

A HARD SCIENCE LINGUISTIC LOOK AT SOME ASPECTS OF CRIMINAL LITIGATION IN CONTEMPORARY NEW JERSEY

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Introduction - This paper starts my analysis of criminal litigation as a complex form of communicative behavior. I use the techniques of Hard Science Linguistics (HSL), Yngve 1996, to preliminarily model some portions of a criminal trial that might occur in contemporary New Jersey. In this paper, I will not model any specific trial but model some communicative behavior that is common to all criminal trials. While trials can and do differ from each other depending on the personalities of the individuals and the nature of the criminal act under discussion, all criminal trials in New Jersey¹ have essentially the same structure.

The Phenomenon Under Discussion - A criminal trial centers on the question of the defendant's guilt. At the beginning of every criminal trial, the legal system assumes that the defendant is not guilty of all charges brought against him by the State. The State must prove 'beyond a reasonable doubt' that the defendant committed those crimes of which he has been accused. The purpose of a criminal trial is to determine, in an orderly, justifiable manner, whether the State's accusations are well founded, i.e., whether, as the State believes, the defendant performed those acts or omissions that constitute the charges brought against him. A trial consists of those acts of linguistic communication that allow a group of persons who know nothing about the case (the jury) to decide whether the State's allegations are correct.

Every criminal trial occurs in a context. A trial is one event among other events in the lives and histories of persons and agencies involved in the trial. Specifically, the trial is part of a larger social event that we may call the "case". The case includes the factual incidents leading up to the trial, together with the investigation of those incidents, and any consequences for the defendant beyond the trial. The entire trial is an attempt by the parties to influence the decision of the jury. Seen from this perspective, a model of a trial must center on attempts to influence the jury's determination of the defendant's guilt.

The Trial Linkage

We model a trial by setting up a linkage. The *trial linkage* is subordinate to a larger linkage that we can call the *case linkage*. We will not discuss the *case linkage* in this paper. The trial linkage has a top-level task that we may call *try the case*. *Try the case* consists of a series of subtasks that we will now describe.

The Subtasks of the Try the Case Top-Level Task

A trial has several sections that we model as subtasks of a top-level task. **Table 1** describes those sections. The division of a trial into these sections is somewhat arbitrary but based on experience. Another author may divide a trial a different way or begin and end sections differently. For the purposes of this paper, the division in **Table 1** will suffice although it may be modified in the future.

The subtasks are sequential. For example, *openTr* cannot occur until *prepTr* finishes. Without exploring the matter further in this paper, task procedures control the sequence of subtasks, Yngve 1996:268.

Subtasks of the <i>Trial Linkage</i>	Description
Prepare for Trial (prepTr)	The judge selects a case for trial ² . The judge hears and resolves any pretrial motions ³ . The jury is selected but the jurors are not yet sworn in.
Open the Trial (openTr)	The jury enters the courtroom. The jury is sworn in. The judge remarks about the case to the jurors. The attorneys make their opening statements to the jury.
Present Evidence and Testimony (E&T)	The prosecutor presents his witnesses and evidence. The defense may cross-examine any witness that the prosecutor presents and may challenge any evidence that the prosecutor offers. When the prosecutor has finished presenting witnesses and evidence, the State “rests” ⁴ . The defense may or may not present witnesses or testimony. If the defense does so, the prosecutor may cross-examine defense witnesses or challenge evidence offered by the defense.
Close the Trial (closeTr)	The closing consists of speeches by the attorneys, the defense first, then the state, made to the jury. Closing arguments try to convince the jury what they should do regarding the defendant’s guilt properties. The judge “charges” the jury on the law of the case. Once he is done, the alternate jurors are selected.
Deliberate (Del)	The jury deliberates on the defendant’s guilt regarding each surviving ⁵ count of the indictment in the jury deliberation room. The jury may ask the judge questions about their duties or ask for assistance. The judge, after hearing from the attorneys, may or may not respond. If he does grant the request, the jury is brought back into the courtroom to hear the testimony or the judge’s charge. The “deliberate” subtask continues up until there is a final ⁶ jury verdict.
Present the Verdict (Ver)	The jury, through its foreman, delivers its verdict to the court. An attorney may ask that the jury be polled to see whether all jurors agree with the verdict as presented. The judge dismisses the jury. The jury leaves the courtroom. If the defendant has been found guilty of one or more counts of the indictment, the judge sets the matter down for sentencing on another day.

