

## Report

# Recompense as Stimulus and Response: Toward an Exchange of Law and Psychology

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Recompense denotes a more or less complete undoing of a harm which may combine the two aspects: compensation for the victim and the apology of the harmdoer. The present empirical research on recompense started with an analysis of the judgmental structures of recompense in legal thought and law, as such analysis has been neglected in prior research. The obtained results on recompense as stimulus and response reinforce the general idea of the present approach of using the framework of law and legal history in the empirical research of cognitive science. Since the traditional relationship of jurisprudence and psychology is reversed by that research strategy, law and psychology appear to interact mutually, and a more comprehensive concept of legal psychology is implemented.

The moral rule to undo harm done complements the moral rule not to do harm. Taken literally, undoing harm by making exact reparation, i.e., restitution, is the most adequate behavior to be expected from the harmdoer. Even equity theory (Walster, Walster, & Berscheid, 1978) claimed that, if available, restitution is preferred as a behavioral response to other forms of inequity resolutions for harm done. Thus, the preference for restitutive behavior observed in empirical studies done by equity theorists (Berscheid & Walster, 1967; Berscheid, Walster, & Barclay, 1969) and the reports of reparative behavior in preschool age children (Stern, 1914; Zahn-Waxler, Radke-Yarrow, & King, 1979) appeared to confirm the operation of a generally shared, but conditional and educable behavioral norm.

Other psychological scholars also contributed to the topic of restitution as a response. Piaget (1932) and various others (e.g., Harrower, 1934; Brandt & Strattner-Gregory, 1980) studied it implicitly, restitution being categorized as one form of reciprocal punishment which is preferred to expiatory punishment by children at the developmentally later stage of moral autonomy. Yet learning theorists were interested in the acquisition mechanisms of restitutive behavior. Aronfreed (1968) argued that anxiety drive reduction is operative in the acquisition of recompense, i.e., making reparations may reduce the fear of punishment. Hoffman (1976) suggested that recompense may be elicited from an empathy motive: Recompense becomes a special kind of altruistic behavior in which the benefactor is aware of having caused the harm. Thus, restitutive behavior may be

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linked to the past as a consequence of a general guilt reaction, and linked to the future via the expectation of recurrent sufferings. Additionally, Stern (1914) and Zahn-Waxler et al. (1979) stressed imitation as the basic acquisition mechanism for a restitutorial response.

Unfortunately, exact reparation in kind is often not feasible or simply not made. That has three major consequences: First, in contrast to the norm of exact restitution, undoing harm in everyday life constitutes a variable or a dimension, degrees of indemnification being distinguishable. Second, undoing harm in everyday life acts as a stimulus for judgments about the adequacy of undoing this harm in context. Apparently, psychological processes that evaluate and integrate information are involved. For example, if substitutes for restitution are offered, some transformation of the values of offered substitutes appears likely; if less than exact reparation is made, some evaluation of the multiple components of the harm and the amount of reparation may be made. Third, undoing harm in everyday life may consist of several effective components. As Goffman (1971) noted, restitution may be interpreted as the “complete” form of apology, i.e., an apology accompanied by some form of compensation by the harmdoer and not by someone else. To represent this broader concept of undoing harm, the term “recompense” is used to replace the term “restitution.” In summary, prior approaches to psychological aspects of undoing harm neglected recompense as a stimulus and as a structural concept.

Surprisingly, prior psychological studies of recompense missed these aspects even though they were clearly inherent in the concept of recompense as recognized in law. In legal thought, recompense is embedded in judgmental structures of multiple determination and multiple expression. Consequently, one should begin research on the psychological structures of recompense with an analysis of the judgmental structures of recompense that exist in legal thought and law. With this preparational analytical stage, the research on the judgmental structures of recompense in everyday life would be able to make use of the long history of legal concepts, which is regarded as a form of cognitive-developmental process controlled by the experience of generations of legal scholars, and which became manifested in legal codes and commentaries. Because these concepts developed by experts originated from everyday intuitions and were controlled by experience, they may incorporate features of heuristic value for the study of everyday intuitions – or they may even be valid for them. Thus, the error of disregarding the legal conceptualizations is avoided in the present research on the judgmental structures of recompense.

