

Motivation and Social Cognition: Enemies or a Love Story?

Arie W. Kruglanski¹

University of Maryland, College Park, U.S.A.

ABSTRACT

This paper discusses four distinct models of conceptualizing the relationship between motivation and cognition in contemporary social psychology. The first one, referred to as “antagonistic” assumes that motivation and cognition are alternative, and potentially rival ways of reaching judgments. This claim rests on a rich tradition in Western thought stemming from Plato and Aristotle and more recently echoed by Freud. The second model referred to as “segregationist” assumes that different degrees of motivation combine with different cognitive contents to form separate clusters, or routes to judgment as in the case of the well-known models of persuasion advanced in the 1980s. The third conceptualization Lay Epistemic Theory (LET) proposes an integrated model in which any motivation may combine with any cognitive content to form a uniform route to judgment, also known as the “unimodel”. Finally, a fourth model proposes a “fusion” in which motivation is thought to possess a distinctly cognitive aspect and in a sense to constitute a unique type of cognition with motivational contents.

Keywords: motivation, cognition, models.

RESUMEN

Este artículo discute cuatro modelos distintos de conceptualización de la relación entre motivación y cognición en la Psicología social contemporánea. El primero, calificado como “antagónico”, asume que la motivación y la cognición son modos alternativos y potencialmente rivales de llegar a juicios. Esta posición descansa sobre una rica tradición en el pensamiento occidental procedente de Platón y Aristóteles y más recientemente reflejada por Freud. El segundo modelo, denominado “segregacionista”, asume que diferentes grados de motivación se combinan con diferentes contenidos cognitivos para formar diferentes *clusters* o rutas para el juicio, como en el caso de los bien conocidos modelos de persuasión propuestos en los años 80. La tercera conceptualización presentada es la Teoría Epistémica Profana, propone un modelo integrado en el que cualquier motivación puede combinarse con cualquier contenido cognitivo para formar una ruta uniforme para el juicio, también conocido como el “unimodelo”. Finalmente, un cuarto modelo propone una “fusión” en la cual la motivación se considera que posee un aspecto distintivamente cognitivo y, en un cierto sentido, constituye un tipo único de cognición con contenidos motivacionales.

Palabras clave: motivación, cognición, modelos.

¹Reprints may be obtained from the author: Dr. Arie Kruglanski. Department of Psychology. University of Maryland. College Park. Maryland, 20742. USA. E-mail: arie@psyc.umd.edu.

A theme that has continued to haunt me throughout most of my years as a social psychologist is the relation between motivation and cognition. Actually, I have been a reluctant motivational theorist. I never deliberately sat down and decided to study motivation. What I *was* trying to do was carry out straightforward cold-cognition work. But whatever I did, motivation kept creeping right back into my research. For instance, early on, I tried to conduct attributional research, but I quickly found myself involved in an attributional analysis of *intrinsic motivation* (Kruglanski, 1975; Kruglanski, Friedman and Zeevi, 1971). Subsequently, I attempted to formulate a general model of knowledge acquisition, but, again, before I knew it I was deeply immersed in the study of *epistemic motivations* (Kruglanski, 1989, 1990).

I know, my personal motivational-cognitive hangups provide a selfish, hence rather poor, rationale for choosing a topic for a paper. The real question is what might I say about motivation and cognition that you may find of interest? Well, I first considered offering you an updated account of the debate whether there even exist motivational effects on judgment. A little self-perception versus dissonance controversy, a little defensive attribution research, the Tetlock and Levi (1982) argument why the motivation versus cognition debate *can never be won*, the Ziva Kunda (1990) research concluding that it *has been won*, the Aronson rejoinder that it *was won years ago* by dissonance researchers, etc.