Table 1 *Trial Linkage* Subtask Descriptions

Formal Constituents of the Trial Linkage

The Indictment - At the heart of every criminal trial is the State’s claim that some person⁷, the “defendant”, performed some illegal acts, sometime in the recent past. A document called an “indictment”, prepared well before the trial, summarizes the State’s claims about the defendant’s behavior. The indictment contains separate descriptions (“counts”) of each crime alleged. The *trial linkage* has a prop part, called *Ind* that we use to model the indictment. There are four properties that *Ind* must have: a total number of counts, *tcn*, the number of an individual count, *cn*, count content (the crime charged in a particular count), *cc*, and the defendant(s) involved in a count (there may be more than one defendant and not every defendant may be charged with everything), *dc*. *Cn* serves as an index for *cc* and *dc*. When we wish to refer to the contents of a particular count, we say *cc_{cn}*; when we wish to refer to defendant(s) referred to in a particular count, we say *dc_{cn}*, where *cn* is the count number.

A Recording Device - All trials are recorded in such a way as to enable a certified shorthand reporter to produce a verbatim record of the spoken communicative behavior that occurred at trial (a "transcript"). There are two types of recording device in general use: a stenographer's machine and a tape recorder⁸. We model the role part that a recording device, *Rec*, plays by assigning it two properties. The first property, *recAble*, is a binary property (*ra/-ra*) that tracks whether *Rec* that is present in the setting is capable of recording. There are several reasons why *Rec* may not be able to record. A stenographer's machine may be out of paper or ink. A tape recorder may be unplugged, turned off, or without a tape. The second property, *recording*, is a binary property (*r/-r*) that tracks whether *Rec* is making a record of the trial.

For *recording* to have the value *r*, *recAble* must have the value *ra*. If *recAble* has the value *-ra*, *recording* must have the value *-r*. However, the reverse is not true. Communicative behavior often occurs "off the record". The phrase "off the record" means, for us, that *recording* has the value *-r*. When we discuss the setting, we will see additional interplay between *Rec* and linkage properties.

Other Formal Constituents - A complete description of the trial linkage will mention other formal constituents. For our purposes, those listed above will be sufficient.

Linkage Properties

The Record Property - As mentioned above, all trials result in the production of a record. For the purposes of this paper, the record⁹ is either the shorthand notes of a certified shorthand reporter or the recording made by an official tape recorder that can be used to produce a transcript of the spoken communicative behavior that occurs at trial when the trial is "on the record". The reader should be careful to differentiate between the record and a transcript of the record. A transcript is not automatically produced. It is readable by anyone who can read English.

The trial linkage has a property, *Otr*, with binary values, *otr/-otr*, that determines whether the spoken communicative behavior that occurs within the setting is or is not recorded, i.e., whether the spoken communications become part of the record (*otr*) or not (*-otr*). If *Otr* has the value *-otr*, the trial linkage tasks are interrupted. The value of *Otr* depends on a number of things. The actual prop corresponding to *Rec* cannot operate by itself, nor can it be operated by anyone. The *recPres* property (see below) must have the value *rp* for *Otr* to have the value *otr*. Otherwise, *Otr* has the value *-otr*. Even if *recPres* = *rp*, the trial linkage tasks cannot proceed unless *recAble* = *ra* and *recording* = *r*. We observe these properties in several ways. Whenever the certified shorthand reporter or tape machine operator is not in the courtroom (*recPres* = *-rp*), the trial does not proceed (*Otr* = *-otr*). If the stenographer's machine is out of paper or ink, or the tape runs out (*recAble* = *-ra*), the trial comes to a halt until the machine is resupplied (*recAble* = *ra*). The parties or the judge can ask that some communicative behavior occur off the record (*Otr* = *-otr*), in which case the certified shorthand reporter stops typing or the tape machine operator switches the machine off (*recording* = *-r*).