### The Legal Structures of Recompense

#### *The History of Law*

In the Hamurabic Code (Johns, 1914, p. 37; Jastrow, 1915, p. 289) and in the Book of the Covenant (Exodus, 21–22) several recompense rules can be found

besides the retaliative (an-eye-for-an-eye) rules that those codes are well known for (Hommers, 1983a, 1986a). Not just the proportionality of the material damage to recompense, but also the principle of multiple proportions was laid down, e.g., the thief who stole one sheep had to repay with two or four sheep depending on whether he killed the stolen sheep (Exodus, 21, 37 and 22, 3). Thus, in certain cases, overcompensation proportions were given, depending on the circumstances of the harm done. These rules were univariate reactions to harmful acts because at that time criminal and civil codes were not distinguished, in contrast to the modern positive laws. The principle of multiple restitution was in part still valid in the 17th century law codes of certain American colonies (Walker, 1980, p. 14, 33).

### *Stimulus and Response*

The positive laws of modern countries are divided into civil and criminal codes, both of which contain statements concerning recompense. Liability is the major legal consequence of civil law, whether contractual or delictual (torts), whereas sentences are the major legal consequences of criminal law. Liability has two parts: restitution and smart money. Therefore, recompense appears as a two-part *response* in civil law: indemnifying and satisfying the injured party, where both parts are weighted differently in their purposes. In criminal law, on the contrary, recompense is a factor that determines among others the length of the sentence. Here, even incomplete components of recompense like apology or attempts to repair or some form of active remorse are relevant for sentencing. Thus, recompense is functional as a *stimulus* in criminal law and should be used as stimulus in empirical research of everyday moral intuitions with a punishment response.

### *Duplex Response*

Some kinds of harm, i.e., those listed in the criminal code, are followed in principle by two legal reactions that would combine in some way to form a total for the harmdoer, which may impress someone else or may be experienced by the harmdoer as a summed suffering. Both liability and punishment are possible. Thus, studying recompense as a response may be most promising when a duplex response is employed, i.e., punishment of the harmdoer *and* restitution of the injured person by the harmdoer.

### *Information-Integration Hypotheses*

The legal literature suggests that recompense is integrated into a sentence by an integration process (Bruns, 1974, 1980; Maurach, Gössel, & Zipf, 1978). Some legal scholars specify prescriptive rules for the information integration. For example, the German legal scholar v. Linstow (1974) proposed a formula with 15 vari-

ables for calculating punishment of traffic violations. Recompense was incorporated as a multiplicative factor with values between 0.8 and 1.0. The British Court of Appeal Criminal Division (Thomas, 1970) suggests a subtractive rule for mitigating circumstances, in which recompense might be considered to be included. Thus, the descriptive validity of these normative integration rules may be tested when starting research on the integration of recompense information.

### *Implicit Developmental Assumption*

The German civil code makes an implicit developmental assumption with respect to children's understanding the duty of undoing harm. Through analysis of the legal commentaries, Hommers (1983b) found that the seven-year age limit of the German civil code of 1900 is related conceptually to the cognitive development of several capabilities. One of them is the development of children's apprehension of the duty to undo harm, which is one of the conditions for the liability of children 7 or more years of age. Although the particular requirements made by the commentaries for children's liability are low, this specific developmental dimension might be relevant to the empirical foundation of the seven-year age limit.

### Recompense as a Stimulus

#### *Scenario and Representative Results*

Many of the results on recompense as a stimulus were obtained with the stamp scenario. In this scenario, the stories informed the subjects that some (e.g., 2, 10 or 20) stamps were ruined by someone's inadvertant push against a glass of cocoa (using the tweezers he did not see the glass of cocoa) or by a careless push (despite having been warned, left the cocoa on the table, but without intent) or by an intentional push (furious about a refusal to trade the best stamp). The advantage of the stamp scenario was that it was understandable for subjects from preschool age to adulthood. In some studies, moreover, the combinations of the stimulus levels were used in pictorial displays, for example, showing the amounts of ruined and restituted stamps. Sometimes, proportional levels of recompense (e.g., none, half, all, twofold of the damage), but also absolute amounts of restituted stamps (e.g., zero, two, six, twelve) were combined with the levels of amounts of damage and with the levels of fault using factorial designs. The subjects rated on a graphical rating scale after careful instruction and some practice trials. In some studies the deserved punishment was to be indicated on the scale, whereas in other studies the subjects had to show how good or bad they considered the total information given in each story.