But it soon dawned on me that this “battle plan” suffers from a fatal drawback. It tells only a part of the story. It focuses on what one might call the center stage of the motivation/cognition debate, whereas some very interesting developments in this field have been occurring behind the scenes, so to speak, in theoretical models of social cognition that assumed motivational effects without much attention to the debate about their very existence. I am referring to models of persuasion and attitude change where motivational involvement plays a key part, work in person-memory where processing goals are of pivotal importance, work on the emotional consequences of discrepancies from standards and so forth.

Perhaps, it is the latter, admittedly exciting, developments I should focus on? But can one in good conscience ignore the “center-stage” controversy? And how about my own motivational/cognitive theorizing. After all, isn’t one’s own research what a researcher is expected to discuss? Those are tough choices, enough to give a person an Excedrin headache. To avoid a headache and also to avoid having to give something up (which I have always found a hard thing to do) I decided to present you with all of the the alternatives, and spread out before you a kind of motivational-cognitive bazaar of ideas.

I do not mean to pass the Excedrin headache on to you (that wouldn’t be very nice), and I do not mean to imply a kind of wishy washy eclecticism in which anything goes. On the contrary, I think that the history of thought about the relation between motivation and cognition has had considerable “rhyme and reason” to it. To reflect this, I would like to portray this history as a “cliff-hanging” melodrama in four acts.

In the first act, motivation and cognition are antagonists in a power struggle over the human mind. In the second act, there is a split: Intense motivational involvement combines with one set of cognitive processes, whereas *mild* involvement combines with another set of cognitive processes to form *segregated* routes to judgment.

In the third act, there is *desegregation* and *integration*. If “love is blind” this is as close as motivation and cognition come to being lovers. Specifically, any motivation is assumed to operate on *any* relevant cognition without prejudice or prior restrictions. Finally, in the fourth act, motivation and cognition fuse into one. You might say, their love was so intense that they lost their separate identities (somewhat like members of a married couple who begin to look alike). Motivation is now considered a type of cognition rather than a separate non-cognitive entity. But before reaching this happy ending we must recount a tale of conflict and strife. Let us, therefore, begin by considering the antagonistic model of the motivation-cognition relation.

ACT I: THE ANTAGONISTIC MODEL

The basic idea of the antagonistic model is that motivation and cognition form separate and competing systems for judgment. This is hardly a new idea. In fact, it goes back all the way to Plato and Aristotle. Aristotle, for example, proposed that the intellectual or reasoning “soul” is in frequent conflict with the passionate “soul”. Happily, Reason is capable of dominating Passion. When that occurs, rationality prevails and human judgments and opinions are accurate and undistorted.

The notion that motivational forces (like passion and desire) and cognitive processes (like logic or reason) are in perennial conflict has remained the accepted view over the centuries and has been a powerful force in the Western culture in general, as reflected in the notion popular to this very day, (and invoked often with respect to the “wrong side of the tracks” types of romantic liaisons) that the “heart” and the “head” are often at odds with each other.

In 20th century psychology, no lesser figure than Sigmund Freud embraced the antagonistic conception of the relation between Passion and Reason and gave it the formal Seal of scientific approval. I am talking, of course, about the conflict, depicted in the psychoanalytic theory (Freud, 1923), between the rational and logical *Ego* and the impetuous, passionate *Id*, often leading to neuroses that undermine adaptive functioning. Echoing Aristotle, Freud seems to have had Faith in the considerable powers of rationality. Cure of neuroses was assumed to follow from victory of Reason over Desire that is, of Ego forces over those emanating from the Id (see also McDougall, 1923).

