University of California at Berkeley.

Rosaldo, Michelle. 1980. *Knowledge and Passion*. Cambridge University Press.