In Figure 1 the mean good-bad judgments of 105 adult subjects are shown. The left panel presents the mean judgments about an inadvertant ruin of the stamps, the right panel the mean judgments of a ruin done intentionally. The curve param-

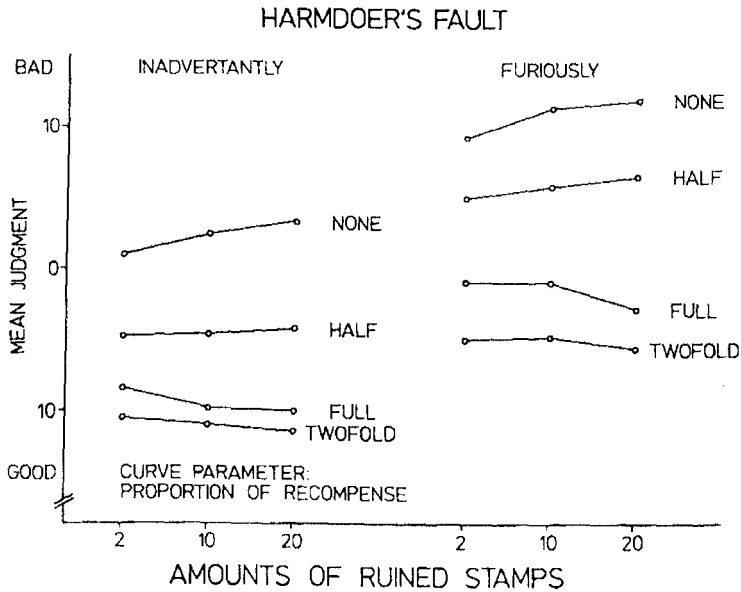


Figure 1. Mean judgments on a good-bad scale as a function of the amount of damage (horizontal axis) and of the proportion of restituted stamps (curve parameter) in two fault conditions.

eters specify the proportions of recompense, whereas the amounts of ruined stamps are marked on the horizontal axis. As supported by the statistical analyses, Figure 1 shows in the separation of the curves the large effect of the recompense information. Similarly, the fault variable had a strong effect, as shown by the higher elevation of the curves in the right plot. But recompense interacted with damage and with the harmdoer's fault. The non-additivity of recompense and fault shows that the recompense effect in the left plot was smaller than that in the right, as is visible by the smaller separation of the curves at the left. Furthermore, the slopes of the curves changed across proportions of recompense in both plots, indicating the non-additivity of recompense and damage. There was an increase of the badness ratings with the amount of damage when no recompense was given. But when the proportion of recompense was full or twofold, an increase in damage made the judgments on average better. Since this pattern includes a change in the ranking order of the means at either of two recompense proportions (i.e., half or full), the interaction (non-additivity) of damage and recompense is called *disordinal*. This representative pattern of results is outlined in more detail by the results of other studies.

#### *Large Effect and Non-Additivity*

Hommers (1983b, 1985a, 1986b) and Hommers and Anderson (1985) reported that recompense information had a surprisingly large effect compared to damage or the harmdoer's fault (*culpa*) in reducing the punishment judgments of children and adults. The effect size of recompense was about four times larger than the effect size of damage, although the proportional levels of recompense should have

restricted it to about the same effect size as damage. The effect of recompense was comparable in size to the effect of the fault information.

Additionally, the effect size of recompense decreased with increasing age of the subjects. The developmental trend in the effect size of recompense and the prevalence of recompense in the judgments of preschool children were in contrast to the developmental expectations derived from Piaget's (1932) studies. Thus, recompense appeared to be a concept that is operative earlier than concrete or formal operative intelligence sensu Piaget (1932), as might have been expected from the detailed appearances of recompense in ancient law books.

Furthermore, a marked non-additivity of the effect of recompense was obtained. The non-additivity of recompense was observed in combination with damage and with culpability. It was also present when absolute amounts were used as levels for the recompense information (Hommers, 1986b). This non-additivity was reliable not only because it was replicable, but also because it was obtained in combination with the additivity of damage and fault. Moreover, the non-additivity of recompense and damage was reliably disordinal. When combined with the zero-level of recompense, the damage effect moved in the opposite direction (increased punishment with increased damage) to the effect of damage when the stimuli told that half or full recompense was given.

In contrast, culpability and recompense reliably showed ordinal non-additivity. Although full recompense reduced the punishment for intentional harm more than the punishment for accidental harm, there still was a marked amount of punishment despite full recompense for intentional harm, in contrast to equity theory (see above).