Notions of (Motivational-Cognitive) Conflict or Conflict Between Notions

But let us leave history in the past, where it belongs, and move briskly alone to consider how the motivation-cognition relation has been depicted in modern social-psychology. You may be interested to know that here too we have antagonism, not so much antagonism of forces within the psyche, as antagonism between scientific positions. This is the “center-stage” debate I mentioned earlier. A debate between proponents of the view that various motives, needs and desires play a significant role in judgment and attitude formation and those who maintain that “*inferences need no preferences*” to twist Bob Zajonc’s (1980) famous phrase. To twist even more an equally famous phrase

of Solomon Ash, what we have here is *not so much a notion of conflict but rather a conflict between notions*. Proponents of the motivational notion included the cognitive-consistency theorists (Heider, 1958), dissonance theorists in particular (Festinger, 1957; Frey, 1986, Zanna & Cooper, 1976), defensive attribution theorists (Zuckerman, 1979; Weary, Marsh, Gleicher, & Edwards, 1993), and most recently motivated reasoning theorists (primarily Ziva Kunda, 1990, and her colleagues; see also Pittman & D'Agostino, 1985). Proponents of the cognitive notion included the self perception theorists, "nondefensive" attribution theorists as well as the social-inference theorists like Richard Nisbett and Lee Ross.

The generalization that in social psychology the motivation-cognition debate occurred between rather than within persons has had its exceptions. For example, Miller and Michael Ross (1975), in a widely cited paper became known as uncompromising *detractors* of the motivational position. Fortunately, equally persuasive advocates came to the defense of the motivational view, namely, Miller and Ross who in their separate research programs (see Miller, 1976; Ross & Sicoly, 1979) produced some of the most compelling evidence that the motivational biases are real, after all (see also, Lewin, 1951).

That last conclusion has been reiterated in several recent summaries of the literature including Ziva Kunda's "hot off the press" review in the *Psychological Bulletin*. The evidence *I, personally*, find persuasive in this regard concerns uniquely motivational effects that do not follow from cognitive variables as such, e.g. evidence of *physiological arousal* when information inconsistent with one's valued opinions is encountered, negative affect when that happens, differences in *persistence* at information processing and/or *selectivity* of processing under the appropriate motivational conditions. It is precisely such evidence that Tetlock and Levi (1982) called for in their incisive critique of previous attempts to resolve the motivation-cognition debate. Well, the evidence seems to be in; to me it indicates that motivational effects in social cognition are "alive and well". End of Act I.

ACT II: THE SEGREGATED MODEL

The curtain rises on Act II. The setting are pages of the major personality and social psychology journals in the 1980s. The interest in the antagonistic debate has abated. Instead, a new view of the motivation-cognition relation has begun to emerge that I shall call the *segregationist* model.

The roots of the segregationist model go back to the 1970s, and to a difficulty encountered by formal models of inference like the Bayesian model or the ANOVA model of attribution (Ajzen & Fishbein, 1975; Kelley, 1967). The difficulty was that these models did not seem to *describe* very well the phenomena of everyday inference. People didn't seem quite as calculating and systematic as the models implied. Consequently, it has been proposed to consider those models as normative, that is, as "idealized" modes of judgment approximated by actual persons only under particularly favorable circumstances. This raised a twofold question, (1) *what* might those circumstances be, and (2) what happens in *alternative circumstances*.

The solution was hinted at by Harold Kelley in a 1971 attributional paper and was

picked up and further developed by subsequent theorists. It went something like this. When an individual has the time and the resources and is highly motivated with respect to an issue she is likely to approximate the normative modes of processing. However, under the press of time or other interests, the individual is more likely to base judgments on sub-optimal inferential shortcuts referred to as “schemata” in Kelley’s writings (Kelley, 1972a,b) and as “heuristics” in the writings of Tversky and Kahneman (1974) or Nisbett and Ross (1980).

Now, perhaps, you can see why I chose to call this model *segregationist*. For two reasons really. One, that segregated motivational-cognitive clusters are assumed to exist through which judgments may be alternatively reached. Some motivational conditions, like high interest in an issue, are clustered together with some cognitive elements (represented by the “normative” models), whereas other motivational conditions, like extraneous pressures, are clustered together with other cognitive elements (represented by the heuristics). The second reason is that the model suggests that the processes whereby judgments are reached are *qualitatively* different within the two clusters. That is, employing the “normative” cluster is implied to represent a qualitatively different way of reaching judgments than employing the “heuristic” cluster. I shall comment on those segregationist assumptions later on.