Otr will not have the value *otr* unless other participants in the trial linkage besides the recorder are present. The judge and the attorneys must be present; in most cases, the defendant must be present as well. Because some discussions take place outside the presence of the jury, the jury does not have to be present for *Otr* = *otr*.

Role Parts and their Properties

The Recorder - The recorder role part, *Csr*¹⁰, represents the person who makes the record of the spoken communicative behavior at the trial, as described above. For the purposes of this paper, *Csr* has one property, *recPres*, with binary values (*rp/-rp*). If *Csr* is within the setting, then *recPres* = *rp*; otherwise, *recPres* = *-rp*. If the recorder operates the recording device, *recPres* = *rp* and *recording* = *r*.

The Judge (the Judicial Officer) - The judicial officer role part, *Jo*, represents the function of the courtroom manager, responsible for the maintenance of order and decorum. *Jo* makes legal, as opposed to factual, decisions. *Jo* controls the schedule of the trial. *Jo* charges

the jurors as to the applicable law and their duties. For the purposes of this paper, *Jo* has a property, *Otb*, with binary values (*otb/-otb*) that represents his presence in the setting, i.e., when he is "on the bench". When the judge is not on the bench, i.e., when $Otb = -otb$, the *trial linkage* subtasks, except for *Del*, cannot take place. However, the communicative behavior in *Del* does not always require $Otb = -otb$, e.g., for those occasions in which a jury asks for a clarification from the judge in order to continue with its activity in *Del*.

The Defendant - The defendant role part, *Def*, models the person whom the charges in *Ind* are brought against. *Def* consults with his attorney and testifies if he and his attorney consider it to be in his best interests. Otherwise, he observes the trial. He may enter a guilty plea that will alter one or more of his guilt property values.

The Guilt Property of Def - *Def*'s guilt properties, *G*, are the focus of the *trial linkage* and its subordinate linkages. *Def* has a separate guilt property for each count in *Ind*. Initially, the guilt properties have negative values, $G_x = -g_x$, for each count in *Ind*, where *x* is an integer between 1 and *tcn*. This is so in order to model the 'presumption of innocence'. We model the jury's finding the defendant guilty of some count *x* of the indictment by having the jury set the values of the appropriate G_x to positive values, i.e., $G_x = g$, within the *jury linkage* (see below). We may then see that the purpose of the *Ver* subtask is to communicate the values of the appropriate G_x across linkage boundaries.

The Prosecutor - The prosecutor role part, *Pros*, models the attorney who represents the State. *Pros* performs those acts that he calculates will best convince the jury to alter some or all of the values of the defendant's guilt properties (described below) from $-g$ to g .

The Defense Attorney - The defense attorney role part, *defAtt*, models the attorney who represents the defendant. He performs those acts that he calculates will best convince the jury not to alter some or all of the values of the defendant's guilt properties from $-g$ to g .

Jurors - In the usual course of events, there are fourteen jurors, *Ju*, selected at the beginning of a trial. During most subtasks of the *try the case* top-level task, the jurors are part of the trial linkage. However, we set up a separate linkage, called the *jury linkage*, described below, that includes most, but not all, *Jus*, at the end of the *closeTr* subtask.

The Properties of Ju - Since jurors are usually referred to by their seat number in the jury box, we assign *Ju* a property called *sn*. The value of *sn* for each *Ju* is the number of the seat in which *Ju* sits in the jury box. The juror in seat one is, therefore, called "juror number one", etc. We can use subscripts to refer to individual jurors, e.g. Ju_1 where $sn = 1$, is juror number one, the juror in seat one.

From **Table 2**, see below, we can infer that every *Ju* has two properties, a *deliberating* property, *D*, and a *foreman* property, *F*. Initially, the value of the *D* and *F* property of each *Ju* is $-d$ and $-f$. When the alternate jurors are selected toward the end of the *closeTr* subtask, the value of *D* for the remaining *Ju* is set to d . After the alternate jurors are selected, the juror with the lowest seat number, say Ju_1 , has its *F* set to the value f . All other *Ju* have their *F* set to $-f$. The foreman is the only *Ju* whose *F* has the value of f and whose *D* has the value of d . The foreman of the jury cannot have a *D* with the value $-d$.