The disordinal non-additivity of recompense and damage showed a developmental trend when 6-year-olds and 8-year-olds were compared with adults (Hommers, 1986c). With 6-year-olds, the change in the direction of the damage effect was visible at a different recompense proportion than with 8-year-olds and adults. For 90% of the 6-year-olds, the damage effect was opposite to that at the zero-recompense level beginning with the half-recompense level, whereas with the 8-year-olds and with the adults, increased damage at the half-recompense level made the judgments worse, similar to the effect of damage at the zero-level. However, with the 8-year-olds and with the adults, the change in the direction of the damage effect varied individually: It was obtained either with the full-recompense level or with a still higher proportion of recompense, but not with the half-level. Aside from the individual variance, the age trend may indicate a developmental change in the notion of sufficient recompense and may therefore be relevant for the empirical validity of the assumption in German civil law that the seven-year age limit is empirically justified by its relation to the development of the cognitions on recompense (Hommers, 1983b).

### *The Integration Rule*

The information integration of recompense was of particular interest because of the two patterns of the obtained non-additivity. The results of the disordinal non-

additivity of damage and recompense proportions were in contrast to both of the two hypotheses found in the legal literature. However, an averaging rule (Anderson, 1981, 1982) with differential weighting was a competing hypothesis for the nature of the non-additivity of recompense. The results of Hommers and Anderson (1988, in prep.) confirmed the averaging rule. Ongoing research examines the validity of the differential-weighting averaging rule, taking account of the individual variance in the disordinal non-additive structure of the coaction of recompense proportions and damage. The outcome of that research is most interesting for the theory of information integration, since any support for differential weighting would be the first evidence for the averaging model of differential weighting as a model for disordinal judgmental structures and might also point to an explanation for the individual variance in the disordinal non-additivity.

### *Two Components of Recompense*

Several studies have been devoted to the hypothesis of the existence of two components of recompense (Hommers, 1988, in press; Hommers & Bohnert, 1988). To avoid confusion of the components, the harmdoer component was operationalized by apology information and the victim component by information about a third-party compensation. These studies were done to explain the large effect size and its developmental trend. Also included in those studies was the examination of the generalization through the use of other scenarios (personal injury, theft of sweets, fire-setting) and other subject groups (mentally retarded persons 18 years or older).

The main result was that apology was not only clearly effective in all age groups from kindergarteners to adults and in the mentally retarded, but that there was also no age trend on the effectiveness of apology information. Additionally, third-party compensation was nearly as effective in most groups as apology. However, with third-party compensation there was an age trend: For adults, the third-party compensation information had less impact on the punishment ratings than for the other groups. This result was obtained with all scenarios and held also for the judgments of the mentally retarded, who rated similarly to normal adults despite their mental ages (between 7 and 10 years). Therefore, the age-dependent decrease in the effect of the recompense information reported earlier may be attributed to the compensation component of recompense.

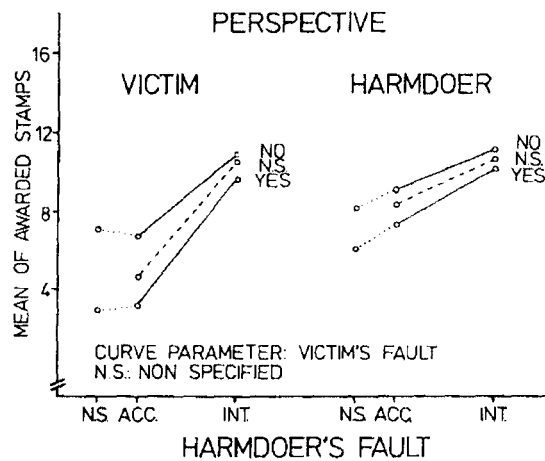
As another result, a disordinal non-additivity with damage was obtained with the combination of apology and third-party compensation in the punishment ratings of kindergarteners and 8-year-olds. As a possible consequence, the developmental trend in the disordinal non-additivity of recompense and damage (see above) might be connected to a change in the adequacy of the material components of recompense. To children of the younger age groups it might appear unimportant whether the harmdoer or someone else made the material compensation, whereas after preschool age, more than the mere combination of the material and immaterial component is wanted for recompense: Older subjects may additionally

want the harmdoer himself to repay the debt. Therefore, the implicit assumption of the German civil law, that the age limit of seven years is related to the development of the cognitions on recompense, gains support from the developmental aspects of non-additivity in the coaction of the two components of recompense.