How does the *segregationist* model compare with the *antagonist* model. There are some discontinuities but also some continuities. The fundamental discontinuity is the implicit assumption that all cognitive activity has some motivational base. There is no “pure” intellectualizing without some motivational underpinnings. The fundamental continuity is that we are still talking about *disjunctive* routes to judgment one of which is at least “*teeny weenie*” more rational than the other.

The segregated approach gained widespread acceptance in social cognitive psychology and laid the foundation for the two major models of persuasion and attitude change developed in the 1980s, Petty’s and Cacioppo’s Elaboration Likelihood Model (ELM) (1986) and Chaiken’s and Eagly’s Heuristic-Systematic Model (HSM). Both models assume that, if only *able* to do so, individuals whose motivation toward a topic is high (e.g. because they are involved in the issue, or care about the outcomes) would engage different cognitive processes en route to a judgment than individuals whose motivation toward a topic is low. The highly motivated individuals would engage in what Petty and Cacioppo call “central processing” and Chaiken and Eagly call “systematic processing”. In both cases the individual is assumed to engage in *extensive processing of issue-related information*.

The less motivated individuals would engage in “peripheral processing” or “heuristic processing” characterized by a relatively brief processing of issue-unrelated cues, e.g. the communicator’s expertise, length of arguments, etc. Both ELM and HSM have made in the past and are presently continuing to make major contributions to the field; in fact, they share the major credit, in my opinion, for reinstating the topic of persuasion and attitudes as a pivotal and productive research concern in social psychology. But our task today is not to praise Caesar, but rather to determine whether the *segregationist* model shared in common by ELM and HSM is the only reasonable way of conceptualizing the motivation/cognition relation. Let us consider this issue more closely.

In its attractively simple form, the segregated model posits that the stronger the individuals' involvement in a topic the more they will process issue-relevant contents extensively and systematically, and the less their involvement the more they will briefly process heuristic contents. But are those implied linkages invariably there? It is possible to think of exceptions. Consider the question whether high involvement in an issue invariably leads to systematic or central processing. Probably not. For instance, Chaiken, Lieberman and Eagly (1989) describe how high degrees of defensive, or impression management motivation may lead to heuristic processing. Defensive or impression management motivation reflects a sense in which the individual is involved in an issue; the issue surely must be relevant or involving otherwise why be defensive or "impression managing" about it? Thus, it appears that high motivational involvement may occasionally lead to heuristic rather than systematic processing.

Another example comes from my own work on the need for cognitive closure (Kruglanski, Webster y Lem, 1993; Webster y Kruglanski, 1994; Kruglanski y Webster, 1996; Webster y Kruglanski, 1998). We have argued theoretically and found empirically that when an individual has a high need for cognitive closure on a topic, e.g. she can't tolerate ambiguity or uncertainty about it, and *in this sense is highly involved in it*, the extent of processing is reduced, and the use of simple cues and heuristics, increased, all in the interest of *quick and ready* closure. Again then, we see that high motivational involvement may suppress rather than enhance the extent of processing and the care and precision with which processing is carried out. This runs somewhat counter to, hence constitutes an "anomaly" for, the straight *segregationist* model.

Another anomaly is implicit in the possibility that superficial, issue-irrelevant cues are sometimes processed extensively and carefully. For instance, an individual with a high need for validity on an issue may pay considerable attention to what the experts recommend, in this sense processing systematically "heuristic" information. Consider a person who suspects he or she is suffering from a serious illness and is concerned about possible ways of treating his or her condition. This person might not only seek the opinion of experts, but go to great lengths to evaluate their credentials, seek out additional experts and, in short, be rather systematic and careful (rather than brief and facile) about heuristic information.