The General Setting of the Trial Linkage

It is most common for a trial to occur in a courtroom, in a courthouse, but it is not necessary for a trial to occur in such a place. Trials, or portions of a trial, may occur in other rooms. On occasion, hearings may take place in a judge's chambers, jail, a hospital, or in some other, ad-hoc location. The presence of certain participants in the trial linkage determines the setting of a trial rather than the physical structure in which the participants are located. The absolute minimum number is four: *Jo*, *Pros*, *defAtt* and *Csr*. *Def* is usually, but not always, present. In these days of widely available telecommunications, the word "present" has a

somewhat broader meaning than even a decade ago. A defendant may be present by closed-circuit television. For some motions, an attorney may be present by telephone conference call. The judge and the recorder will be physically present together.

When the necessary participants are physically present together, as is usual, the setting contains certain furniture, that we will not describe further, but which have a common arrangement. The attorneys sit at tables facing the judge. The jury sits to one side. The recorder (if the recorder is a court stenographer) or a microphone (if the recording device is a tape machine) is located adjacent to the witness station. We can see this arrangement in any location where a trial occurs.

While it may seem obvious that a trial usually occurs in a courtroom with certain furniture and paraphernalia, our familiarity with the setting of a trial should not obscure the fact that the setting influences the proceedings. A courtroom must separate the participants from the “real world” while they are engaged in the *trial linkage* tasks so that there are no extraneous cross-boundary communications while participants engage in their linkage tasks. More importantly, the goal of a trial can only occur in the appropriate setting. Similarly, the defendant may decide to plead guilty to some count of the indictment. If he walked into an empty courtroom and shouted, “I’m guilty of x ”, nothing happens to affect the value of G_x . The proper participants must assemble in the proper setting for the guilt property to be altered. The effects of the setting are scientifically observable.

The Jury Linkage

While I have set up a single linkage to describe the trial, further analysis reveals that there are other linkages subordinated to the *trial linkage*. Some of the subordinate linkages are temporary and last only during certain subtasks. Other subordinate linkages last longer and may have actually lasted longer than the *trial linkage*. We set up a linkage, the *jury linkage* that is directly coupled to the *trial linkage* in the *Del* subtask. The *jury linkage* consists of a number of participants with specific properties, role parts, and setting. The participants in the *jury linkage* are also participants in the *trial linkage*. The role parts and tasks within the *jury linkage* are unique to the *jury linkage*.

Jury Linkage Role Parts

Table 2 describes the four role parts in the jury linkage. We add the *Dj*, *Jf*, and *Ja* role parts both for convenience and to emphasize that some *Ju* take part in additional tasks in a separate linkage. *JAtt* also participates in several linkages as mentioned below.

Jury linkage role part name	Jury linkage role part description
Deliberating juror (<i>Dj</i>)	A <i>Dj</i> discusses the trial with other <i>Dj</i> in order to determine whether the jury, as a whole, will alter the value of one or more of the m-defendant’s guilt properties.
Foreman (<i>Jf</i>)	<i>Jf</i> manages jury deliberations during the <i>Del</i> subtask and communicates the jury’s requests for assistance and the verdict to <i>Jo</i> across linkage boundaries.
Alternate juror (<i>Ja</i>)	<i>Ja</i> awaits a call to take the place of a <i>Dj</i> .
Jury attendant (<i>jAtt</i>)	<i>jAtt</i> prevents non-participants in the <i>jury linkage</i> from communicating with the jury and delivers <i>Jf</i> communications to <i>Jo</i> .

Table 2 - Jury linkage role part descriptions

The juror role parts in the jury linkage overlap the *Ju* role part in the trial linkage. The participants’ tasks are different in each linkage. A subtask in the trial linkage sets *Ju* properties. The property values determine the roles that each *Ju* plays in the jury linkage. Even though we have not assigned *jAtt* any properties in this paper, *jAtt* will have properties in a more thorough description of a trial and jury linkage. A participant who plays the *jAtt* (there may be more than

one) in the trial linkage (not discussed in this paper) covers the participant who plays the *jAtt* role in the jury linkage.