## Recompense as a Response

### *Scenario and Representative Results*

Nearly all of the results presently available on recompense as a response in the present approach are obtained by using the stamp scenario. The recompense levels were simply omitted from the stimulus stories, and the subjects were asked to indicate the amount of stamps that the harmdoer should give to the person harmed (victim) as recompense for the inadvertent (ACC. in Figure 2) or intentional (INT. in Figure 2) ruin of eight stamps. Instead of the cancelled information factor, the contributory negligence of the victim (i.e., YES in case he left a glass of cocoa on the table contrary to an earlier agreement, otherwise NO) and the perspective of the subjects were introduced as variables. Research using other harmful events (e.g., soccer rule violations) for the scenarios is in progress.



*Figure 2.* Mean amounts of restituted stamps for a ruin of eight stamps as a function of the harmdoer's fault (horizontal axis) and the victim's fault (curve parameter) in two groups of subjects rating with a harmdoer perspective or a victim perspective. Story fragments with one piece of information kept nonspecified are marked by N.S. and connected by broken or pointed curves.

Figure 2 shows the mean amounts restituted for the two groups of subjects who rated from a victim or from a harmdoer perspective in the study of Hommers (1986a). The broken curves connect the average judgments about stimuli with nonspecified stimulus information, i.e., either the harmdoer's fault or the victim's fault was missing in the stimulus story (story fragments). The slopes of the curves



indicate the effect of the harmdoer's fault, which is larger from the victim's perspective. The separations of the curves show the effect of the victim's fault, which did not depend on the perspective of the subjects. Aside from the different harmdoer's fault effects for the two perspective groups, the perspective of the judgments affected the amounts restituted for an inadvertant harm or for a harm for which the harmdoer's fault was not specified in the story fragment. Finally, the means of Figure 2 show that "overcompensation" and "undercompensation" occurred at least in some subjects, since most of the means were different from eight, the amount ruined. Of course, these results were supported by the statistical analyses. Subsequently, the results are discussed on the basis of more detailed analyses.

### *Univariate Response*

Hommers (1986a) presented information on the harmdoer's fault (accidental versus intentional stamp ruin) and information on the victim's fault (contributory negligence, i.e., whether the victim or the harmdoer left the glass of cocoa on the table) and asked subjects for the appropriate amount of restitution. Instead of analyzing the means with ANOVA, he determined the modes of the distributions. As a consequence, multimodal distributions were obtained for each condition contrary to the expectation from equity theory. Moreover, in the condition "accidental combined with contributory negligence," the exact restitution of eight stamps was not even the most frequent response. Thus, there was an interactive dependency of the use of full restitution on culpability and contributory negligence in analogy to the general expectation of a dependency structure within the principle of multiple restitution in the ancient laws.

The restitution of no stamps and of half of the damage were the most frequent univariate recompense responses aside from the exact restitution of eight stamps. Also, some responses of overcompensation occurred when the ruin was done intentionally. Thus, aside from the analogies to the regulations of the ancient laws, the equity-theoretical claim that exact compensation is universally the adequate compensation was modified. Situational factors and person variables seem to be relevant. This modification was achieved with a judgmental method that is fully sufficient for the assessment of the norm, whereas the behavioral approach used by Berscheid and Walster (1967) may have been misleading because of aspects more relevant for the elicitation of the restitution behavior.

In an unpublished study by the author, not only were stamp ruin stimuli from the four combinations mentioned above employed, but also stimulus conditions linking the theft of stamps with the motives of envy or revenge. Aside from replicating the prevalence of zero and four responses for the combination of accidental and contributory negligence, the recompense judgments of 124 German undergraduates of psychology and of 124 US-American undergraduates showed a cultural influence: The US-American subjects chose the exact restitution twice as often in four intentional-harm conditions where there was no victim's fault involved. Additionally, in both groups there was a marked (about 50%) frequency

of overcompensation for the theft and the intentional-ruin stimuli without a victim's fault. Again, not just overcompensation responses occurred, rather the response frequencies were the highest in the amounts of 10, 12 and 16 stamps, which are proportionally related to the amount of 8 stamps in a simple manner mentioned in part already in the ancient Judaic Code.