These examples suggest that the "straight" *segregationist* model does encounter some exceptions to its postulates. We can not retain the appealingly simple idea that high motivational involvement leads to one type of processing and low motivational involvement to another type of processing.

Faced with such complications one might react in one of two ways. Buttress the model with auxiliary assumptions, and boundary conditions QB go right back to the drawing board, and *rethink without prejudice* the fundamental question: How are motivation and cognition inter-related and what are their respective functions in the judgmental process? If we are prepared to take the latter tack, one possibility we might consider is to replace the dualism of the separatist model by a *monism* of an integrative approach.

Such an integrative approach characterizes my own, Lay Epistemic Theory of human judgment (henceforth LET). "Let" us, therefore, move right on to Act III of our saga, in which "love is blind", no selective clustering of motivation and cognition is assumed,

and an integrated relation between the two is postulated.

ACT III: THE INTEGRATIVE (LAY-EPISTEMIC) MODEL

How is that supposed to work? The LET assumes that judgments are reached by individuals who *desire to reach a given state of knowledge* on a topic, that is by individuals with some kind of “epistemic motivation”. These individuals also have *various cognitions relevant to the topic* of concern. The motivation operates on the available cognitions in ways designed to bring about the desired state of knowledge. This is it in a nutshell.

Well, how does that differ from the *segregationist* model? (you inquire curiously). First, *no clustering* is assumed. Rather, any epistemic motivation is assumed to operate on any relevant cognition that is available and momentarily accessible. Second, *no qualitative differences in process* are assumed. Rather, the emphasis is on fundamental similarities that all instances of judgment share in common.

Those similarities pertain to the functions that motivation and cognition fulfil in the judgmental process. Let us consider what these are: First the motivational functions. Motivation affects the *extent* and *direction* of the cognitive activity so as to produce a desired epistemic end state. For instance, sometimes individuals may desire cognitive closure. When that happens these persons’ cognitive activity would reflect the attempts to promote closure. They may shorten their extent of information processing, rely on pre-existing schemata or stereotypes, base their judgment on early data returns; in short engage in all those activities that promise quick closure.

At other times, individuals may desire not just any closure but a specific kind of closure, e.g. ego-enhancing or protective closure. Again, the extent and direction of the cognitive activity would be appropriately affected. The extent of processing would be greater, for example, if the early information was contrary to the desired conclusion, and briefer if it was consistent with the desired conclusion. Similarly, the individual may exhibit directional biases by giving greater weight to desirable versus undesirable information (Kruglanski & Webster, 1991, 1994; Kruglanski, Webster & Klem, 1993).

Other epistemic motivations may also exist. I shall not describe them here. The point is they all fulfil the same judgmental function (they facilitate the attainment of a desired epistemic end state) and they do so in the same fashion, by appropriately affecting the *extent* and *directionality* of processing.

Let me turn: now to the judgmental function of cognition. In a gist, it is to provide relevant evidence for one’s conclusions. The way *relevance* is defined in LET is very broad. It hinges on the individual’s assumption of an “if-then” relation between two cognitive categories (see also Ditto & Lopez, 1992).

Consider the statement “if the recession continues the number of yuppie restaurants will decline”. This renders “continued recession” relevant evidence for inferring the future decline of yuppie restaurants. Consider now another statement: “If Nostradamus says so, the number of yuppie restaurants will decline”. This renders a pronouncement by Nostradamus *relevant evidence* for the decline of yuppie restaurants.

The reason I am comparing these two statements is that one contains “issue-related”

arguments and the other contains “heuristic” arguments. The statement about the recession is issue related. One can readily understand why an economic downturn should cause the demise of expensive restaurants. The statement about Nostradamus is “heuristic”; it refers to a putative expertise of a communication source. Yet the LET assumes that the logic of inference (from evidence to conclusion) is the same in the two cases, suggesting that the underlying process of judgment from issue related and unrelated information is identical.