Jury Linkage Properties

All juror role parts in **Table 2** are role parts within the jury linkage. The juror participants in the jury linkage are also participants with the *Ju* role part in the *trial linkage*. At the end of the *closeTr* subtask, the jurors are selected. For us, this means that the jury linkage is set up and certain properties of the various *Ju* are set. To determine the roles of the individual *Ju* in the jury linkage the jury selection process sets *D* and *F* for each *Ju*. For every juror whose *D* is set to *d*, that *Ju* plays the role *Dj* in the jury linkage. In all other cases, the *Ju* plays the role *Ja* in the jury linkage. The *Ju* whose *sn* has the lowest value of the *Ju* whose *D* = *d* has *F* set to *f*. That *Ju* plays the role *Jf* in the jury linkage.

Jury Linkage Setting

The jury deliberates in the jury deliberation room that no one, other than the *Dj*, *jAtt*, and, under rare circumstances, *Jo* may enter. The jury has *Ind* and certain evidence with them in the jury deliberation room. If the jurors meet for lunch and decide that the defendant is guilty, a guilt property does not change values. If the *Dj* decide to alter one or more of the *Def*'s guilt values, they must do so within the context of the *Del* subtask, which requires the *Dj* not simply to deliberate but to deliberate in a particular setting (the jury deliberation room). We will not discuss whether leaving the setting, e.g., for lunch, means that the individuals who play the *Dj* role cease to play that role outside of the setting.

Discussion about the Jury Linkage

Up until *closeTr*, there are no *Ja*, *Dj*, or *Jf*. A specific series of subtasks must be completed before these role parts can be set up. The *jury linkage* is subordinated to the *trial linkage* because the *jury linkage* cannot exist outside of the *trial linkage*. This is a scientifically observable fact. Trials may occur without juries but juries cannot exist outside of trials¹¹.

The *jury linkage* plays a specific link role part within the *trial linkage*. The link part is the determination of the value of each of the *Def*'s guilt properties. Unless the defendant pleads guilty to one or more counts of the indictment before *Del* is completed, the link role played by the *jury linkage* is the only way that the values of the *Def*'s guilt properties can be altered. We verify that this is so by observing trials with "hung juries". A hung jury is a jury that cannot decide whether the defendant is guilty of one or more charges. In some cases, the jury may be hung as to all counts; in other cases, the jury may be able to resolve some counts but not others. When the foreman of the jury announces to the judge that the jury is completely hung, the judge tells the jury to try again and sends the jury back to the deliberation room. For the purposes of the *trial linkage*, *Jo* asks the *Dj* to try to complete the *Del* subtask so that the *try the case* task may also be completed. If the jury cannot resolve the issues before it, *Jo* terminates the *trial linkage* during the *Del* subtask by setting the appropriate linkage properties, which we will not discuss further. The State may retry the defendant on those counts whose guilt property values have not been determined¹². In other words, the defendant may be a participant in other trial linkages until some jury completes the *Del* subtask.

Settings of the subordinate linkages

Settings play an important role in deciding how linkages are coupled. For example, if the jury wishes to communicate with the court (if the *Dj* wish to communicate with *Jo*), the *jury foreman* gives a note to a jury attendant who brings the note to the judge, often when the judge is in his chambers. We model this behavior by having *Jf* present a written communication to a *jAtt* with instructions for the *jAtt* to deliver the written communication to the *Jo*. The *jAtt* is a participant in two linkages at this point. The *jAtt* plays a role part in the *jury linkage* and in what we may call, for now, the *trial administration linkage*, subordinated to the *trial linkage*. *Jo* is a role part in the *trial administration linkage* but not in the *jury linkage*. When the *Jo* receives and reviews the note,

the *Jo* notifies the *Pros* and *defAtt* about the contents of the note. The *Pros*, *defAtt* and *Jo* are part of the *trial linkage*. The *Pros* and *defAtt* are also participants in other linkages, such as the *State linkage* and the *defense linkage*. Thus we can see that a communicative act as simple as sending a note involves a complex chain of interlinkage communication.