Thus, although the structure of the presently existing positive laws is more complex than a univariate response allows one to express, the empirical study of recompense as a univariate response demonstrated that the proportionality concept of the ancient laws is still effective. In addition, a modification of the results of the equity theory on recompense was obtained. Exact restitution may not be universally or generally the adequate recompense. By using restitution as a part of the duplex-response design, this claim was investigated more rigorously. The results supported the explanation of "over-compensation," which points to the punitive, instead of the restitutive character of overcompensation.

### *Part of the Duplex-Response*

Hommers and Endres (1988) applied a duplex-response design to the same stimuli used in the comparison of American and German subjects with a univariate recompense response. The subjects had to rate how many stamps the harmdoer should give to the victim, and how many stamps to a welfare project. It was stressed in the instruction that both ratings should be imagined to apply to the harmdoer.

The result was that the frequencies of overcompensation became rare (13%) on the recompense part of the duplex-response, whereas the high frequencies of zero- and four-responses in the accidental-harm plus contributory negligence condition were unchanged, i.e., 38% and 25%, respectively. When the two responses were summed up, disregarding conditions, 31% amounted to a loss of 8 stamps and 17% to a loss of 16 stamps, with 54% for overcompensation in total. Thus, two consequences can be seen: First, overcompensation on the univariate recompense response was punitive; second, the exact restitution is definitely not the universal norm of adequacy for restitution as claimed by equity theory. Instead, this norm may depend on stimulus conditions and person variables.

However, with the duplex-response study, another result was obtained: The effect sizes, when just one stimulus was given, were different on the two responses. Fault information had massive effects on the punishment part of the duplex-response as well as on the recompense part, whereas the contributory negligence of the harmed person had an effect as large as that of fault information on the recompense part, as compared to nearly absent (statistically nonsignificant) effect on the punishment part of the duplex-response. To suppress the influence of individual differences in the ranges of the individual uses of the scales, the judgments of each individual were standardized to the individual's mean. Ongoing research aims at generalizing the response specific effect size result to other variables and other scenarios.

## Discussion

The obtained experimental results on recompense as stimulus and response supply only the first evidence for an empirical theory about the psychological structure of recompense. Ongoing work is being devoted to the issues of universality (validity for different populations, such as experts or delinquents) and generality (scenarios with different severeness levels, such as personal injury and arson) as well as on explicit studies of other variables, for instance, the age of the harmdoer or whether the recompense was given voluntarily or not. Furthermore, practical implications for the victim/harmdoer pre-trial settlements are being considered. Thus, the discussion may come back to the more general idea of the present research program.

A characteristic aspect of the present approach is that it adds a principally new approach to legal psychology. As detailed above, the conceptual structures of recompense found in law and legal history served as a framework for the empirical research on the everyday moral intuitions of recompense. Thus, the present approach demonstrates that legal thought has unique value for cognitive science. Before, psychology was an assisting science for law and jurisprudence. For example, legal psychology was defined by Konečni and Ebbesen (1979, p. 39), "to enhance the understanding of the operation of the legal system by using psychological research methods and by testing the validity of psychological assumptions contained in legal statutes or else made by legal practitioners on an ad hoc basis." Also, it is quite evident that forensic psychology assists jurisprudence and law enforcement *de lege lata* and *de lege ferenda*. However, the present approach reverses the traditional relation between law and psychology. Therefore, law and legal thought appear as adjuncts to psychology by providing prototypes of theories and by providing conceptual tools. Thus, the present approach goes beyond a mere comparison of prescriptive schemes with moral cognition and instead uses those schemes as part of the substantive inquiry which leads to empirically validated theories.

Other areas may prove fruitful for an application of this approach as well, since more implicit theories of legal thought may be relevant for psychology, for example, implicit legal theories of will (Hommers, 1987), legal judgmental theories of fractionizing and averaging (Hommers, in prep.), the development of the concept of negligence and contributory negligence (Hommers, 1981, 1985b, in prep.). A mutual interaction, however, would be favorable for legal psychology. This may be achieved within the broader topic of algebraic schemes taken up above with the study of the information integration of recompense. A feedback of cognitive theory of legal thought may be found when the methods of experimental analysis of cognitive processes are applied in meaningful legal settings. Hommers and Anderson (1988) suggested, for instance, using the Embedding Method and the Personal Design for that purpose.

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