Let us now consider *more concretely* how motivation interacts with cognition. Suppose an individual accessed the inference rule linking recession with the decline of yuppie restaurants. Given that she expected recession to continue she might quickly conclude a yuppie-restaurant-decline. This indeed might happen if our individual had a high need for closure. If she, however, had a high need to avoid closure, she might process information more extensively by generating competing inference rules, e.g., linking recession with the growth (rather than decline) of yuppie restaurants, based on the logic that they fulfill an escapist function much like did movie theaters in the Great Depression era. These conflicting inference rules undermine the utility of “continued recession” as evidence for the future of yuppie restaurants, and one might look for alternative evidence, perhaps the pronouncements of Nostradamus.

To summarize then, the integrative model asserts that any motivation operates on any *relevant cognition* that happens to be accessible. Further, it asserts that the functions of motivation and of cognition are the same, broadly speaking, in all instances of judgment.

The integrative model dispenses with the *disjunctive* assumption of both the *antagonist* and the *segregationist* models that there exist qualitatively different ways of reaching judgment. This eliminates logically the proposition that some modes judgment are more *rational* and more likely to yield accurate inferences than other modes: If there is only one judgmental process you can not have a distinction between more or less rational processes. Indeed, recent research on the accuracy of human judgment is increasingly converging on the conclusion that the same process mediates accurate and inaccurate judgments. But the rationality topic as such lies outside the scope of our discussion and I will not pursue it further. On to Act IV.

ACT IV: THE FUSION MODEL

In all that I have said so far, motivation and cognition were treated as separate entities. What was at issue is how they relate to one another (in an antagonistic, segregated or integrated manner), *that they are distinct was never doubted*. But there is a sense in which motivation can be profitably understood as a kind of cognition. First, recall that an important program of research in social cognition has treated motivation as an inference. I am referring, of course, to the attributional work on “intrinsic” and “extrinsic” motivation (Deci, 1975; Green & Lepper, 1978), that I mentioned earlier. The basic paradigm is well known: An actor performs an activity in the presence versus absence of an external reward. The classical finding is that subsequently he or she exhibits lesser enjoyment of the activity as such in the latter case (i.e. if the activity has been

externally rewarded in the past). And at least one major interpretation of this phenomenon has been in terms of the actor's inference of his or her own intrinsic motivation in the absence of the external reward. This suggests that one's motivation is really a cognition, a kind of knowledge that can be deduced from evidence. In the case of intrinsic motivation research, the inference is backward looking. An actor's behavior serves as evidence for the motivation that presumably prompted it in the first place. In a sense this is putting the cart before the horse because, normally, motivation precedes behavior and not vice versa. Can cognitive factors shape the motivation before a behavior has occurred? That is, can we have a *forward* motivational inference rather than merely a backward inference. I think we can.

Inference of goal-worthiness. I am referring to the phenomenon of goal-formation, and the idea that it involves the inference that a given state of affairs is "goal-worthy", i.e., should be adopted as a goal (see Barg and Gollwitzer, 1994; Bargh and Gollwitzer, in press). What evidence might be relevant to such an inference? The answer, I believe, lies in what individuals generally understand the goal concept to mean. Most people would probably agree that a goal (*approximately*) is "a desirable state of affairs attainable through one's actions". It follows that the evidence that something should be adopted as a goal could be evidence that this "something" is (a) *desirable* (b) *attainable* (see also, Kruglanski, in press).

For instance, a person can adopt the goal of opening a new yuppie restaurant. In our terms she or he must have inferred that this is a reasonable goal from evidence that operating such a restaurant is desirable as well as attainable. Arguments concerning desirability may be that the restaurant is likely to bring in handsome profits, or that it is likely to engage one's talents for gourmet cooking. Arguments concerning attainability might be that the necessary initial capital can be mobilized or that one's previous experience qualifies one for running the enterprise. The point is, we infer that some state of affairs is worthy adopting as a goal, and we infer it from *relevant evidence* for "goal worthiness".