Conclusion

HSL techniques and theory provide a highly satisfactory set of tools with which to model a criminal trial. The description that results is much more complex and much more detailed than would be possible using other linguistic theories. Furthermore, we capture the complexity of the real world event in a manageable way without masking the complexity. HSL techniques and theory, especially linkage theory, help explain the sometimes-bewildering world of the courtroom in a scientifically acceptable way.

It may be useful to think of a trial not as an act but as a community, in the sense mentioned in Yngve 1996, 234 ff. Speaking of communities and linkage networks, Yngve says:

... an individual typically participates in many different linkages, and many of these may be directly and indirectly coupled to many others. Furthermore, what may be true of one individual in regard to the variety and extent of participation in a community may also be true of most or all other individuals in the community. Ibid, p.235

A trial is a collection of linkages that interact in complex ways. Most individuals are participants in more than one linkage, often at the same time. A full description of a trial must model the full complexity of interlinkage participation.

This paper presents only a tiny preliminary look at a criminal trial. In the future, it may prove difficult to describe subtasks or procedures without reference to real world trials. Some aspects of a trial, for example, the precise sequence of questions addressed by an attorney to a particular witness, are idiosyncratic and depend as much on what we might call the gestalt of the trial as on anything else. The interested linguist will have a formidable task to accurately explain this type of communication.

A trial is not simple. One task that faces the linguist is to avoid oversimplification. It may be tempting to see the examination of a witness as a mere question and answer sequence but this misses the point. The examination of a witness is at once planned and uncontrolled. An attorney who cross examines a witness knows what he would like the witness to answer but is never quite sure what the witness will answer until the witness actually does. Explaining this and similar behavior poses a challenge to the linguist.

Bibliography

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¹ Different jurisdictions have different procedures and rules that are applicable to their criminal trials. This paper discusses criminal trials in the State of New Jersey. Some comments in this paper might have to be modified if we were to discuss a different jurisdiction.

² Cases must be "ready" for trial. Certain procedures must be completed before a case is ready for trial. This fact alone indicates that the trial is a subordinate part of a larger linkage.

³ Motions are little hearings in which the attorneys present very specific issues to the judge for resolution.

⁴ "Resting" a case is a public acknowledgement that no more witnesses or evidence will be presented by the party that rests his case. There is usually a statement such as "The State (or the

defense) rests.” In the alternative, the resting attorney may simply answer a judge’s question (“Does the State (or defense) have any other witnesses?”) in the negative.

⁵ One or more counts of the indictment may have been dismissed for legal or tactical reasons.

⁶ In some cases, the jury decides that it is hung (a “hung jury”). A hung jury is a jury that cannot reach a unanimous decision on one or more counts of the indictment. The judge may instruct the jury to go back and deliberate some more. He gives them a specially prepared charge in this case. In some trial, this process occurs several times.

⁷ Many criminal trials have more than one defendant. However, to promote simplicity, I will only refer to one defendant. I will also refer to all persons by using the masculine pronoun, meaning no disrespect to the women of the bench or bar.

⁸ A tape recorder used to make official recordings is somewhat different from “regular” tape recorders. They are designed to be tamper-proof so that the record of a trial cannot be altered.

⁹ In legal terms, the record is more than we describe. It includes, documents, evidence, logs, etc. However, in this paper, we only need consider the record as it is described above.

¹⁰ “CSR” is an abbreviation for “certified shorthand reporter”. I use it here to refer to the recorder role part, regardless of whether the recorder is a certified shorthand reporter or a tape machine operator.

¹¹ A trial jury is called a “petit jury”. “Grand juries” are separate entities that are not part of the trial linkage. Whenever we discuss the jury linkage or the jury in general in this paper, we discuss “petit juries”.

¹² This may seem confusing. The defendant’s guilt properties all have the initial value of -g because of the presumption of innocence. During jury deliberations, some jurors may think that the defendant is guilty of some count x and some may not. The jury must come to a unanimous decision. The defendant cannot be “a little bit guilty”. The jury has only two choices. In the *Present the verdict* subtask, the foreman tells the court about the unanimous decisions of the jury and, if necessary, tells the court that the jury could not reach unanimity on certain counts.