(2) *Epistemic motivations.* If a goal is an inference, it should be affected by the same epistemic motivations that affect the formation of all inferences. For instance, under a high need for closure an individual might inspect lesser amounts of evidence before concluding that some goal is worth adopting. A person who has a high need for closure because she is mentally fatigued, for example, pressed for time, or because external reasons make information processing difficult, might decide on opening a yuppie restaurant without carefully considering all of the relevant evidence concerning desirability and attainability, whereas in a different motivational state she might approach the evidence in a more skeptical and cautious fashion. In short, our motivational cognitive theory of knowledge formation promises to provide a useful conceptual tool for understanding the formation of goals.

Goal activation. Cognitive theory may also inform our understanding of goal activation. We know that other knowledge structures are often activated through "priming" of related constructs in a semantic network. So should it be with goals. For instance, a construct such as "APA convention" might prime one's career goals of "productivity", "scientific impact" or "visibility"; this in turn might "prime" one's perceived self-

discrepancies from those goals dejection and agitation as the case may be (this, by the way, could give rise to anxiety, depression, be one reason why cash bars and cocktail parties are so popular at APA-conventions; people simply attempt to drown their negative affective states in alcohol). Of course, the effects of self-discrepancy priming on affective states (though not yet on alcohol consumption) have been compellingly documented in research by Tory Higgins and his colleagues (Higgins, 1987; Sorrentino and Higgins, 1986; Higgins and Sorrentino, 1990).

To conclude then, motivation may be profitably viewed as a type of cognition or knowledge structure. Just as with all knowledge structures, it seems to be inferred from relevant evidence, it seems to be affected by epistemic motivations and it seems to be activated through semantic priming. The cognitive view of motivation provides a powerful conceptual tool for understanding and manipulating motivational states. Much research of this genre remains to be done but the beginnings are promising.

Motivation as Cognition versus Motivation and Cognition

This view of *motivation as cognition* raises two questions concerning the relation of *motivation and cognition*. The first question is: does it undermine the previous conceptions in which motivation and cognition were treated as separate entities?. The answer is, no, not really. Even though it is cognitive, motivation is a special class of cognition. For instance, goal is a knowledge structure whose content is unique. As we noted, it relates to issues of desirability and attainability. Other knowledge structures, e.g. that the world is round or that Fred is a professor of accounting obviously do not relate to such contents.

The second question is whether motivational constructs like goals should be construed as cognitive *products* (this is what the present *fusion* model suggests), or as the driving forces of the cognitive *process* (as assumed in the previous models we have considered). The answer is, probably both. Like in an Esherian braid, motivation is at once the "power behind the throne of judgment" and the "judgment", or the "inference" itself. Of course, it is not the same motivation. For instance, the process-driving motivation in a given case could be the need for cognitive closure, and the judgmental product could be a goal to open a yuppie restaurant.

There is a fundamental difference between motivation in the role of a driving force and of a cognitive product. As a driving force motivation acts behind the scenes, so to speak, it does not enter into conscious considerations; it does not constitute part of the individual's explicit reasoning. In contrast, as a cognitive product motivation is very much an explicit inference that is consciously derived from relevant evidence.

This actually brings our saga to its end. However, as Virginia Wolf once remarked, no lecture should ever end without the speaker leaving his or her audience with at least some "nuggets of Truth", known these days as "take-home messages". I would, therefore, like to leave you with three such "messages" (available also in poster form): (1) *Motivation and cognition are lovers* not enemies; the fruits of their love are human judgments. (2) *love is blind*, that is motivation is not partial with respect to cognitions it affects but rather it operates on whatever relevant cognitions are available; finally, (3) *motivation*

and cognition are one, that is, in an important sense *motivation is cognition*.

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